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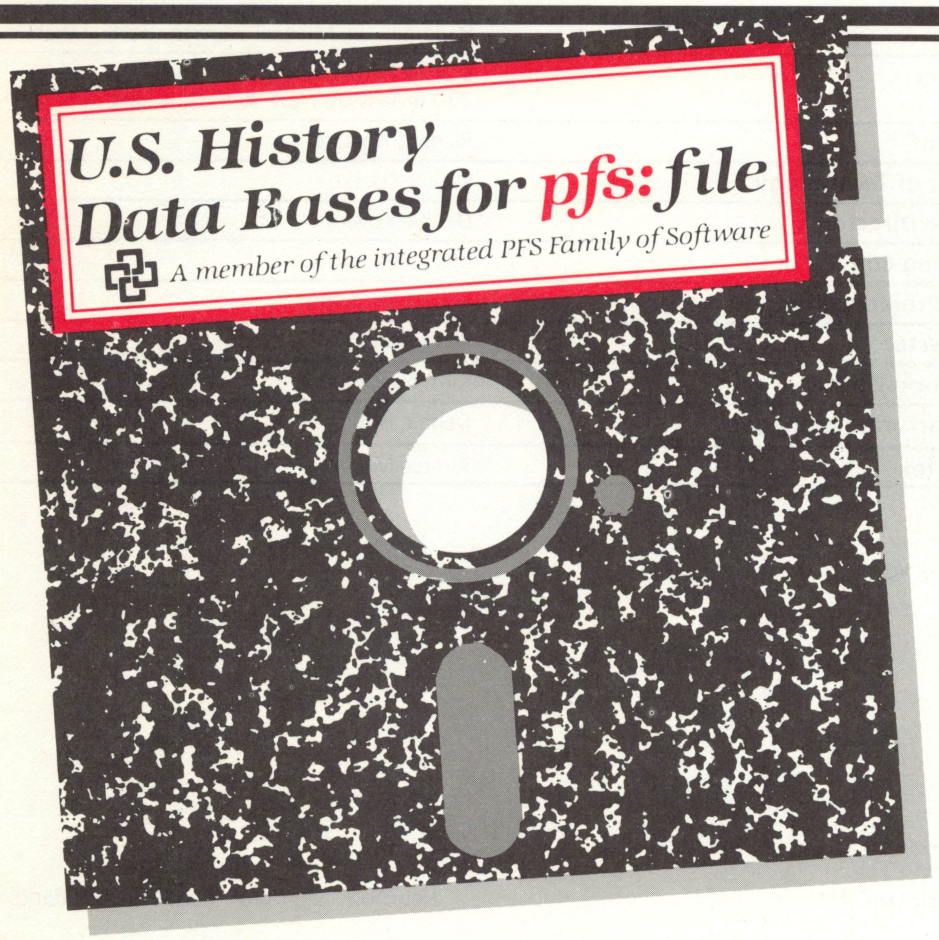

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EXPANDING AMERICAN FRONTIER
INVENTIONS AND TECHNOLOGY
TWENTIETH-CENTURY AMERICA

CREATING FILES SERIES

AMERICAN PRESIDENTS
LOCAL HISTORY
FUN WITH AMERICAN HISTORY

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Scholastic pfs: U.S. History Data Bases

Introduction

INTRODUCTION

Scholastic PFS: U.S. History Data Bases provide an exciting new approach to the study of United States history. The core of the package is the series of six curriculum activity units. Three of the units teach students to use the included data files, and three others teach students to build their own. Each unit helps students develop both data base and social studies skills. Most important, the units help students become more active in their study of history, as they learn to develop and test their own hypotheses about trends over time and relationships among people, places, and events in United States history.

The units in the Using Files series are:

- Expanding American Frontier
- Inventions and Technology
- Twentieth-Century America

The units in the Creating Files series are:

- American Presidents
- Local History
- Fun With American History

To get started in this new and exciting way of learning and teaching history, first read the rest of this introduction, then turn to the Teaching Guide.

Who This Package Is For

The package is designed for students in grades six through twelve in United States history and local history courses. It is also useful in courses that teach data base management skills.

The activities are written at about a sixth grade level, but each unit becomes progressively more difficult; younger students may not complete all the units, while older ones may move quickly through the early activities before they are challenged.

The Purpose of This Package

This package is intended to help students become more creative in their approach to studying history. The units and data files should help students become more actively involved in organizing, retrieving, and interpreting historical data, perhaps in ways that no one else has thought of before.

Another equally important purpose is to help them learn and apply skills in retrieving information from computerized files and building their own files.

What You Need

Besides the material in this package, you will need the following computer equipment and software:

- Apple® *II*e or IIc computer.
- At least one disk drive. (Two are recommended for some activities.)
- A printer is required for many activities.
- *PFS: File* for the Apple *II*e and IIc. *File* enables you to store and retrieve information using the computer. Some activities require *PFS: Report,* a program that helps you prepare attractive reports of the data stored using *File*.

If you have more than three computers available, you may want to order additional history data file disks. Consult your order form for more information.

What This Package Contains

This package contains both software and print materials.

Software

The software consists of three sets of two disks (a total of six disks). Each set of two disks contains the three history data files. There are two files on one disk (one on each side). This disk has labels on both sides. The other disk, as indicated by the single label, has one file. The labels should read:

Frontier
20thcent
Invent

Because *PFS* data disks cannot be write-protected, you must take some precautions to ensure you always have one set of disks with the original file contents. It is very important that you read the Software Management section in the Teaching Guide before you begin using the disks.

Written Materials

The print material includes these sections: Using Files, Creating Files, Teaching Guide, Mini-Reference Guides for *PFS: File* and *PFS: Report,* Quick Guide, Glossary, and Appendices.

Using Files

This section includes units on using the Frontier, Invent, and 20thcent data files that are on your disks.

Creating Files

This section contains three units on building your own data files. File designs are included for a Local History file, a Presidents file, and a Fun file.

Teaching Guide

The Teaching Guide further describes the contents of this package, advises on how best to use it in the classroom, and includes scope and sequence charts. Additional teaching materials preceed each unit. They describe the unit in detail, and include activity-by-activity lesson plans.

The File/Report Mini-References

The Mini-References explain step-by-step the various procedures used in *File* and *Report.*

The Quick Guide

The Quick Guide should be copied and distributed to students. It contains important facts about the use of *File.*

The Glossary

The Glossary defines words associated with the use of computer data bases, such as "file" and "Retrieve Spec."

The Appendices

The Appendices contain explanations of error messages that may occur when using *File* and *Report,* and also troubleshooting information.

About Computerized Data Files

A file is an organized collection of information on a particular subject, stored on a disk. Data files differ from other storage media in that you can have the computer organize and present the stored information in exactly the way you want to think about and use it. You and your students can actively take charge of the information in ways that are not possible when you read a textbook or look something up in an encyclopedia. Most people find that information becomes much more interesting when they "take charge" of it in these ways.

Another very important characteristic of computer data files is that their contents can be easily changed. You can add, delete, or modify information in the files. This means that, in contrast with computer-assisted instruction programs you may have used in the past, computer data files are easily tailored to meet your particular curriculum and teaching objectives.

Scholastic pfs: U.S. History Data Bases

Teaching Guide

INTRODUCTION

Welcome to the *Scholastic PFS: U.S. History Data Bases.*

Six curriculum activity units form the heart of this package. Each unit covers a major curriculum area in United States history, and has been extensively field-tested in upper elementary schools, and junior and senior high schools. Three of the units teach students to use the data files in this package. The other three teach them to build their own files, based on file designs included in the units.

These units will teach students to become active participants in the study of history. They'll be able to "take charge" of the information in the data files to study relationships among people, places, and events in the history of the United States. They'll be able to conduct research projects, look for trends, and evaluate hypotheses in ways that were never before possible in the classroom. And they'll develop the research and information-handling skills that will enable them to take advantage of the technology that is so much a part of their world.

This teaching guide provides both comprehensive and detailed information on how to use the three data files and six curriculum activity units in this package. Additional teaching materials will be found at the beginning of each unit.

Exploring a data base can be an adventure. You and your students can be as adventuresome and creative as you wish. Enjoy your journey into the world of United States history with the *Scholastic PFS: U.S. History Data Bases.*

WHAT'S IN THIS PACKAGE

Data Files on Disk

The U.S. history data bases consist of three data files. Each data file is stored on one side of a disk. You'll find two files on one disk, and one file on another. You should have three sets of these disks altogether. The file names are:

1. Invent (for use with the Inventions and Technology unit)
2. Frontier (for use with the Expanding American Frontier unit)
3. 20thcent (for use with the Twentieth-Century America unit)

Each file is the subject of one of the three curriculum activity units in the Using Files series.

Teaching Materials

Teaching materials appear in this teaching guide and also at the beginning of each curriculum activity unit. In this teaching guide you'll find:

- Descriptions of package contents
- Classroom management tips
- Software management tips
- Content overview of the data files
- Social studies and computing scope and sequence charts

At the start of each unit you'll find:

- A description of the file contents
- A list of curriculum areas covered
- Activity-by-activity lesson plan chart
- Information similar to that found in this teaching guide, but specific to the particular unit

Student Materials

The six curriculum activity units in this package teach students how to use the data files and how to build their own. Each unit covers a different area in the United States history curriculum, and teaches both data base and social studies skills. The rest of this package consists of support materials for these units: a Quick Guide, *PFS: File* and *Report* Mini-References, a Glossary, and Appendices.

History Curriculum Units

The six curriculum activity units are divided into two series, Using Files and Creating Files.

Using Files Series

Units in the Using Files series are based on the data files on your disks. These units teach students how to use the computer to help solve problems, answer historical questions, and develop inquiry skills. These units also show students how to maintain and improve data files by updating and adding data, and how to create new files that focus more closely on an aspect of the parent file.

For each unit, you have:

- 1 master data file on disk
- 2 copies of the master data file on disk
- 1 unit containing between eight and ten activities based on the file
- Teaching materials, including an activity-by-activity lesson plan chart and two Scope and Sequence charts

The first unit your class works on should come from this Using Files series. The three units are:

THE EXPANDING AMERICAN FRONTIER. The Frontier file includes over 150 key events and people involved in the expansion of the American frontier since the early 1700s. Because of the broad sweep of curriculum areas covered by the events in the file, you'll find it valuable in numerous subject areas, ranging from Native Americans to the exploration of space.

INVENTIONS AND TECHNOLOGY. The Invent file contains information on 130 important inventions and inventors in the fields of agriculture, communication, information processing, medicine, textiles, and transportation. The data file contains descriptions of each invention, its inventor, its impact, and the technologies that made the invention possible.

TWENTIETH-CENTURY AMERICA. The 20thcent file is a statistical survey of the United States for the years 1900 to 1982. Areas covered include education, unemployment rates, gross national product, and population.

Creating Files Series

Units in the Creating Files series teach students to build their own files. In so doing, students will sharpen their social studies research skills and learn data base skills from the ground up.

Units in the Creating Files series are somewhat more advanced than units in the Using Files series. Before your class tries one, have them first work on a unit from the Using Files series. Units in the Creating Files series require a bit more preparation and management on your part. For more information, refer to the teaching materials for one of the units. The units in the Creating Files series are:

AMERICAN PRESIDENTS. Students create and use a file of information about the American Presidents, their accomplishments and personal backgrounds. This unit is an excellent introduction to creating files, because information about Presidents is readily available in reference books in your school library.

FUN WITH AMERICAN HISTORY. Students create a file of "pop" history. Suggested types of data to include are sports, songs, movies, and disasters in American history. This set of activities is especially useful for giving students the insight that it is possible to study historical topics that are interesting and relevant to them.

LOCAL HISTORY. Students create and use a file of information on the history of your local city, town, or county. They gather information about key events and people, and their significance. This is a good unit of study for teaching students to do original historical research. The entire community can participate in and benefit from this project.

For each unit in the Creating Files series, you have:

- 1 file design, on paper
- A unit containing between eight and ten activities that teach students to construct a file.
- Teaching materials, including activity-by-activity lesson plan charts and scope and sequence charts.

Mini-References

Two Mini-Reference Guides, one for *PFS: File* and one for *PFS: Report,* provide step-by-step procedures for using the functions in each of those programs. Although the Mini-Reference Guides can be used to teach students how to use *File* and *Report,* they are primarily intended for people already familiar with the software, who simply need to refresh their memory about a particular procedure.

Quick Guide

The Quick Guide contains the most frequently used procedures in *File*, along with important hints and cautions for using the program. Copy this guide and distribute it to all students.

Glossary

The Glossary explains the important terms and unavoidable "computerese" that students will encounter. This too should be copied and distributed.

Appendices

The Appendices contain some valuable technical information. For example, you'll learn how, under certain circumstances, you can restore data that seems to have been lost.

HOW TO START

Before you begin any of the curriculum activity units, you should understand the basics of computerized information handling in general, and have a working knowledge of *PFS: File* in particular. You may want to read the sections in the introduction to this package that discuss data files. And if you need to learn more about *File,* work through the learning activities in *Scholastic's PFS: File* package; if you don't have them, work through a unit in the Using Files series. The Expanding American Frontier unit is a good choice.

Once you have a feel for what *PFS* data files are all about, read the rest of the Teaching Guide carefully, particularly the software management section. You'll learn how to ensure that students don't destroy vital data, and that the disks they use always contain accurate information.

Now you're ready to choose a unit from the Using Files series for your class to work on. The Unit Content Chart on the next page outlines the curriculum areas covered by each unit, and the characteristics of each file. You may also want to refer to the Social Studies and Computing Scope and Sequence charts at the end of the teaching guide.

UNIT CONTENT CHART

History unit (and file name)	History topics covered		Characteristics of file	
The Expanding American Frontier (Frontier)	Acquisition of Alaska and Hawaii Florida Cession statehood Texas independence The California gold rush The final frontier: space	The Louisiana Purchase The Mexican War The Monroe Doctrine The Northwest Territory The Oregon Territory Transportation westward The War of 1812	150 key events, by type 15 historical topics Key person for each event Events categorized by type: political, religous, economic, etc.	
Inventions and Technology (Invent)	communications textiles military information processing	agriculture transportation medicine home/leisure	130 inventions, by type description of inventions inventor information	enabling technology impact of inventions
Twentieth-Century America (20thcent)	population education birthrates life expectancy households	gross national product unemployment wages imports/exports communities	yearly statistical data 1900–1982 decade census data 1900–1980	
American Presidents (Amerpres)	previous occupations of presidents achievements of presidents	home states of presidents political parties wartime presidents	all American presidents political party biographical data	personal data First Ladies
Fun with American History (Fun)	lifestyles in twentieth-century America popular history		music sports fiction movies disasters news trivia	
Local History (Local)	periods in your local history buildings events families transportation		events by type people involved places previous events personal observations significance of events	

CLASSROOM MANAGEMENT

Assign each student a partner that he or she will work with for an entire unit.

This package includes three copies of each file. If you have more than three computers, you may want more disks. You can purchase copies of the data files inexpensively from Scholastic Inc. See the order form included in the package.

How you introduce, prepare for, and conduct the activities depends partly on the number of computers your students may use. Teachers have taught their students very successfully with only one computer available; of course, the whole class will learn faster if there are more machines. Regardless of your hardware setup, you should always do the following before beginning a new activity:

1. Work through the activity to familiarize yourself with what students will be doing.

2. Introduce the activity to the class. Use a video projection unit or a large screen monitor, if possible. You may want to ask some students to help prepare or do the demonstration.

3. Make copies of the activity and distribute them to student pairs.

4. Schedule time on the computer for each student pair. Allot at least as much time as is indicated by the activity-by-activity lesson plan charts, and remember that some students will require more time than others. Many activities require planning away from the computer, so some students can plan at their desks while others use the computer.

5. Copy the master file disk onto the working copies, so your students have correct data. (See Software Management on page 11.)

Before, during, or after each activity, you might allow some time for students to demonstrate their work to the whole class or to small groups.

Homework

Several activities involve planning away from the computer. You can assign this planning as homework, and have students continue with the computer part of the lesson in class.

Materials in the Classroom or Lab

Students will need to refer to various materials aside from the activities. Therefore, you should:

- Make copies of the Quick Guide and Glossary and distribute them to students.
- Place the *Scholastic PFS: File* and *Report* Mini-Reference Guides where all students can find them.
- Have students display their printouts on the wall, so they can compare results and learn from each other's work.

Assessing Student Progress

Students will master the skills and concepts in these activities at their own pace. Here are some suggestions for checking on their progress:

- For each activity, select an exercise or question to monitor, and have students turn in their printouts or their worksheets for planning printouts.
- Have students routinely complete a progress checklist for each activity.

Providing for Individual Needs

Try to arrange the computer schedules to allow slower students the extra time they need to understand the concepts and practice the skills. Try pairing them with classmates who are especially helpful peer tutors (not necessarily the computer whizkids).

Give the more advanced students useful chores to do that will teach them more about managing data files and computer systems. For example, you might have them:

- make backup copies of the data disks
- manage the disk library
- keep disk labels accurate and up-to-date
- set up bulletin board displays of student printouts
- design files of information about the computer schedules or other administrative data
- assist other students with debugging
- assist you during demonstrations

SOFTWARE MANAGEMENT

Data on *File* data disks can easily be modified, added, or deleted. This is a great strength of the program, but also a potential nuisance: careless or mischievous students may lose or destroy data. Fortunately, you can institute simple procedures that will guarantee that you always have a clean copy of each file on hand.

The first thing you should do is turn one copy of each file into a "master" by protecting it with write-protect tabs. Use as many tabs as there are notches on the disk (one or two). Keep the master disks in a safe place and never use them. This way, you'll always have one copy of each file in mint condition. Before you safeguard a master file, copy it once so that you will still have three "working" copies of the file. To make copies, use the COPY function of *File,* or a standard commercial copy program, which is often quicker.

Students should use the three "working" copies of each file. Normally, after students finish a session on the computer, you should copy the contents of the master disk back onto the working copies. In this way, you ensure that students begin each new session with the correct data. However, you may not always want to do that. For example, if students have updated data or added forms to a file, you may want to retain the file in its new form. You should also remember that if you copy over an entire disk, you will lose any Pre-defined Print Specs on that disk. To avoid this, you could use the Copy Selected Forms option.

It is most important that you tell students NEVER to remove a data disk from the drive unless the PFS: File Function Menu is on the screen. Withdrawing a disk or turning off the computer at any time may scramble the contents of the disk. If this should happen, consult the Appendices for a procedure that may restore the data disk to working order.

Tell students that an important part of learning about computer data files is learning to care for them responsibly. Ask students always to look closely at their printouts with an eye to whether the data makes sense, or whether an unexpected result suggests that the data in the disk has been unintentionally altered. And when students build their own data files, make sure they cross-check each other's accuracy. The activities in the Creating Files units provide some of these procedures.

Data Base
Scope and Sequence Chart

Expanding American Frontier

I = Skill Introduced
P = Skill Practiced
A = Skill Applied

Skills	Activity 1	2	3	4	5	6	7	8
DETERMINE INFORMATION NEEDS								
Analyze Problem			I	P	P	P		P
Break Problem into Subproblems						I		
Develop Hypotheses								
Decide on Data Needed to Answer Question			I	P	P	P	P	P
Interpret Data	I	P	P	P	P	P		
RETRIEVE INFORMATION								
Explore a File		I						
Type Retrieve Specs	I	P	P	P	P	A	A	A
Set Up Retrieve Specs			I	P	P	P	P	A
Narrow the Search								
Print Using Pre-defined Print Spec					I	P		
Choose Retrieve Spec for Printout					I	P		
Choose Data Sequence for Printout					I	P		
Plan Data Items for Printout					I	P		
Set Up Print Spec					I	P		
Test/Debug Printout					I	P		
Revise Print Spec					I	P		

	1	2	3	4	5	6	7	8
PREPARE REPORTS								
Set Up Report Spec								
Set New Headings								
Print a Report								
Fill In Report Options								
Set Up Retrieve Spec for Report								
Set Up Pre-defined Report Spec								
Print Report								
Define Derived Column								
Debug Report								
Interpret Report								
Graph Data								
BUILD FILES								
Plan the Research								I
Locate Sources of Information							I	P
Print Blank Forms								I
Collect Data							I	P
Check Accuracy of Data								I
Update Existing Forms							I	
Add New Forms to File								I
Copy File Disk								
Copy Selected Forms								I

Data Base
Scope and Sequence Chart

Inventions and Technology

I = Skill Introduced
P = Skill Practiced
A = Skill Applied

Skills	Activity 1	2	3	4	5	6	7	8
DETERMINE INFORMATION NEEDS								
Analyze Problem			I	P	P		P	A
Break Problem into Subproblems			I		P			
Develop Hypotheses					I			A
Decide on Data Needed to Answer Question			I	P	P			A
Interpret Data	I	P	P	P	P			A
RETRIEVE INFORMATION								
Explore a File		I	P					
Type Retrieve Specs	I	P	P	P	P	A	A	A
Set Up Retrieve Specs			I	P	P	P	P	A
Narrow the Search			I					
Print Using Pre-defined Print Spec				I	P			A
Choose Retrieve Spec for Printout				I	P			A
Choose Data Sequence for Printout				I	P			A
Plan Data Items for Printout				I	P			A
Set Up Print Spec				I	P			A
Test/Debug Printout				I	P			A
Revise Print Spec				I	P			A

	1	2	3	4	5	6	7	8
PREPARE REPORTS								
Set Up Report Spec								
Set New Headings								
Print a Report								
Fill In Report Options								
Set Up Retrieve Spec for Report								
Set Up Pre-defined Report Spec								
Print Report								
Define Derived Column								
Debug Report								
Interpret Report								
Graph Data								
BUILD FILES								
Plan the Research							I	
Locate Sources of Information						I	P	
Print Blank Forms							I	
Collect Data						I	P	
Check Accuracy of Data							I	
Update Existing Forms						I		
Add New Forms to File							I	
Copy File Disk								
Copy Selected Forms							I	

Data Base
Scope and Sequence Chart

Twentieth-Century America

I = Skill Introduced
P = Skill Practiced
A = Skill Applied

Skills	Activity 1	2	3	4	5	6	7	8	9	10
DETERMINE INFORMATION NEEDS										
Analyze Problem			I	P	P	P	P	A	P	A
Break Problem into Subproblems					I			P		A
Develop Hypotheses	I				I	P	P	P		A
Decide on Data Needed to Answer Question			I	P	P	P	P	P	P	A
Interpret Data	I	P	P	P	P	P	P	P	P	A
RETRIEVE INFORMATION										
Explore a File		I								
Type Retrieve Specs	I	P	P	P	A	A	A	A	A	A
Set Up Retrieve Specs			I	P	P	P	P	A	A	A
Narrow the Search			I	P	P					A
Print Using Pre-defined Print Spec				I	P					A
Choose Retrieve Spec for Printout				I	P					A
Choose Data Sequence for Printout				I	P					A
Plan Data Items for Printout				I	P					A
Set Up Print Spec				I	P					A
Test/Debug Printout				I	P					A
Revise Print Spec				I	P					A

	1	2	3	4	5	6	7	8	9	10
PREPARE REPORTS										
Set Up Report Spec							I	P		A
Set New Headings							I	P		A
Print a Report							I	P		A
Fill In Report Options							I	P		A
Set Up Retrieve Spec for Report							I	P		A
Set Up Pre-defined Report Spec							I	P		A
Print Report							I	P		A
Define Derived Column								I		A
Debug Report								I		A
Interpret Report							I	P		A
Graph Data									I	
BUILD FILES										
Plan the Research										
Locate Sources of Information										
Print Blank Forms										
Collect Data										
Check Accuracy of Data										
Update Existing Forms										
Add New Forms to File										
Copy File Disk										
Copy Selected Forms										

Data Base
Scope and Sequence Chart

American Presidents

I = Skill Introduced
P = Skill Practiced
A = Skill Applied

Skills	Activity 1	2	3	4	5	6	7	8
DETERMINE INFORMATION NEEDS								
Analyze Problem					I	P		A
Break Problem into Subproblems								A
Develop Hypotheses								
Decide on Data Needed to Answer Question					I	P		A
Interpret Data						I		A
RETRIEVE INFORMATION								
Explore a File								
Type Retrieve Specs					A	A		A
Set Up Retrieve Specs					A	A		A
Narrow the Search								
Print Using Pre-defined Print Spec						I		A
Choose Retrieve Spec for Printout					I			A
Choose Data Sequence for Printout					I			A
Plan Data Items for Printout					I			A
Set Up Print Spec					I			A
Test/Debug Printout						I		A
Revise Print Spec								A

	1	2	3	4	5	6	7	8
PREPARE REPORTS								
Set Up Report Spec								
Set New Headings								
Print a Report								
Fill In Report Options								
Set Up Retrieve Spec for Report								
Set Up Pre-defined Report Spec								
Print Report								
Define Derived Column								
Debug Report								
Interpret Report								
Graph Data								
BUILD FILES								
Plan the Research	I							
Locate Sources of Information	I		P				P	
Print Blank Forms	I						P	
Collect Data		I					P	
Check Accuracy of Data			I				P	
Update Existing Forms							I	
Add New Forms to File				I				
Copy File Disk								
Copy Selected Forms								

Data Base
Scope and Sequence Chart

Local History

I = Skill Introduced
P = Skill Practiced
A = Skill Applied

Skills	**Activity** 1	2	3	4	5	6	7	8
DETERMINE INFORMATION NEEDS								
Analyze Problem	I				P	P		A
Break Problem into Subproblems	I				P			A
Develop Hypotheses	I				P			P
Decide on Data Needed to Answer Question	I				P			P
Interpret Data						I		P
RETRIEVE INFORMATION								
Explore a File								
Type Retrieve Specs					I	P		A
Set Up Retrieve Specs					I	P		A
Narrow the Search								
Print Using Pre-defined Print Spec						I		A
Choose Retrieve Spec for Printout					I			A
Choose Data Sequence for Printout					I			A
Plan Data Items for Printout					I			A
Set Up Print Spec					I			A
Test/Debug Printout						I		A
Revise Print Spec						I		A

	1	2	3	4	5	6	7	8
PREPARE REPORTS								
Set Up Report Spec								
Set New Headings								
Print a Report								
Fill In Report Options								
Set Up Retrieve Spec for Report								
Set Up Pre-defined Report Spec								
Print Report								
Define Derived Column								
Debug Report								
Interpret Report								
Graph Data								
BUILD FILES								
Plan the Research	I	A					A	
Locate Sources of Information		I					A	
Print Blank Forms	I						A	
Collect Data		I					P	
Check Accuracy of Data			I				P	
Update Existing Forms							I	
Add New Forms to File				I				
Copy File Disk								
Copy Selected Forms								

Data Base Scope and Sequence Chart

Fun With American History

I = Skill Introduced
P = Skill Practiced
A = Skill Applied

Skills	Activity 1	2	3	4	5	6	7	8
DETERMINE INFORMATION NEEDS								
Analyze Problem					I			A
Break Problem into Subproblems								
Develop Hypotheses								
Decide on Data Needed to Answer Question					I			A
Interpret Data						I		A
RETRIEVE INFORMATION								
Explore a File								
Type Retrieve Specs				I		P		A
Set Up Retrieve Specs					I	P	P	A
Narrow the Search								
Print Using Pre-defined Print Spec						I		A
Choose Retrieve Spec for Printout					I			A
Choose Data Sequence for Printout					I			A
Plan Data Items for Printout					I			A
Set Up Print Spec					I			A
Test/Debug Printout						I		A
Revise Print Spec						I		A

	1	2	3	4	5	6	7	8
PREPARE REPORTS								
Set Up Report Spec								
Set New Headings								
Print a Report								
Fill In Report Options								
Set Up Retrieve Spec for Report								
Set Up Pre-defined Report Spec								
Print Report								
Define Derived Column								
Debug Report								
Interpret Report								
Graph Data								
BUILD FILES								
Plan the Research	I							
Locate Sources of Information	I		P				P	
Print Blank Forms	I						P	
Collect Data		I					P	
Check Accuracy of Data			I	P			P	
Update Existing Forms				I			P	
Add New Forms to File				I				
Copy File Disk								
Copy Selected Forms								

Social Studies
Scope and Sequence Chart

I = Skill Introduced

P = Skill Practiced

Expanding American Frontier

Skills	Activity 1	2	3	4	5	6	7	8	9	10
Discover the main topics, key events, important people, and trends within a period of history.	I	P	P	P	P	P				
Classify data into relevant categories.		I	P	P	P	P		P		
Note cause-and-effect relationships.		I	P	P	P	P		P		
Define a historical problem or question.			I	P	P	P		P		
Identify data needed to answer a historical question.			I	P	P	P		P		
Use library references, including card catalogs, almanacs, government publications, and books.							I	P		
Sequence and organize data needed to answer a historical question.			I	P	P	P		P		
Analyze and interpret results of the data collected.				I	P	P		P		
Present a synthesis of research selecting from several formats (graph, chart, or print).						I		P		
Validate data collected to ensure objectivity, technical correctness, and currency.								I		
Estimate the adequacy of information collected.								I		
Discuss implications of research and propose additional hypotheses.								I		
Propose a course of action based on research results.										
Operate a computer to enter and retrieve information from a variety of sources.	I	P	P	P	P	P	P	P		
Use computer information networks.										

Social Studies
Scope and Sequence Chart

I = Skill Introduced

P = Skill Practiced

Inventions and Technology

Skills	**Activity** 1	2	3	4	5	6	7	8	9	10
Discover the main topics, key events, important people, and trends within a period of history.	I	P	P	P	P					
Classify data into relevant categories.		I	P	P	P		P	P		
Note cause-and-effect relationships.		I	P	P	P		P	P		
Define a historical problem or question.			I	P	P		P	P		
Identify data needed to answer a historical question.			I	P	P		P	P		
Use library references, including card catalogs, almanacs, government publications, and books.				I	P	P	P	P		
Sequence and organize data needed to answer a historical question.			I	P	P		P	P		
Analyze and interpret results of the data collected.				I	P		P	P		
Present a synthesis of research selecting from several formats (graph, chart, or print).					I		P	P		
Validate data collected to ensure objectivity, technical correctness, and currency.						I		P		
Estimate the adequacy of information collected.					I	P		P		
Discuss implications of research and propose additional hypotheses.				I	P			P		
Propose a course of action based on research results.										
Operate a computer to enter and retrieve information from a variety of sources.	I	P	P	P	P	P	P	P		
Use computer information networks.										

Social Studies
Scope and Sequence Chart

I = Skill Introduced

P = Skill Practiced

Twentieth-Century America

Skills	Activity 1	2	3	4	5	6	7	8	9	10
Discover the main topics, key events, important people, and trends within a period of history.	I	P	P	P						
Classify data into relevant categories.		I	P	P	P	P	P	P	P	P
Note cause-and-effect relationships.		I	P	P	P	P	P	P	P	P
Define a historical problem or question.			I	P	P	P	P	P	P	P
Identify data needed to answer a historical question.			I	P	P	P	P	P	P	P
Use library references, including card catalogs, almanacs, government publications, and books.					I	P	P	P	P	P
Sequence and organize data needed to answer a historical question.				I	P	P	P	P	P	P
Analyze and interpret results of the data collected.				I	P	P	P	P	P	P
Present a synthesis of research selecting from several formats (graph, chart, or print).				I	P	P	P	P	P	P
Validate data collected to ensure objectivity, technical correctness, and currency.					I	P	P	P	P	P
Estimate the adequacy of information collected.					I	P	P	P	P	P
Discuss implications of research and propose additional hypotheses.				I	P	P	P	P	P	P
Propose a course of action based on research results.						I		P	P	P
Operate a computer to enter and retrieve information from a variety of sources.	I	P	P	P	P	P	P	P	P	P
Use computer information networks.										I

Social Studies
Scope and Sequence Chart

American Presidents

Skills	Activity 1	2	3	4	5	6	7	8	9	10
Discover the main topics, key events, important people, and trends within a period of history.	I	P			P	P	P	P		
Classify data into relevant categories.	I	P			P	P	P	P		
Note cause-and-effect relationships.	I	P			P	P	P	P		
Define a historical problem or question.	I	P			P	P		P		
Identify data needed to answer a historical question.	I	P			P	P		P		
Use library references, including card catalogs, almanacs, government publications, and books.	I	P	P				P	P		
Sequence and organize data needed to answer a historical question.		I			P	P		P		
Analyze and interpret results of the data collected.						I		P		
Present a synthesis of research selecting from several formats (graph, chart, or print).						I		P		
Validate data collected to ensure objectivity, technical correctness, and currency.			I				P	P		
Estimate the adequacy of information collected.			I			P	P	P		
Discuss implications of research and propose additional hypotheses.						I		P		
Propose a course of action based on research results.								I		
Operate a computer to enter and retrieve information from a variety of sources.	I			I	P	P	P	P		
Use computer information networks.										

Social Studies
Scope and Sequence Chart

I = Skill Introduced

P = Skill Practiced

Local History

Skills	Activity 1	2	3	4	5	6	7	8	9	10
Discover the main topics, key events, important people, and trends within a period of history.	I	P			P	P	P	P		
Classify data into relevant categories.	I	P			P	P	P	P		
Note cause-and-effect relationships.	I	P			P	P	P	P		
Define a historical problem or question.	I	P			P	P		P		
Identify data needed to answer a historical question.	I	P			P	P		P		
Use library references, including card catalogs, almanacs, government publications, and books.		I	P				P	P		
Sequence and organize data needed to answer a historical question.					P	P		P		
Analyze and interpret results of the data collected.						I		P		
Present a synthesis of research selecting from several formats (graph, chart, or print).						I		P		
Validate data collected to ensure objectivity, technical correctness, and currency.			I				P	P		
Estimate the adequacy of information collected.			I			P	P	P		
Discuss implications of research and propose additional hypotheses.						I		P		
Propose a course of action based on research results.								I		
Operate a computer to enter and retrieve information from a variety of sources.				I	P	P	P	P		
Use computer information networks.										

Social Studies
Scope and Sequence Chart

I = Skill Introduced

P = Skill Practiced

Fun With American History

Skills	Activity 1	2	3	4	5	6	7	8	9	10
Discover the main topics, key events, important people, and trends within a period of history.	I	P			P	P	P	P		
Classify data into relevant categories.	I	P			P	P	P	P		
Note cause-and-effect relationships.	I	P			P	P	P	P		
Define a historical problem or question.	I	P			P	P		P		
Identify data needed to answer a historical question.	I	P			P	P		P		
Use library references, including card catalogs, almanacs, government publications, and books.	I	P	P				P	P		
Sequence and organize data needed to answer a historical question.		I			P	P		P		
Analyze and interpret results of the data collected.						I		P		
Present a synthesis of research selecting from several formats (graph, chart, or print).						I		P		
Validate data collected to ensure objectivity, technical correctness, and currency.			I				P	P		
Estimate the adequacy of information collected.			I			P	P	P		
Discuss implications of research and propose additional hypotheses.						I		P		
Propose a course of action based on research results.								I		
Operate a computer to enter and retrieve information from a variety of sources.				I	P	P	P	P		
Use computer information networks.								I		

Scholastic pfs: U.S. History Data Bases

The Expanding American Frontier

THE EXPANDING AMERICAN FRONTIER: LESSON PLANS

Content Overview

The Frontier file contains data about the people and events that shaped the expansion of the American frontier, from the exploits of early fur trappers through NASA's dramatic thrusts into space.

Key Topic Areas in United States History

Major topics covered are Westward Movement, People of the American Frontier, Statehood, and the Exploration of Space.

Description of File Contents and Organization

The Frontier form on disk is three pages (screens) long. See Figure A on the next page. Each form describes an event.

Page 1

The EVENT appears on page 1. Each EVENT is considered as part of a TOPIC. For example, the Discovery of Gold is an EVENT in the California Gold Rush topic. The topics covered are those usually taught in the Frontier chapter of United States history textbooks. They are:

Acquisition of Alaska and Hawaii	Louisiana Purchase
Florida Cession	Mexican War
Statehood	Monroe Doctrine
Texas Independence	Northwest Territory
California Gold Rush	Oregon Territory
Colonial Frontier	Transportation Westward
Final Frontier: Space	War of 1812

EVENTS are also categorized by TYPE. The Discovery of Gold, for example, is an Economic TYPE of EVENT. The types covered are:

Political	Settlement
Military	Exploration
Religious	Transportation
Economic	

Page 1 of the form also has a SUMMARY of the significance of the EVENT to United States expansion, the YEAR in which the EVENT occurred, and the PRESENT-DAY STATES INVOLVED.

Page 2

Events involve people, and page 2 of the Frontier form contains the NAME of a person who played a key role in the event. Biographical data are included for this person, as well as a description of his or her ROLE IN THIS EVENT.

Page 3

Page 3 of the Frontier form shows sources of information used in building the file.

Grade Level Suggestions

Students in grades six through eight may want to work only with the page 1 data. High school students and advanced junior high students may want to work with the data on all three pages.

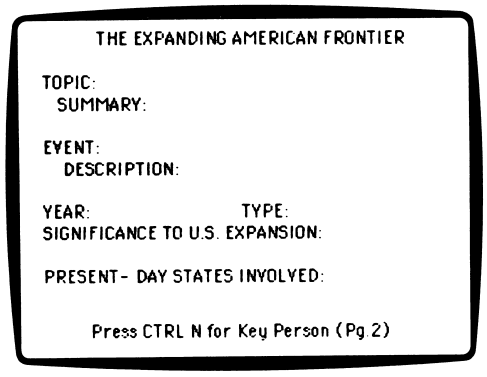
Teaching Tips

You can tailor the learning experience to your curriculum by asking students to solve problems that are closely tied to your own teaching objectives.

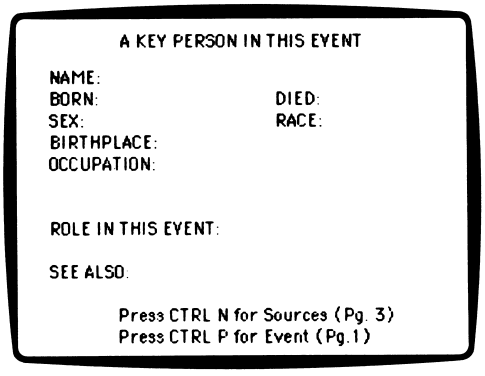
The activities give the students step-by-step procedures for solving the sample questions listed in the activities. However, it's best for the students to be gradually weaned from dependence on the step-by-step procedures. For example, they should learn how to set up a Pre-defined Print Spec on their own.

Encourage students to experiment by making up their own questions and Retrieve Specs. They will learn a lot by debugging their mistakes, rather than getting everything "right" the first time.

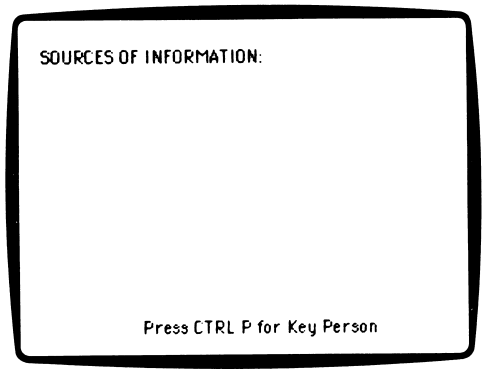
Encourage students to look up information and procedures in the Mini-References when they don't know how to do something. Ability to use reference manuals is a very useful skill in the world of computers and information systems.



Page 1



Page 2



Page 3

Figure A

The Expanding American Frontier

Activity	Objectives	Preparation	Management	Time (per student)
1.	• Discover the main topics in the American frontier. • Identify key events to review. • Type Retrieve Specs: exact match, partial match, multiple items match.	• Copy the Frontier file from the master disk onto the working disks.	• Schedule time on computer for student pairs.	35 minutes
2.	• Classify events according to type. • Identify key persons involved in the frontier. • List additional sources of information.	• Copy the Frontier file from the master disk onto the working disks.	• Schedule time on computer for student pairs.	35 minutes
3.	• Develop questioning skills. • Develop a strategy to find answers to your questions. • Set up Retrieve Specs: exact match, partial match, multiple items match. • Review understanding of the file.	• Copy the Frontier file from the master disk onto the working disks.	• Schedule time on computer for student pairs.	35 minutes
4.	• Select data needed to answer a historical question. • Narrow the search. • Set up Retrieve Specs: exact match, partial match, multiple items match.	• Copy the Frontier file from the master disk onto the working disks.	• Help students set up Retrieve Specs. • Schedule time on the computer for student pairs.	35 minutes
5.	• Determine data needed to test a hypothesis. • Devise a strategy for testing the hypothesis. • Plan and interpret printout.	• Copy the Frontier file from the master disk onto the working disks. • Set up the printer.	• Schedule time on computer for student pairs. • Assist students in debugging their printouts.	45 minutes

(Continued on next page.)

Activity	Objectives	Preparation	Management	Time (per student)
6.	• Define a historical problem and the data needed to solve it. • Validate data. • Interpret historical significance of answers. • Plan, test, debug, revise, and interpet printout.	• Copy the Frontier file from the master disk onto the working disks. • Set up the printer.	• Help students choose their projects. • Schedule time on computer for student pairs. • Assist students in debugging their printouts.	45 minutes
7.	• Consider alternative sources of historical information. • Locate sources of historical information. • Collect data to enter on computer. • Update existing forms.	• Copy the Frontier file from the master disk onto the working disks. • Set up the printer.	• Help students choose topics or events to update. • Help students locate sources of information. • Schedule time on the computer for student pairs.	35 minutes
8.	• Define a historical problem or question. • Collect and validate data. • Create a printed report illustrating your solution. • Prepare new file. • Add new data to the file.	• Provide students with blank disks. • Copy the Frontier file from the master disk onto the working disks. • Set up the printer.	• Help students choose topics for their new files. • Help students locate sources.	Two class periods

INTRODUCTION

This series of eight activities will show you how to use the data file named Frontier. The file contains information on topics, events, and people of the American frontier.

Here are some of the questions you can answer and projects you can work on, using the Frontier file.

- How did America acquire its land? Was it purchased from other countries? Did Americans fight to win control of the land? Did they just settle on it and call it their own?
- What was the California Gold Rush? When did it happen and who was involved? Why was it important to the expansion of the United States?
- When did your state enter the Union? What people were involved in this historical development?
- What were the roles of Native Americans in the American frontier movement?
- Who led the trip through the Oregon Trail? Prepare a timeline to show key events on the trip.
- What were the roles of some women in the American frontier?
- Which areas of the United States were settled by people who were looking for religious freedom?
- What countries did Americans fight against in order to acquire territory?
- What were some major developments in transportation that encouraged the westward movement? Consider the following developments: canals, railroads, roads, air travel.
- Some historians have argued that it is America's "manifest destiny" to move westward. That is, we have a mission to settle and acquire land in the name of the United States. Do you support this hypothesis?
- Is the space movement America's final frontier? Who are some of the space pioneers?

The Activities

Activity 1: Finding Events in the Frontier File
Activity 2: Exploring the Frontier File
Activity 3: Asking Questions about the Frontier
Activity 4: Setting Up More Complex Retrieve Specs
Activity 5: How to Plan a Printout
Activity 6: Planning Your Own Printouts
Activity 7: Updating the Frontier File
Activity 8: Adding New Forms to the Frontier File

Activity 1 is designed for people who have never used the *File* program before. If you already know how to use *File,* you can skip it and go to Activity 2.

ACTIVITY 1: FINDING EVENTS IN THE FRONTIER FILE

You can do this activity whether or not you've ever used the *PFS: File* program before. You'll learn something about the frontier movement in America, and some things about using the *File* program.

What You'll Do

First, you'll start up the *File* program. If you don't already know how to do this, now is the time to learn! Next, you'll get information about certain events onto your screen, and learn some things about how to do that. The fancy phrase for what you'll do is "information retrieval."

What You'll Need

1. A *Scholastic PFS: File* data disk called Frontier. (Check with your teacher to make sure a backup copy has been made of the Frontier file before you use it.)
2. A *File* program disk.
3. An Apple *II*e or IIc computer, with one disk drive and monitor.

Starting Up the File Program

1. Remove the *File* program disk from its protective jacket, and insert it into Drive 1. (On an Apple IIc, Drive 1 is the built-in drive.) Close the door on the disk drive.
2. If the computer is off, turn it on. Turn on the monitor. If the computer is already on, press the **CTRL**, **OPEN-APPLE**, and **RESET** keys all at the same time. The PFS: File Function Menu appears on the screen.
3. Remove the *File* program disk from Drive 1 and put it in its protective jacket. You won't need it anymore in this lesson.

That's the end of the start-up procedure. From here on, any time you use the *File* program, follow the same procedure.

4. Insert the Frontier data disk in Drive 1 and close the door on the disk drive.

CAUTION: Never remove the disk from the disk drive unless the PFS: File Function Menu is on the screen.

Selecting the SEARCH/UPDATE Function

The PFS: File Function Menu is on your screen. It lists six functions. The only function we'll use right now is the SEARCH/UPDATE function. This is the part of the *File* program you use to find information stored in a file on a data disk.

1. Select SEARCH/UPDATE by typing 4.
2. If File Name is blank, leave it blank. If it says File Name: Frontier, that's okay, too. You don't need a file name when you choose SEARCH/UPDATE. The program will look at the file in Drive 1, and find the file name.
3. Press **CTRL-C**. (Hold down **CTRL** and press **C**.) A Retrieve Spec appears.

You have just completed the procedure for selecting the SEARCH/UPDATE function. From here on, whenever you see "select SEARCH/UPDATE from the PFS: File Function Menu," follow the procedure above.

Finding the Battle of the Alamo in the Frontier File

A blank Retrieve Spec is on the screen. (Make sure the phrase "Retrieve Spec" is on the bottom of your screen. If it isn't, press **ESC** and select SEARCH/UPDATE again.) Use the following procedure to see if the Battle of the Alamo is an event in this file:

1. Press the **TAB** key twice. The cursor should be beside EVENT.
2. Type this exactly: BATTLE OF THE ALAMO.
3. Press **CTRL-C**. The form for Battle of the Alamo will soon appear. In what YEAR did this event take place? _____ Notice what TYPE of event this is (Military). Notice the TOPIC (Texas Independence).

Getting the PFS: File Function Menu

When you finish looking at a form on your screen and you want the PFS: File Function Menu again, press **ESC**.

Finding Out More About Texan Independence

See whether there's more information in the file about Texan independence. Here's the procedure:

The PFS: File Function Menu is on your screen.

1. Type 4, and then press **CTRL-C**. The blank Retrieve Spec appears.
2. Beside TOPIC, type: TEXAS INDEPENDENCE. It doesn't matter whether you use uppercase or lowercase letters. The *File* program accepts both.
3. Press **CTRL-C**. The form for an event appears on the screen.

Looking at the Event You Found

1. Look at the event on the screen. Write the name of the event: _____

2. Press **CTRL-C**. What event appears on the screen next? _____

What does this event have to do with Texan independence? _____

_____

Why did the *File* program put this event on the screen? _____

3. Look near the bottom of the page, where it says PRESENT-DAY STATES INVOLVED. Note that TX is the standard abbreviation for Texas.
4. After you look at an event, press **CTRL-C**. The next event appears on the screen.
5. Look at the events until a message appears. How many forms were found? _____
6. Press **CTRL-C**. The PFS: File Function Menu appears.

Texas Again

It was pretty neat the way the *File* program found all those events having to do with Texan independence. But what if you didn't know that "Texas Independence" was the name of the TOPIC to look up for Texan events? How would you find the events about Texas?

Try the Texas events search again, using a slightly different method. This time, use the PRESENT-DAY STATES INVOLVED.

The PFS: File Function Menu is on your screen.

1. Type 4, and then press **CTRL-C**. The blank Retrieve Spec appears.
2. Press the **TAB** key until the cursor is beside PRESENT-DAY STATES INVOLVED.
3. Type: ..TX.. (dot dot TX dot dot). This tells the program to look for TX, even if other states are also listed.
4. Press **CTRL-C**. A form for an event appears.

Looking at the Events You Found

As you did before, look at each event that appears on the screen. After each event, press **CTRL-C**. This time, you should see some events that you didn't see before.

Keep looking at the events until this message appears: FORMS FOUND #. How many forms were found? _____

Is this more or fewer forms than you found when you searched for Texan independence events? _____

Press **CTRL-C**. The PFS: File Function Menu appears.

Texan Politics

Before you get tired of Texas, try one more way of finding events related to the Lone Star State. This time, find just the political events. Here's how:

The PFS: File Function Menu is on the screen.

1. Type 4, then press **CTRL-C**. The Retrieve Spec appears.
2. Press the **TAB** key to move the cursor to TYPE.
3. Type: POLITICAL
4. Press **TAB** to move the cursor to PRESENT-DAY STATES INVOLVED.
5. Type: ..TX..
6. Press **CTRL-C**. The form for an event appears.

Again, look at each event that appears. Read the DESCRIPTION. Do you see why each of these events is called a political event? After you look at an event, press **CTRL-C**.

Keep looking at the events until the message appears. How many forms were found? _____

Press **CTRL-C**. The PFS: File Function Menu appears.

On Your Own

How many events involving your state are in the Frontier file? Try to determine this without a written procedure to follow. You need to know the two-character abbreviation for your state in order to do this.

How many events did you find? _____

How many military-type events are there for your state? _____

How many political events? _____

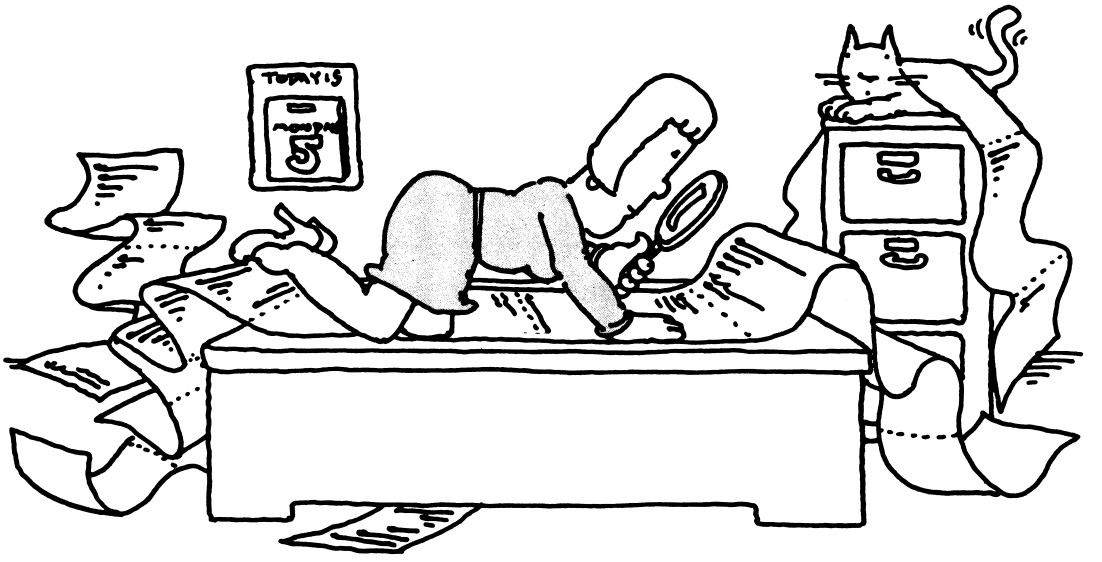
What other types of events are in the file for your state? _____

_____

Finishing Up

When you finish this activity, be sure the PFS: File Function Menu is on the screen. If it isn't, press **ESC**. Then remove the Frontier data disk from the disk drive and place it carefully in its protective jacket. Put the disk where your teacher tells you to keep it. Then turn off the computer.

ACTIVITY 2: EXPLORING THE FRONTIER FILE



When you use a file that is new to you, you should first explore it to find out what kinds of data are in it and how the data are organized.

What You'll Do

Just explore the frontiers for a while, to get familiar with our data.

What You'll Need

1. An Apple *II*e or IIc computer.
2. A *File* program disk.
3. A Frontier data disk provided in this package.

Select the SEARCH/UPDATE Function

Start up the *File* program. The PFS: File Function Menu should be on your screen. Place your Frontier data disk in Drive 1.

1. Choose SEARCH/UPDATE from the menu by typing 4. Press **CTRL-C**.
2. The blank Retrieve Spec for Frontier appears on the screen.
3. You just want to browse through the file for now, so leave the Retrieve Spec blank. Press **CTRL-C**.

A form should appear. What is the Form Number (on the bottom of the screen)? _____
Since this is the last form, you know how many forms are in the file.

What is the TOPIC of this form? _____

Notice there is an EVENT listed. In what year did it take place? _____

In this file, events are classified by one of the following TYPES: political, economic, exploration, military, religious, settlement, or transportation. What is the TYPE of event now on the screen? _____

REMINDER: If you accidentally type something on a form and you do not want what you typed to be stored on the disk, press ***ESC****.*

Exploring Topics and Types of Events

Press **CTRL-C**. Another form appears on the screen. What is the TOPIC? _____

What TYPE of event is this one? _____

Move through the forms by pressing **CTRL-C**. Each time that you see a TOPIC or an event TYPE that you have not seen before, write it down on the list on the next page. There are 15 topics covered in this file, and seven types of events.

TOPICS

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

TYPES of events

_____
_____
_____
_____
_____
_____
_____

When you get tired of looking at TOPICS and TYPES, press **ESC** to get back to the PFS: File Function Menu.

Looking at Other Pages of the Form

Each form in the file contains three pages of data. So far, you have looked only at page 1 of each form. Let's take a look at the other pages.

The PFS: File Function Menu is on your screen.

1. Select SEARCH/UPDATE from the PFS: File Function Menu. The blank Retrieve Spec appears on your screen.

2. Press **TAB** until the cursor is to the right of EVENT.

3. Type: BATTLE OF TIPPECANOE. Press **CTRL-C**. You can use upper or lowercase letters when you type a Retrieve Spec. Test this by typing: BaTTLe of tippecanoe.

4. The form for the Battle of Tippecanoe should appear after the program finds it in the file. If it doesn't, you probably spelled incorrectly in your Retrieve Spec. Try again.

5. Press **CTRL-N** to see page 2 of the form. Is Tecumseh the key person on your screen? If not, press **ESC** and start over at Step 1.

6. A key person is always described on page 2 of a Frontier form.

Reviewing Events and Key Persons

1. Press **CTRL-P** to see page 1 again. What was the EVENT? _____

When did the battle take place? _____

Why is this particular battle important enough to include in our file? (*Hint:* Read the SIGNIFICANCE TO U.S. EXPANSION.)

_____

2. Press **CTRL-N** to see page 2 again. What happened to Tecumseh in the Battle of Tippecanoe? _____

3. Press **CTRL-P** to see page 1 again. What is the TOPIC of this form? _____

Why is the Battle of Tippecanoe shown as an EVENT in the TOPIC "War of 1812"? _____

_____

Looking at Page 3 of the Form

You can find page 3 of this form by pressing **CTRL-N** until it appears on the screen. Page 3 always gives the source of information on the form. You can use these references if you want to find more information about the event or person in your library.

You may have some other sources of data on this event. For example, your classroom textbook may talk about Tecumseh or the Battle of Tippecanoe. You can add references to this page of the form, giving the name of your textbook and the chapter where these events are discussed. Activity 7 shows you how to do this.

Review

To check on your understanding of the Frontier file, fill in the blanks below. If you are uncertain about the answers, go back and browse through the file again.

The Frontier file is organized around 15 major topics in the history of the American Frontier. The TOPIC is shown on page ____ of each form. For example, one topic in the file is _____ .

Within each TOPIC there are certain EVENTS which took place. How many events are listed on one form? ____ If there are four events for a particular TOPIC, how many forms will there be for that TOPIC? ____

Each event is described briefly on the form, and is categorized as to TYPE. What TYPE of event would a battle be?

To find the name of a key person in an event, look at page ____ of the form. To find out where to get more information about this person or event or topic, look at the SOURCES OF INFORMATION on page ____ of the form.

ACTIVITY 3: ASKING QUESTIONS ABOUT THE FRONTIER

Now that you're familiar with the organization of this Frontier file, you can use it to answer questions. From here on, we assume you know how to get the PFS: File Function Menu on your screen, choose the SEARCH/UPDATE function, and type things into a Retrieve Spec.

What You'll Do

You'll practice setting up Retrieve Specs to select data from the file that will answer particular questions. DON'T BE AFRAID TO EXPERIMENT. Often there are several ways to search for a particular data form. Try different Retrieve Specs for answering the same question, and see what you learn.

What You'll Need

For this activity, you'll need:

1. An Apple *IIe* or IIc computer
2. A *File* program disk
3. A Frontier data disk provided in this package

Setting Up Retrieve Specs

Question: When was gold discovered in California? Who was the first to discover it?

What Retrieve Spec will you use to find this out?

_____

There are several possibilities that will work, but some are easier than others to type, and some will get exactly what you want the quickest.

Try your own Retrieve Spec. Did you retrieve the form you were looking for?

Now try this one:

EVENT: ..gold.. (dot dot gold dot dot)

Question: What was the population of Ohio in 1800?

Think of a Retrieve Spec for this.

_____

Try it out. Did you get the data you want?

Now try this Retrieve Spec:

EVENT: ..population.. (dot dot population dot dot)
PRESENT-DAY STATES INVOLVED: OH

Question: When was Kentucky admitted to the United States? Who was the first governor of Kentucky?

You may to need to refer back to your list of topics in order to set up this Retrieve Spec. Try this one:

TOPIC: ..statehood..
PRESENT-DAY STATES INVOLVED: KY

After you found the form, did you look at page 2 of the form to see whether the first governor might be the key person involved in Kentucky becoming a state?

You could use other Retrieve Specs to find this same form. Write one here and then try it out on the computer. _____

_____

Question: Who were some important Native Americans in the American frontiers? What type of events were they involved in?

The quickest Retrieve Spec for this question is:
RACE: I

Write the names of the Native Americans you find, and the type of event they were involved in:

NAME	TYPE OF EVENT
_____	_____
_____	_____
_____	_____
_____	_____

Review

From the exercises above, you have learned quite a lot about setting up Retrieve Specs for this Frontier file. Test yourself by answering the following questions:

- If you want to know about events that took place in a particular state, which data item can you use to set up your Retrieve Spec? _____
- If you want to look at all the political events in the file, which data item can you use to set up your Retrieve Spec? _____
- If you want to retrieve information about a particular person, which page of the Retrieve Spec do you use? _____

Finishing Up

If you have time, make up a question and the Retrieve Spec you would use to answer the question. Then try to stump your partner by revealing the question but not the Retrieve Spec. Can your partner get the answer? Does your partner think of a different Retrieve Spec than you did?

Finish the session on the computer in the usual manner, putting the disks where they belong.

ACTIVITY 4: SETTING UP MORE COMPLICATED RETRIEVE SPECS

Now you're more familiar with the data in the Frontier file. The better you know your subject, the easier it is to find answers in the file.

What You'll Do

Your job will be to determine the Retrieve Spec that will retrieve the forms you need in order to answer the questions.

What You'll Need

1. An Apple *II*e or IIc computer
2. A *File* program disk
3. A Frontier data disk provided in this package

Setting Up Retrieve Specs

Question: What were some of the important transportation events that contributed to expansion of the United States frontiers?

What is your Retrieve Spec? _____

Hint 1: Transportation is one of the TYPE categories.

Hint 2: Transportation Westward is a TOPIC in this file.

List two of the events that you found:

_____

_____

Look at the form for one of these events, and try to think of a different Retrieve Spec that you could use to get the same information:

_____

Test the Retrieve Spec and see whether it works for you.

Question: Who were some important people involved in political events that led to the expansion of the Northwest Territory?

You'll need to use two data items in your Retrieve Spec. What are they? Show your Retrieve Spec here:

_____

_____

Try it out. Did you retrieve information on Nathan Dane, John Jay, and Anthony Wayne?

If you did, you're learning some very important ideas very quickly. If you didn't, read the following hints and then try again:

Hint 1: "political" is a TYPE of event.

Hint 2: "..Northwest Territory.." is a TOPIC.

Hint 3: After you retrieve a form, you have to look at page 2 of the form to find out who the person was.

Question: What were some of the important military events in the struggle for Texan independence?

Write your Retrieve Spec here: _____

_____

Finishing Up

End the session on the computer in the usual manner. Put the disks where they belong.

ACTIVITY 5: HOW TO PLAN A PRINTOUT

Rather than retrieving records one at a time on the computer screen, you can have the *File* program print out a list of selected information you want for a particular study. For example, consider the following assignment:

Fur traders were often the first people to explore a new frontier. Prepare a report that lists the names of these early fur traders, their occupations, when they were exploring, and the states they explored.

What You'll Do

You'll learn how to tell *File* to print out data from the Frontier file that will help answer a question or solve a problem. The procedure will be:

1. Define your information requirements.
2. Set up a Print Spec.
3. Print forms to get the printout of the data you need.
4. Interpret the data.

What You'll Need

1. An Apple *II*e or IIc computer
2. A *File* program disk
3. The Frontier data disk
4. A worksheet for planning printouts
5. A printer connected to your computer

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

What data items will be included on the printout? _____

_____

_____

Which data item will be used for sorting the printout? _____

_____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

2. Setting up the Print options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Defining Your Information Needs

The first step in planning a *File* printout is to define what information you need in order to answer a particular question or problem. Refer to the assignment at the beginning of this activity. On your planning worksheet, write the assignment in your own words.

What information do we need for this report? The assignment was to tell who the early fur traders were and which states they were involved with.

Deciding Which Forms Will Be Selected for Printing

Since the question deals with fur traders, only forms with information about fur traders are needed for the printout. On your planning worksheet, find the question that asks which forms will be selected for printing. Write the Retrieve Spec you will use:

OCCUPATION: . .fur trader. .

Selecting Data Items to Include in the Printout

When defining information requirements, include only those data items that are needed for the purpose at hand. For the assignment, for example, we don't need data about the explorer's birthplace or the events he was involved in.

Here's a list of the data items one might include in the report for this assignment:

YEAR:
PRESENT-DAY STATES INVOLVED:
NAME:
OCCUPATION:

Write on your planning worksheet the data items to include on your printout.

Listing the Data in Order

Since we are tracing the history of early explorations, we might want to see the listing in the order in which the people made their explorations. That is, we would sort the records by YEAR, starting with the earliest event first.

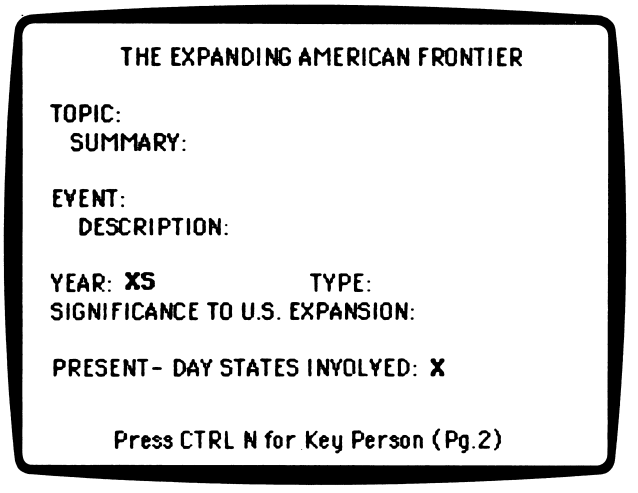
Write on your planning worksheet the data item to be used for sorting the printout.

Naming the Pre-defined Print Spec

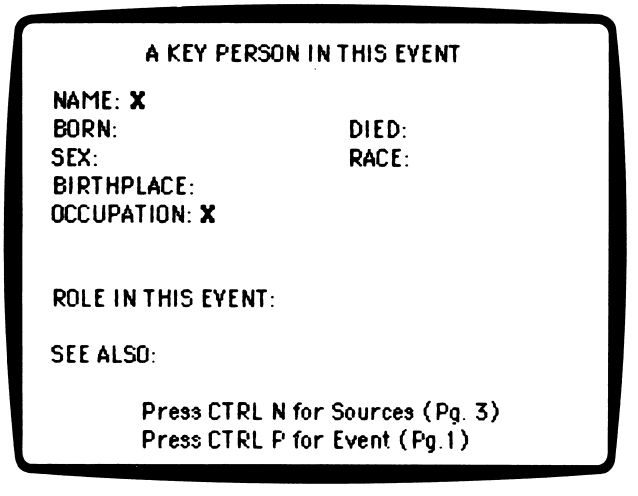
The Pre-defined Print Spec will tell the program which data items to use in the printout. You need to give the Print Spec a name. The name must be eight characters or less, and should be related to the problem you are working on. This example uses the name Person for the Print Spec. Write on your planning worksheet the name you will give to your Pre-defined Print Spec.

Setting up a Pre-defined Print Spec

Figure 1 shows the Print Spec you will set up. Notice that two of the data items to be printed are on page 1 of the Print Spec, and two of the data items are on page 2.



Page 1



Page 2 Figure 1

Here's the procedure:

1. The PFS: File Function Menu is on the screen and the Frontier file in Drive 1.
2. Select PRINT by typing 5. Press **TAB** to select File Name and type: FRONTIER.
3. Press **CTRL-C**. The PRINT Menu appears on your screen.
4. Select Define Print Spec by typing 2. Press **CTRL-C**. The Current Pre-defined Print Specs menu appears on the screen.
5. Refer to your planning worksheet to find the name you will give to your Print Spec. Type the Print Spec Name. Press **CTRL-C**. The Print Spec form appears on the screen.
6. Press **TAB** to move the cursor down to YEAR. Type: X. Since you want to sort by year, type: S beside the X next to YEAR.
7. Press **TAB** to select PRESENT-DAY STATES INVOLVED and type: X.
8. Press **CTRL-N** to get page 2 of the form.
9. Type: X beside NAME.
10. Press **TAB** to move cursor down to OCCUPATION and type: X.
11. When you complete the Print Spec, press **CTRL-C** to store it on the disk.

Printing the Data

Now you're ready to print the data. Here's the procedure:

1. The PFS: File Function Menu is on your screen, and the Frontier data file is in Drive 1. Make sure that your printer is connected to your computer, the printer is turned on, and the paper is aligned in the printer.
2. Select PRINT. Press **CTRL-C**. The PRINT menu appears on the screen.
3. Select PRINT Forms. Press **CTRL-C**. The Retrieve Spec appears. The program asks, "Which forms do you want printed?" Look at your planning worksheet. You want all forms with OCCUPATION: Fur Trader.
4. Press **CTRL-N** to get page 2 of the form.
5. Press **TAB** to select OCCUPATION and type ..FUR TRADER..
6. Press **CTRL-C**. The Print Options Menu appears.
7. Beside Pre-defined Print Spec, type: PERSON (or the name you chose).
8. Press **TAB** to choose Lines Per Page. Change the 66 to 8.
9. Press **CTRL-C**.

The program searches through the file and selects all the forms that have OCCUPATION: ..fur trader.. in them. Then the program sorts the forms by YEAR. Then printing begins.

Looking at the Printout

How does your printout look? Does it look something like Figure 2? If so, it contains the data you needed to answer the question about the fur traders.

YEAR: 1792
PRESENT-DAY STATES INVOLVED: OR

A KEY PERSON IN THIS EVENT

NAME: Robert Gray
OCCUPATION: Fur Trader

YEAR: 1806
PRESENT-DAY STATES INVOLVED: MO;ND;SD

A KEY PERSON IN THIS EVENT

NAME: Manuel Lisa
OCCUPATION: Fur Trader

YEAR: 1821
PRESENT-DAY STATES INVOLVED: UT

A KEY PERSON IN THIS EVENT

NAME: Peter Skene Ogden
OCCUPATION: Fur Trader

Figure 2

Make the printout a little neater and more readable. First, notice that you don't need the data item names. Place the year and the states on one line. Name and occupation could also be on one line. Now, the whole printout will fit on one page and you could easily scan it for information.

Follow the steps below to improve the printout by revising the Print Spec.

Revising the Print Spec

You should be able to select the Define Print Spec option from the PRINT menu, and get the Current Pre-defined Print Specs menu on your screen.

Here's the procedure for changing the Person Print Spec:

1. On the Current Pre-defined Print Specs menu, type the name of the Print Spec you used to get your printout. Press **CTRL-C**. Your Print Spec appears.
2. Type: + (plus sign) beside the XS next to YEAR, so that it looks like this: YEAR: XS+.
3. Press **CTRL-N** to get page 2 of the Print Spec.
4. Type: + beside the X next to NAME, so that it looks like this: NAME: X+.
5. Press **CTRL-C** to store the changes.

Printing With the Revised Print Spec

Try out your revised Print Spec. The PFS: File Function Menu is on your screen.

1. Type 5 and press **CTRL-C** to get the PRINT Menu on your screen. Select 1 Print Forms. Press **CTRL-C**.
2. When the Retrieve Spec appears, go to page 2 by pressing **CTRL-N**. At OCCUPATION, type: ..fur..
3. Then press **CTRL-C**.
4. On the Print Options Menu, use the same Pre-defined Print Spec as before.
5. Change Print Item Names to N.
6. Change Lines Per Page to 3.
7. Press **CTRL-C**. The printout should begin in a few seconds. Figure 3 shows the revised printout.

```
1792 OR
Robert Gray  Fur Trader

1806 MO;ND;SD
Manuel Lisa  Fur Traders

1821 UT
Peter Skene Ogden  Fur Trader

1822
William Becknell  Fur Trader
```

Figure 3

Interpreting the Results

Go back to the original assignment at the beginning of this activity. It claims that "fur traders were often the first people to explore a new frontier."

In looking at your printout of fur traders and the frontier areas (present-day states) they explored, does it appear that the fur traders were involved in very early explorations of these areas? _____

Does your printout tell the dates when the fur traders were exploring the areas? _____

How do you know whether this is an "early exploration" of this area? You may need more information in order to answer this question. For example, you could do the following:

From your printout, choose a fur trader from the 1700s. What present-day state was he involved in? Decide what data you would retrieve to test the hypothesis that this fur trader was one of the first people to explore this geographic area.

Hint: You should be able to use the same Person Print Spec to produce a list of all the people involved in that state, sorted by date of event.

Finishing Up

Finish the session on the computer in the usual manner. Put the disks away where they belong.

You might trade printouts with class members, to see how other people did this activity.

ACTIVITY 6: PLANNING YOUR OWN PRINTOUTS

At the end of this activity is a list of suggested questions and projects. You should now be able to use the Frontier file to retrieve data that will help to answer the questions and conduct the projects.

What You'll Do

You'll work with a partner to choose a question or project. You'll use a worksheet for planning printouts as you define the information you need to answer the question. Next, you'll set up a Pre-defined Print Spec and print your data. Finally, you'll analyze the printout and decide whether you need more information in order to answer the question.

What You'll Need

1. An Apple *II*e or IIc computer
2. A *File* program disk
3. The Frontier data disk
4. A worksheet for planning printouts (See page 29.)
5. A printer connected to your computer

Planning

The following is a set of steps to follow in planning your project:

1. Choose a project or question. State the problem as clearly as you can, and write it on your planning worksheet.

Sometimes you must break a problem down into several smaller problems or questions before you can decide what information will help answer the questions. Can you break your project down into separate questions? If so, use a planning worksheet for each question.

2. Decide which forms will be selected for printing. Does your project deal with only certain topics, or certain years, or certain states, or certain types of events? Plan a Retrieve Spec to select the forms for printing, and write the Retrieve Spec on your worksheet.

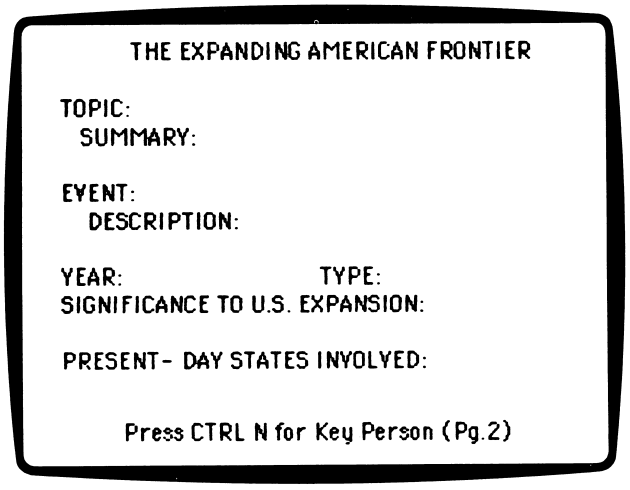
Sometimes you have to experiment first on the computer, using the SEARCH/UPDATE function to try out different ways of retrieving certain groups of forms before you find a Retrieve Spec that will work.

3. Decide which of the data items from each form are needed for the printouts. Refer as needed to Figure 4, which shows the form for the Frontier file.

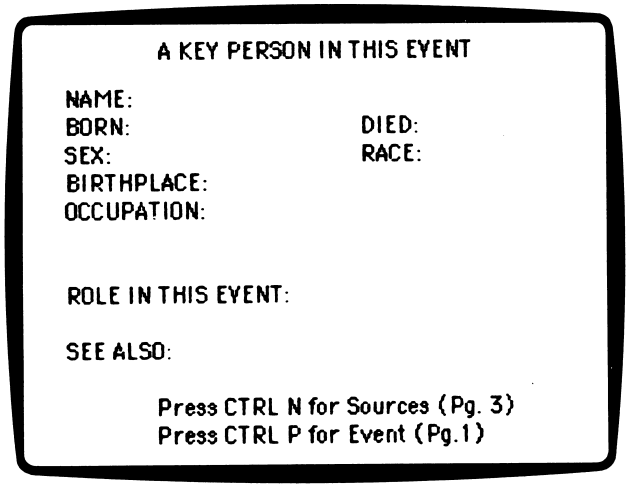
Make a list of the data items on your planning worksheet.

4. Decide how the forms should be sorted for the printout. Which data item will be used to sort the forms for printing? Write it on your planning worksheet.

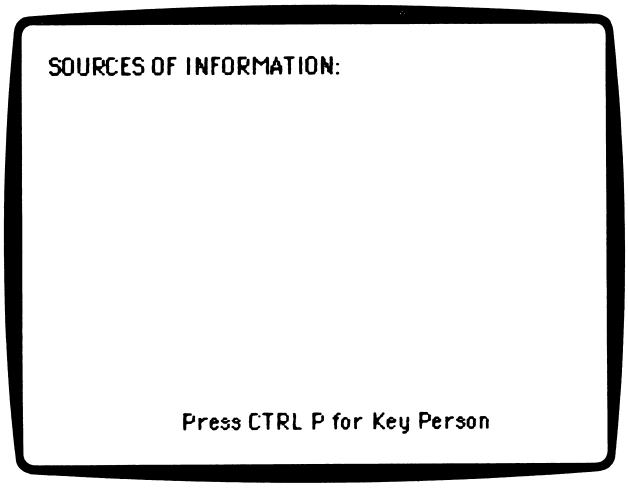
5. Name your Pre-defined Print Spec (eight characters or less). Write it on your planning worksheet.



Page 1



Page 2



Page 3 Figure 4

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

What data items will be included on the printout?

_____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters) _____

Printing the data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

2. Setting up the PRINT options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Making Your Printout

Now that you know how you will proceed, you're ready to prepare the printout of the data. By now you should know how to do each of the following tasks without a step-by-step procedure to follow. If necessary, refer to the procedures in Activity 5.

Setting up a Pre-defined Print Spec

Start up the *File* program and use the Define Print Spec option of the PRINT function to define your print spec. Refer to your planning worksheets to decide which data items to include in the printout and which data item to use for sorting.

Printing the Data

Use the Print Forms option of the PRINT function to make your printouts. Do they look the way you intended?

Debugging and Revising the Printout

Often, the first printout isn't exactly what you need. Check the following:

- Does the printout contain the data items needed to answer your project questions? Are any important data items missing? If so, revise your Print Spec.
- Does the printout contain data from all the relevant forms? For example, if you are studying a particular state, did you get all the forms that contain data on that state? If not, recheck your Retrieve Spec.
- Is the data listed in the order most useful for your project? For example, if you are studying different types of events, is the data sorted by TYPE? If not, revise the Print Spec to include the proper Sort instructions.
- Does the printout look too cluttered? Try printing the same list without the data names.
- Are there too many blank lines between forms on the printout? Count how many lines are needed for each form. On the Print Options Menu, change the Lines Per Page to the number of lines needed.

Finishing the Session on the Computer

Finish the session on the computer in the usual manner, putting the disks away where they belong.

Interpreting the Data

Usually, the data you retrieve from the Frontier file will help you answer the questions posed, but it won't provide all the answers. On the basis of your data, what are some possible answers to the questions?

_____

_____

What additional information would you need in order to have a more complete answer?

_____

Can you get that information from the Frontier file? _____

How? _____

If not, where might you get it?

_____

Suggested Projects

With your partner, select one of the following projects and use the Frontier file to investigate the issues raised. Prepare one or more printouts of Frontier data that will support your answers to the questions.

1. How much land area in square miles was added to the United States through the purchase of territories from other governments? From what country did America acquire most of her land? What percentage of the present total United States land area was acquired through purchase?
2. What were some of the major developments in transportation that opened up new frontiers? Consider the following developments: canals, railroads, roads, air travel. Select a particular geographic area of the United States and examine the relationship between transportation events and later settlement on those lands.
3. Religious freedom has been an important motivation for people to settle in new lands. Which areas of the United States were settled by people looking for religious freedom?
4. Men and women who explored unknown new territories contributed greatly to the expansion of the United States. Select a sample of present-day states and find out how long it was between the time of the first exploration of that area, and the time the state entered the Union. Does this vary by geographic area? Why?
5. What were some of the contributions of American Presidents to the frontier movement?
6. Americans fought many military battles in order to take lands that were controlled or contested by other groups. What countries or groups of people did the Americans fight against in these battles? Select a particular geographic area of the United States and describe the major military events involved in that frontier.

NOTE: If you have the PFS: Report *program and know how to use it, you can get the program to add up the total land area and display it in a report.*

7. Who led the trip through the Oregon Trail? Create a time line listing the events in the establishment of the Oregon Territory.
8. History books tell us relatively little about the roles of women in the frontier. What women are included in our Frontier file? What were their contributions?
9. Some historians refer to outer space as the "final frontier." Our Frontier file contains only a few of the important indviduals involved in the space frontier. Print out a list of these individuals and their major contributions. Then, research this topic in the library and add forms for other important events and people in the space frontier. For example, you might add some Russian cosmonauts and scientists who have made important contributions to space exploration. Activity 8 shows how to add new data to the file.
10. Some historians argue that it is America's "manifest destiny" to move westward. That is, we have a mission to settle and acquire land in the name of the United States. Do you support this idea?

ACTIVITY 7: UPDATING THE FRONTIER FILE

One reason why you can use computerized data in so many different ways is that you can easily change or add more information to the file. This processing is called *updating* the file, and that's what this lesson is about.

What You'll Do

In this activity you'll find new sources of information about the American frontier or the westward movement. Then you'll update the Frontier file by adding those sources of information to the references on page 3 of the file form.

What You'll Need

1. Your own United States history textbook or some other source of information about the frontier movement in United States history
2. An Apple *II*e or IIc computer
3. The *File* program disk
4. The Frontier data disk

Finding Sources of Information About Frontier Events

Choose three or four events, topics, key persons from the Frontier file. Look in your textbook or other reference materials to find information about that topic, event, or person. For example, if your textbook talks about Daniel Boone on page 325, you might add the title of your textbook and the page number reference to page 3 of the Daniel Boone form in the Frontier file. Decide whether the information in the textbook would help you or a classmate learn more about that event or person. If it is useful, write down the name of the event, topic, or person, the page numbers in the textbook, and the name and publisher of the book.

Updating the File

If you haven't already started up the *File* program, do so now. The PFS: File Function Menu is on the screen and the Frontier data disk is in Drive 1.

Here is an example of how you would update the form for Daniel Boone. You will use your own Retrieve Specs to get the form you want to update.

1. Select SEARCH/UPDATE by typing 4. Press **CTRL-C**. A blank Retrieve Spec appears.
2. On page 2 of the Retrieve Spec, type: DANIEL BOONE next to NAME. Press **CTRL-C**.
3. When the form for Daniel Boone appears on the screen, press **CTRL-N** twice. Page 3 should appear. It says Sources of Information.
4. Use the arrow keys to move the cursor to a blank spot on the page. Type the name of your textbook and the page numbers where discussions of Daniel Boone are found.
5. If you make a mistake and want to start over, press **ESC**.
6. If you want to print out a paper copy of what you just did, press **CTRL-O**.
7. Press **CTRL-C** to store the updated form.

*REMINDER: If you make a mistake in typing and want to start all over again, press **ESC** instead of **CTRL-C**. Then go back to Step 3 and start over.*

If you want to update more forms, just repeat the procedure. These references will be useful to you and your classmates whenever you want to find more information on a particular topic, event, or person.

Finishing Up

Finish the session on the computer in the usual manner. Put the disks away where they belong.

ACTIVITY 8: ADDING NEW FORMS TO THE FRONTIER FILE

Many more people were involved in the frontier movement than are described in our Frontier file. You may want to study a particular frontier area in more depth to learn about more events or people. As you gather information about more events and people from books or other reference sources, add new forms to the Frontier file.

What You'll Do

You'll work with a partner to choose a project that involves building a Frontier file of your own. Next, you'll create a new file and print out blank forms to gather your data. Next, you'll gather data on the printed forms. Finally, you'll build the new file by adding the new data to it.

Here are two examples of the kind of project you might want to undertake:

1. The Frontier file contains only a few of the important individuals involved in the space frontier. Print out a list of these individuals and their major contributions. Then, research this topic in the library and add forms for other important events and people in the space frontier. For example, you might add some Soviet cosmonauts and scientists who have made important contributions to space exploration.
2. Gather data on the events and people involved in the exploration, settlement, and establishment of your own state. Look for events of each type: military, political, economic, settlement, exploration, religious, and transportation.

When you are adding data to a file, it is a good idea to work with a partner.

What You'll Need

1. An Apple *II*e or IIc computer
2. Two disk drives
3. Printer
4. A blank disk for creating your new file
5. The Frontier file disk
6. A *File* program disk

Planning Your Project

Two example projects were suggested above, but you should think of your own project. Choose some aspect of the American frontier that is of interest to you. For example, you might be interested in one of the Topics in the file, or in a particular geographic area. If your file is going to be useful to you, you'll need to collect data for at least ten events for your file.

Incidentally, the reason you're going to add your new events to a file on a new disk is that the original Frontier file already uses up practically the whole disk and there's not enough room on the disk for all the students in the class to add more events to it. If the disk wasn't already full, you could add the new events directly onto the original file disk.

Creating a New File and Blank Printed Forms

Begin by creating your own file and printing out blank forms for data collection. You will need two disk drives and a printer for this operation.

1. Get a new blank disk to use for your project.
2. Start up the *File* program. Place the Frontier file disk in Drive 1. Place your blank disk in Drive 2.
3. Type 3 to select the COPY function. Type the file name: FRONTIER.
4. Press **CTRL-C**. The COPY Function Menu appears.
5. Type the number 1 to select the COPY Design Only option.
6. Press **TAB**. Type the name of your new file. We'll call it SPACE.
7. Press **CTRL-C**. A warning screen appears. Open the door to Drive 2, look at the label on the disk to verify that this is a new blank disk or one that can be written over.
8. Press **CTRL-C**. The program begins formatting the disk in Drive 2.
9. When the PFS: File Function Menu appears on the screen, remove the Frontier file from Drive 1.
10. Remove your new Space data disk from the disk drive. Write the name of the file on a disk label and put the label on the disk.

Printing Out Blank Forms

With the PFS: File Function Menu on the screen, place your new Space data disk in Drive 1.

Now get ready to print out blank forms. Make sure the printer is turned on and the paper is aligned in the printer.

1. From the PFS: File Function Menu, type 2 to select the ADD function. Type your new file name.
2. Press **CTRL-C**. A blank form appears on your screen.
3. Press **CTRL-O**. This tells the program you want to print the form. Print as many copies of the form as you will need for the number of new forms you want to add to the file.
4. After the forms are printed, the blank form appears again on the screen. Press **ESC** to avoid storing the blank form on the disk.
5. End the session on the computer in the usual manner, unless you want to copy some of the events from the original Frontier file to your new data disk, as described below.

Copying Selected Forms to Your New File

Depending on the topic of your project, you might want to copy some of the events forms from the original Frontier file to your own file. For example, if you were doing a project on the Oregon frontier, you might want to copy all the forms for PRESENT-DAY STATES INVOLVED: ..OR..

Here's how to copy selected forms:

1. The PFS: File Function Menu is on your screen. Place your new file disk in Drive 2. Place the original Frontier data disk in Drive 1.

CAUTION: Check to be sure the original Frontier data disk is in Drive 1. If you're not sure which is Drive 1, ask someone.

2. Type 3 to select the COPY function.
3. Press **TAB**. Type the file name: FRONTIER.
4. Press **CTRL-C**. The COPY Function Menu appears.
5. Type 2 to select COPY Selected Forms. Press **TAB**.
6. Type the name of your new file.
7. Press **CTRL-C**. A message appears, telling you where to put the files. Check one more time to make sure you put your new file in Drive 2 and the original Frontier file in Drive 1.
8. Press **CTRL-C**. If you got the file names mixed up or the wrong disk in the wrong drive, a message appears that says "PROBLEM. TO FILE MUST BE IN DRIVE 2." If this happens, press **ESC** and start over at Step 1.
9. When the blank Retrieve Spec form appears, type your Retrieve Spec for the forms you want copied onto your new file. For example, if you were copying all the forms related to the topic of the space frontier, you could type: ..space.. in the TOPIC data item.
10. When your Retrieve Spec is complete, press **CTRL-C**. The program begins copying the selected forms onto the new file in Drive 2. This may take a while, depending on how many forms are being copied.
11. When the copy is complete, the PFS: File Function Menu appears. You can now remove both data disks from the disk drive. Put them where they belong. If no one is waiting to use the computer, turn it off.

Gathering Data on Your Paper Forms

First, you and your partner need to identify sources of information that you will use to gather data on the events and people involved in the space frontier or other topic of your project. Your library probably has books on this subject, or you can use encyclopedias or magazine articles.

As you and your partner gather information about events and people in the space frontier, write the information on the paper forms you have made. You don't have to fill in every data item, but the more items you fill in, the more useful your file will be to you. Be sure to write down the sources of information you used to get the data.

After you have gathered information on several events, think carefully about what type of events they are. Is it possible that you need new TYPE categories for the space events? Or will the old categories work?

What about the TOPIC? Originally, you started out with just one space topic, called The Final Frontier: Space. Now that you have expanded this topic, you may want to break it up into more topics. What are the main topics in the study of the space frontier?

Checking Accuracy of the Data

After you have handwritten the data, exchange forms with your partner. Have your partner verify the accuracy of your data by going back to your original sources. Then make certain your TYPE and TOPIC categories are consistent. That is, look at all the events you have categorized under the same type. In reading the description of the events, do you agree that they all are the same type? What about topics?

Adding New Data to Your File

Use the ADD function to add new forms to your file. You should have the printed copies of the forms with your handwritten notes to work from.

Continue adding new forms to your file as you do more research on your topic.

Work with your partner to plan and then print out reports using your file.

Finishing the Project

Demonstrate your file to the class.

You might contribute your Space file to your school library, so that other students can use it in their study of the space frontier.

Scholastic pfs: U.S. History Data Bases

Inventions and Technology

INVENTIONS AND TECHNOLOGY: LESSON PLANS

Content Overview

The Invent file contains data about important inventions and inventors. The data is particularly valuable in helping students trace the developments that culminated in the inventions with which they're most familiar, such as the automobile or the microcomputer.

Key Topic Areas in United States History

Major topics covered are the Industrial Revolution, and Inventions and Inventors.

Description of File Contents and Organization

The Invent form on disk is three pages (screens) long. Figure A, on the next page, shows a sample form. Each form describes an invention.

Page 1

The invention appears on page 1, as does the TYPE of invention. For example, the Gasoline Automobile is an invention. It is classified as a Transportation TYPE of invention. There are eight types of inventions covered in this file. They correspond to types of inventions most commonly taught in United States history classes. The types are:

Agriculture	Medicine
Communications	Military
Information Processing	Textiles
Home/Leisure	Transportation

Approximately 15 inventions are described for each type. Also on the first page of each form is the year the invention was invented, a short description, and the impact the invention made.

Page 2

Biographical data about the inventor is on page 2. Also on page 2 is a brief summary of the NEED FOR INVENTION and the ENABLING TECHNOLOGY that came before it.

Page 3

The references used to gather the information on pages 1 and 2 of this form are indicated on page 3.

Grade Level Suggestions

Students in grades six through eight may want to work only with the data on page 1. High school students and advanced junior high students may want to work with the data on all three pages of the form.

Hardware Needed

Each activity tells what equipment and software is needed. All activities require an Apple *//e* or IIc computer with monitor and one disk drive. Activities 5 and 6 require a printer, and Activity 8 requires a second disk drive.

Teaching Tips

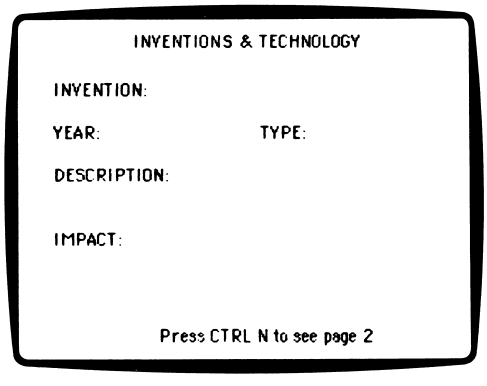
You can tailor the learning experience to your curriculum by asking students to solve problems that are closely tied to your own teaching objectives.

The activities give the students step-by-step procedures for solving the sample questions listed in the activities.

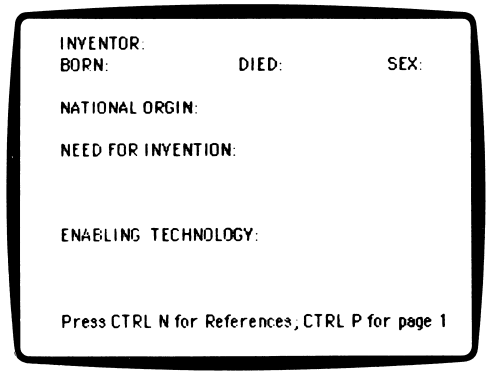
However, it's best for the students to be gradually weaned from dependence on the step-by-step procedures. For example, they should learn how to set up a Pre-defined Print Spec on their own.

Encourage students to experiment by making up their own questions and Retrieve Specs. They will learn a lot by debugging their mistakes, rather than getting everything "right" the first time.

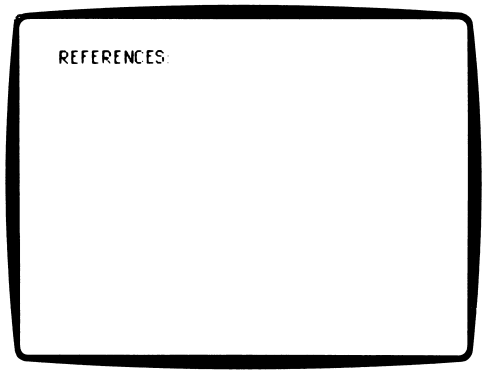
Encourage students to look up information and procedures in the Mini-References when they don't know how to do something. The ability to use reference manuals is a very useful skill in the world of computers and information systems.



Page 1



Page 2



Page 3 Figure 1

Inventions and Technology

Activity	Objectives	Preparation	Management	Time (per student)
1.	• Discover the kinds of inventions and technologies included in the file. • Type Retrieve Specs: exact match, partial match, multiple items match.	• Copy the Invent file from the master disk onto the working disks.	• Schedule time on computers for student pairs.	35 minutes
2.	• Survey the types of inventions and technologies in the file. • Type Retrieve Specs: exact match, partial match, multiple items match.	• Copy the Invent file from the master disk onto the working disks.	• Schedule time on computer for student pairs.	35 minutes
3.	• Develop questioning skills. • Note cause-and-effect relationships. • Specify answers needed for questions asked. • Set up Retrieve Specs: exact match, partial match, multiple items match.	• Copy the Invent file from the master disk onto the working disks.	• Schedule time on computer for student pairs. • Help students understand concepts such as "enabling technology."	35 minutes
4.	• Draw inferences from facts. • Determine data needed to test a hypothesis. • Interpret information about inventions and technology. • Plan, test, debug, and interpret printout.	• Copy the Invent file from the master disk onto the working disks. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students debug printouts.	35 minutes
5.	• Define a historical problem and the data needed to solve it. • Interpret data. • Break problem into subproblems. • Plan, test, debug, revise, and interpret printout.	• Copy the Invent file from the master disk onto the working disks.	• Schedule time on computer for student pairs. • Assist students in debugging their printouts. • Help students choose their projects.	45 minutes

(Continued on next page.)

Activity	Objectives	Preparation	Management	Time (per student)
6.	• Evaluate alternative sources of historical information. • Collect data. • Update existing forms.	• Copy the Invent file from the master disk onto the working disks. • Set up the printer.	• Help students choose topics or events to update. • Help students locate sources of information. • Schedule time on computer for student pairs.	35 minutes
7.	• Define a historical problem and the data needed to solve it. • Validate data. • Interpret historical significance of answers. • Prepare new file. • Collect data, check accuracy, and add it to file.	• Copy the Invent file from the master disk onto the working disks. • Provide students with blank disks. • Set up the printer.	• Help students choose topics for their new files. • Schedule time on the computer for student pairs. • Help students locate sources of information.	35 minutes
8.	• Define a historical problem and the data needed to solve it. • Validate data. • Interpret historical significance of answers. • Define and break down a problem. • Plan, test, debug, revise, and interpret printout.	• Copy the Invent file from the master disk onto the working disks. • Set up the printer.	• Help students choose their projects. • Help students debug their printouts.	

INTRODUCTION

This series of activities shows you how to use the Invent data file. The file contains information on inventions and inventors.

Here are some examples of questions you can answer and projects you can work on, using the Invent file.

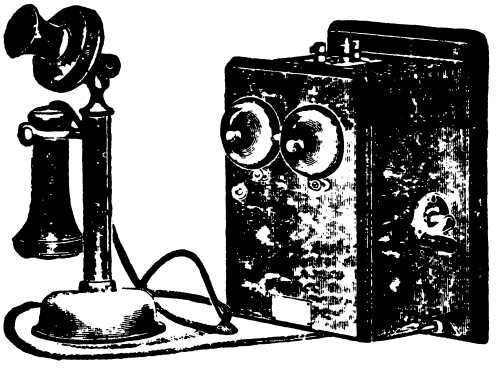
- What inventions have made it possible for people to travel further distances in shorter times than they could have before the invention?
- What inventions improved travel over land?
- Trace the development of guns.
- Prepare a list of calculating machines that contributed to the development of modern day computers.
- Prepare a list of inventions used for home and leisure that depend on electricity.
- Which inventions depended on our ability to refine (make) oil into gasoline and diesel fuel?
- Which inventions were made by people from outside the United States?
- What important inventions in England in the eighteenth century contributed to the Industrial Revolution?
- In what ways did the invention of the steam engine and refrigerator change our ability to provide food?
- What inventions were made possible by the invention of the steam engine?
- What inventions took place because of World War II?
- Analyze the ways that home/leisure inventions affected our ways of life.

Activities in this Unit

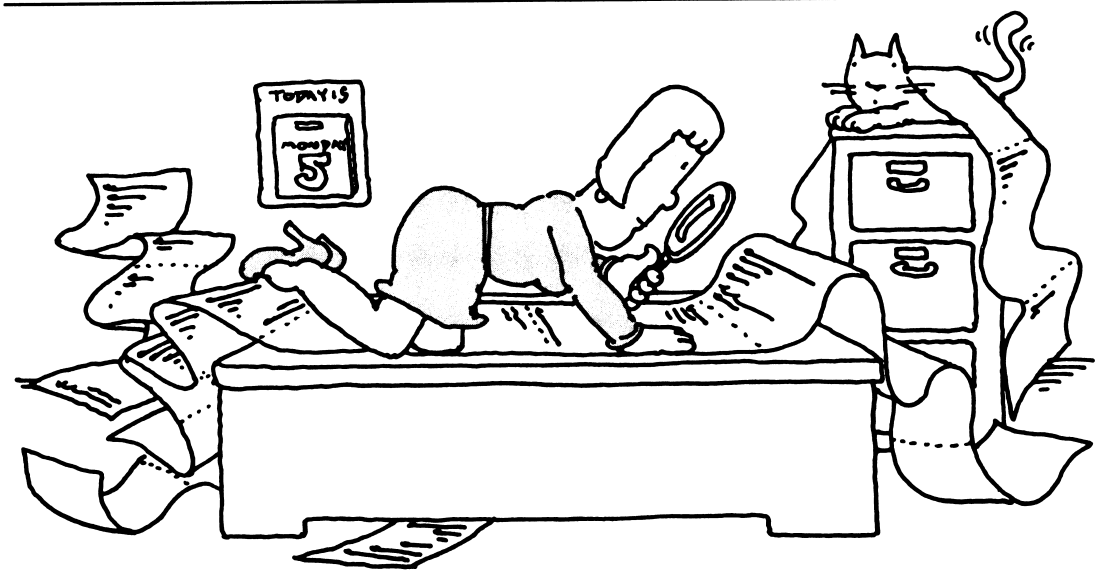
This unit is made up of the following eight activities:

Activity 1: Finding Inventions in the Invent File
Activity 2: Exploring the Invent File
Activity 3: Asking Questions about Inventors and Technology
Activity 4: Defining Your Information Needs
Activity 5: Planning Your Own Printouts
Activity 6: Updating the Invent File
Activity 7: Making Your Own Inventions File
Activity 8: More Projects and Problems

Activity 1 is designed for people who have never used the *File* program before. If you already know how to use *File,* skip Activity 1 and go to Activity 2.



ACTIVITY 1: FINDING INVENTIONS IN THE INVENT FILE



You can do this activity whether or not you've ever used the *PFS: File* program before. You'll learn something about a few inventions and something about the *File* program.

What You'll Do

First, you'll start up the *File* program. If you don't already know how to do this, now is the time to learn! Next, you'll get information about certain inventions onto your screen, and learn some things about how to do that. The fancy phrase for what you'll do is "information retrieval."

What You'll Need

1. A *Scholastic PFS: File* data disk called Invent. (Make sure a backup copy has been made of the Invent file before you use it.)
2. A *File* program disk
3. An Apple *IIe* or IIc computer

Starting Up the File Program

1. Remove the *File* program disk from its protective jacket, and insert it into Drive 1. (On an Apple IIc, Drive 1 is the built-in drive.) Close the door on the disk drive.
2. If the computer is off, turn it on. Turn on the monitor. If the computer is already on, press the **CTRL**, **OPEN-APPLE**, and **RESET** keys all at the same time. The PFS: File Function Menu appears on the screen.
3. Remove the *File* program disk from Drive 1 and put it in its protective jacket. You won't need it any more in this lesson.
4. Insert the Invent data disk in Drive 1 and close the door on the disk drive.

That's the end of the start-up procedure. From here on, any time you use the *File* program, follow the same procedure.

CAUTION: Never remove the disk from the disk drive unless the PFS: File Function Menu is on the screen.

Selecting the SEARCH/UPDATE Function

The PFS: File Function Menu is on your screen. It lists six functions. The only function we'll use right now is the SEARCH/UPDATE function. This is the part of the *File* program you use to find information that is stored in a file on a data disk.

1. Select SEARCH/UPDATE by typing 4.
2. If FILE NAME is blank, leave it blank. If it says FILE NAME:INVENT, that's okay too. You don't need a file name when you choose SEARCH/UPDATE. The program will find the name of the file in Drive 1.
3. Press **CTRL-C**. (Hold down **CTRL** and press **C**.) A Retrieve Spec appears.

You have just completed the procedure for selecting the SEARCH/UPDATE function. From here on, whenever you see "select SEARCH/UPDATE from the PFS: File Function Menu," follow the procedure above.

Finding an Airplane in the Invent file

See whether an airplane is an invention in this file. A blank Retrieve Spec is on the screen. (Check to see that the phrase "Retrieve Spec" is on the bottom of your screen. If it isn't, press **ESC** and select SEARCH/UPDATE again.)

1. With the cursor sitting beside INVENTION, type: AIRPLANE.
2. Press **CTRL-C**. The form for Airplane soon appears. Notice the YEAR that the airplane was invented (1903). Notice what TYPE of invention this is (Transportation). Notice that in the DESCRIPTION, the word "air" appears twice — once in the word "aircraft," and once by itself.

Getting the PFS: File Function Menu

After you look at a form on your screen and you want the PFS: File Function Menu again, press **ESC**. The menu appears.

Finding Out More About Air Transportation

See whether there's more information in the file about air transportation:

The PFS: File Function Menu is on your screen.

1. Type 4, and then press **CTRL-C**. The Retrieve Spec appears.
2. Press **TAB** key to move the cursor to TYPE.
3. Type: TRANSPORTATION. It doesn't matter whether you use uppercase or lowercase letters. The *File* program will accept both.
4. Press **TAB** to move the cursor to DESCRIPTION.
5. Type: . . air . . (two dots air two dots).
6. Press **CTRL-C**. An invention appears on the screen.

Looking at the Inventions You Found

1. Look at the inventions on the screen. Is it the airplane again? Write the name of the invention here: _____

2. Press **CTRL-C**. What invention appears on the screen next? _____
What does this invention have to do with air transportation? Why did the *File* program select this invention to put on the screen?
3. Keep looking at inventions. Write down the name of each invention that appears on the screen. When you finish looking at an invention, press **CTRL-C**.
4. Keep looking at the inventions until a message appears on the screen. How many forms were found? _____
5. Press **CTRL-C**. The PFS: File Function Menu appears.

Going Up in the Air Again

It was pretty neat the way the *File* program found all those inventions having to do with air transportation. But it didn't work perfectly, did it? Which of the inventions didn't really have anything to do with air transportation? By now you may have figured out that the *File* program found the word "air" inside the word "pairs" in the description of the jetty system.

Try the air transportation search again, using a slightly different method. This time, use the **SPACE BAR** to type one space between the dots and the word "air." Here's the procedure:

The PFS: File Function Menu is on your screen.

1. Type 4, and then press **CTRL-C**. The Retrieve Spec appears.
2. Press the **TAB** key twice to move the cursor to TYPE.
3. Type: TRANSPORTATION.
4. Press **TAB** to move the cursor to DESCRIPTION.
5. Type: . . air . . (two dots space air two dots).
6. Press **CTRL-C**. A form for an invention appears.

Looking at the Inventions You Found

1. As you did before, look at each invention that appears on the screen. After you look at an invention, press **CTRL-C**.
2. This time, you shouldn't see that jetty system invention. If you do, then you forgot to type a space before "air" in your Retrieve Spec.
3. Keep looking at the inventions until the message appears. How many forms were found? _____
4. Press **CTRL-C**. The PFS: File Function Menu appears.

Up in the Air One More Time

Before you get airsick, try one more way of finding some inventions having to do with air. This time, don't restrict the search to transportation-type inventions. Just use the key word "air" in the DESCRIPTION. Here's the procedure:

The PFS: File Function Menu is on the screen.
1. Type 4, and then press **CTRL-C**. The Retrieve Spec appears.
2. Press the **TAB** key to move the cursor to DESCRIPTION.
3. Type: .. air.. (two periods space air two periods).
4. Press **CTRL-C**. The form for an invention appears.

Looking at the Inventions You Found

As before, look at each invention that appears on the screen. After you look at an invention, press **CTRL-C**.

This time, you should find some different inventions than the ones you found before. Notice what TYPE of inventions these are. Write them down. _____

_____

_____

Keep looking at the inventions until the message appears. How many forms were found? _____

Press **CTRL-C**. The PFS: File Function Menu appears.

Flying Solo

See how many transportation-type inventions are in the Invent file. Try to do this without a written procedure to follow. You should find at least 17 inventions.

Finishing Up

When you finish this activity, be sure the PFS: File Function Menu is on the screen. If it isn't, press **ESC**. Then remove the Invent data disk from the disk drive and put it back carefully in its protective jacket. Put the disk where your teacher tells you to keep it. Then turn off the computer.

ACTIVITY 2: EXPLORING THE INVENT FILE

When you use a computer data file that is new to you, the first thing you should do is explore it to find out what kinds of data are in it, and how the data are organized.

What You'll Do

Just explore the inventions for a while, to become familiar with the data.

What You'll Need

1. An Apple *II*e or IIc computer
2. A *File* program disk
3. An Invent data disk provided in this package

You should know how to start up the *File* program. If you don't, go to Activity 1, which shows you step-by-step how to do it.

Starting up the File Program

Start up the *File* program. The PFS: File Function Menu is on your screen and your Invent data disk is in Drive 1.

Looking at a Form

You don't know yet what information might be in this file. But you might guess that a file on the subject of inventions would probably have some information about television in it, since television is an important invention.

To look at a form for a particular invention, do the following:

1. Choose SEARCH/UPDATE by typing 4.
2. Press **CTRL-C**. The Retrieve Spec for the Invent file should appear on the screen. If it doesn't, you have the wrong data disk. Find the right one and start over.
3. Use **TAB** to select INVENTION and type: TELEVISION.
4. Press **CTRL-C**. The form for television should appear.

*REMINDER: If you accidentally change any data on the form, press **ESC** to avoid changing the form on the disk.*

In what YEAR was television invented, according to this form? _____

What TYPE of invention is this? _____

Look at the DESCRIPTION. Would you describe television this way? _____

The last data item on the page is IMPACT. Do you agree that television has had an important influence in the world?

When you finish looking at the television form, press **ESC** to get the PFS: File Function Menu.

Browsing Through the File

A good way to find out what's in this file is to browse through it, form by form. Here's the procedure:

The PFS: File Function Menu is on your screen.

1. Type 4 to select SEARCH/UPDATE.
2. Press **CTRL-C**. The Retrieve Spec blank form appears.
3. Leave the Retrieve Spec blank. Press **CTRL-C**. The last form in the file appears on the screen.

Notice the form number. This tells you the total number of forms in the file. How many are there? _____

Notice the INVENTION, the YEAR, and the TYPE.

When you finish looking at a form, press **CTRL-C**. The next form appears.

Take notes on the TYPE of inventions you see. TYPE is a way of organizing this file. You'll need to remember this when you want to retrieve all the information on a certain type of invention, such as AGRICULTURE.

Notice that the same words are always used in describing a certain TYPE of invention. For example, if it's an agricultural invention, TYPE will always be AGRICULTURE. It won't sometimes be FARMING or FOOD-RELATED. This is important in a data file. If things are not categorized the same way each time, it's almost impossible to find what you need.

Keep browsing through the file, reading forms, and pressing **CTRL-C**. When you're through looking at forms, press **ESC**. The PFS: File Function Menu appears.

On Your Own

One major TYPE of invention in this file is AGRICULTURE. Search for all the agriculture inventions. As you look through these inventions, pay attention to the IMPACT of the invention.

How many agriculture inventions are in the file? _____

Finishing Up

When you finish this activity, be sure you have the PFS: File Function Menu on the screen. If it isn't, press **ESC**. Then remove the Invent data disk from the disk drive and put it back carefully in its protective jacket. Put the disk where your teacher tells you to keep it. Then turn off the computer.

ACTIVITY 3: ASKING QUESTIONS ABOUT INVENTORS AND TECHNOLOGY

When you're studying inventions, you may want to know about the person or group who made the invention, and something about why and how they did it. The Invent file has information on the inventors and enabling technology on Page 2 of each form.

What You'll Do

In this lesson, you'll retrieve (get) information about inventors. Then you'll learn how to set up Retrieve Specs to answer questions about inventions, inventors, and the technologies that made the inventions possible.

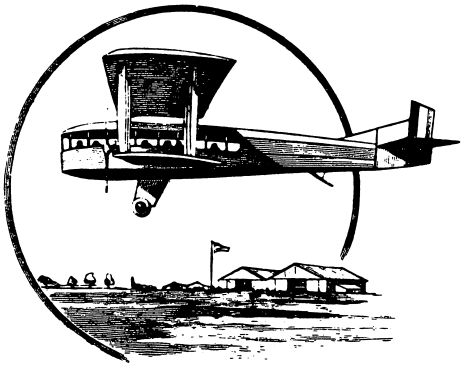
What You'll Need

1. An Apple *II*e or IIc computer
2. A *File* program disk
3. An Invent data disk, provided in this package

You should know how to start up the *File* program. If you don't, go to Activity 1, which shows you step-by-step how to do it.

Starting up the PFS: FILE Program

Start up the *File* program. The PFS: File Function Menu is on your screen and your Invent data disk is in Drive 1.



Finding out What Thomas Edison Invented

1. Select SEARCH/UPDATE by typing 4.
2. Press **CTRL-C**. The blank Retrieve Spec form for file Invent appears.
3. Press **CTRL-N** to see page 2 on the Invent form.
4. Next to INVENTOR, type: ..Edison
5. Press **CTRL-C**. An invention appears on the screen.

What invention is it? _____

Did you know that Thomas Edison invented it? Press **CTRL-N** to see whether he did. Notice how his name is spelled. If you had typed Thomas Edison in your Retrieve Spec, would you have found this invention? No! His name is spelled Thomas A. Edison on this form. That's why we used the shortcut method of using ..Edison in the Retrieve Spec—so we wouldn't have to know exactly how his first name is spelled, or whether he has a middle initial.

Find out what else Edison invented. Press **CTRL-C**. What invention is it this time?

_____

Press **CTRL-N** to see page 2 of the form. Notice in what year Edison was born.

_____

Now go back to page 1 by pressing **CTRL-P**. Can you tell how old Edison was when he made this invention? _____

Look at the rest of Edison's inventions. Make a list of them here.

_____ _____

_____ _____

_____ _____

How many of Edison's inventions did you find? _____

Do you think he invented more than this?_____ Keep in mind that people have made thousands of inventions, but there are fewer than 200 in our Invent file.

Finding the Inventions that Depend on Electricity

When a person invents something, he or she often uses other inventions that already exist. For example, you couldn't invent a wagon if wheels hadn't already been invented. The fact that you already have wheels enables you to invent the wagon. In this case, wheels are the "enabling technology."

Let's look for inventions that depended on electricity.

If the PFS: File Function menu is not on your screen, press **ESC** to get it.

1. Select SEARCH/UPDATE and press **CTRL-C**. The blank Retrieve Spec appears.
2. Press **CTRL-N** to get page 2.
3. Press **TAB** to move the cursor to ENABLING TECHNOLOGY.
4. Type: ..electric..
5. Press **CTRL-C**. An invention form appears on you screen.
6. What's the first invention you retrieved? _____
Look at page 2 of the form. Notice all the things listed under ENABLING TECHNOLOGY. Do you understand why electricity was needed in order to make this invention?
7. If you want to find out more about this invention, you could look it up in the library. Press **CTRL-N** until you see REFERENCES on page 3 of the form. This tells where the person who built this file found the information that's on this form. You could go to the same source to look up more details on this topic.
8. Press **CTRL-C** to see the next invention. On a separate sheet of paper, begin making a list of the inventions that depended on electricity.
9. Continue looking at the inventions and enabling technologies until you have seen them all. How many forms were found? _____

Setting Up Your Own Retrieve Specs

Now that you know the data items on the Invent form, you can ask questions and set up Retrieve Specs to search for answers. Here are some sample questions. At first, you are given the Retrieve Specs to get answers. Later, it's up to you to figure out.

Question: When was the power loom invented? Why was it such an important invention?

Retrieve Spec:
INVENTION: power loom

Question: What were some of the important inventions in the textile industry in the eighteenth century?

There are a couple of ways to search for this. Try this one first:

Retrieve Spec: TYPE: textiles

What happened when you tried that search? You retrieved a lot of forms, didn't you?

Here's a way to narrow the search. Try this:

Retrieve Spec: YEAR: = 1700..1800 TYPE: textiles

This time, you narrowed the search down to just the eighteenth - century textile inventions.
What were they? _____

Question: What type of inventions did Samuel Morse make? (You try on your own now.)

Retrieve Spec: _____

Question: What is a vacuum tube?

Retrieve Spec: _____

Question: The vacuum tube was an enabling technology for many inventions in the fields of communications and information processing (computers). What inventions depended on the vacuum tube?

Retrieve Spec: _____

Inventions : _____ _____

_____ _____

_____ _____

Question: Which of the inventions in the years from 1941 to 1946 were made because of World War II?

Hint: Find the inventions between 1941 and 1946. Look at the NEED FOR INVENTION data item for each invention. Does it relate to the war effort?
Retrieve Spec: _____

Challenging Your Partner

Make up a question about inventions or inventors, and figure out what Retrieve Spec you would use to answer the question. Test your Retrieve Spec and see what answers you get. Then ask your partner to answer the same question, but don't tell what method you used to get the answer. Can your partner solve the problem? Did your partner think of a method different from yours?

Finishing Up

If the PFS: File Function Menu isn't on the screen, press **ESC**. Remove the Invent disk from Drive 1 and put it in its protective jacket. Put the disks where your teacher tells you to keep them. Turn off the computer, unless someone else is waiting to use it.

ACTIVITY 4: PRINTING OUT INFORMATION

Rather than retrieving forms one at a time on the computer screen, you can have the *File* program print out a list of selected information you want for a particular study.

What You'll Do

You'll use a worksheet for planning printouts on page 19 to help you. Here are some other things you'll do:

1. Define what information you need in order to answer a question.
2. Set up a Print Spec that tells the *File* program what information you want.
3. Use the Print Forms option of the PRINT function to have that information printed out.
4. Interpret the printout and decide how to continue the investigation.

What You'll Need

1. Worksheet for planning printouts
2. An Apple *II*e or IIc computer
3. A *File* program disk
4. Invent data disk
5. A printer connected to the computer

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

What data items will be included on the printout? _____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

_____

2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Defining Your Information Needs

The first step in planning a *File* printout is to define what information you need in order to answer a particular question or problem. For example, consider the following question:

People all over the earth can communicate with each other more and more quickly. What inventions allowed humans to communicate more information more rapidly with more people over long distances? Select five or six inventions that you think were most important in helping people communicate with others.

Which Forms Will Be Selected for Printing?

The question deals with the subject of communications. Remember that communications is a type of invention in the file. Therefore, select only the communications type inventions for the printout. On your worksheet where it asks "Which forms will be selected for printing," write the following Retrieve Spec:

TYPE: communic..

Decide which data items to include in the printout.

Look at the Invent form in Figure 1, and decide which data items would be useful. The name of the INVENTION is, of course, needed. You'll want YEAR data printed also. The question asks you to make a judgment about the importance of certain inventions, so you'll need the IMPACT data.

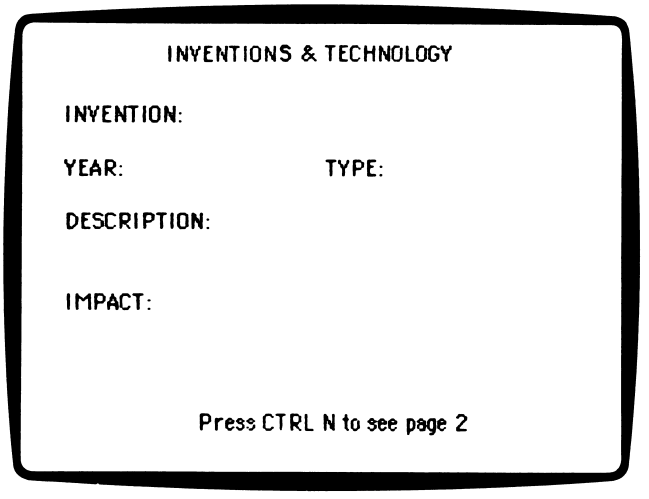
When you are defining your information requirements, try to include only those data items that are really needed for the purpose at hand. For the assignment you are working on now, for example, you would not need data on the inventor.

Here's a list of data items to include in the printout:

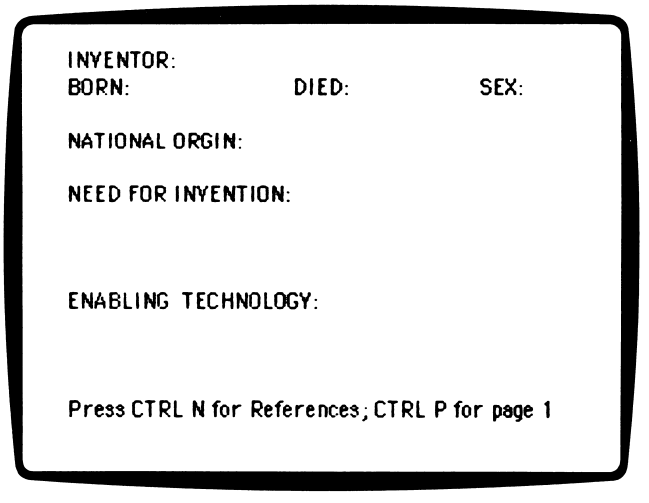
INVENTION
YEAR
DESCRIPTION
IMPACT

Write this list on your planning worksheet.

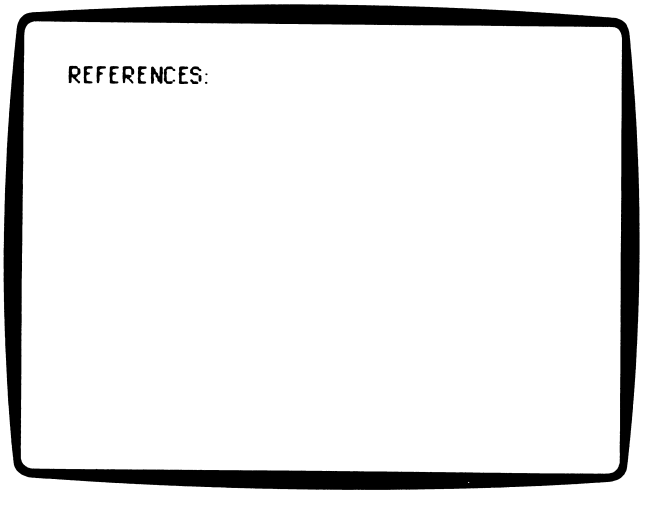
Why not include TYPE in the printout? You could, but since you're only selecting all the communications TYPE inventions in the first place, TYPE will be the same for all inventions in the printout.



Page 1



Page 2



Page 3

Figure 1

Listing the Data in Order

How do you want to list the data in your printout? There are a couple of possibilities. You could list the inventions in alphabetical order. But this wouldn't be very useful to us in answering the questions. Since the question asks you to look at the increasing ability to transmit information, probably the most useful order for the data would be by YEAR. Write on your worksheet the data item to be used for sorting the printout.

Naming the Pre-defined Print Spec

The Pre-defined Print Spec will tell the program which data items to use in the printout. You need to name the Print Spec. The Print Spec name should be related to the data or problem. We use Effects in this example, but you can use any name you like. Remember that the name must be eight characters or less.

On your planning worksheet, write the name you'll use for your Pre-defined Print Spec.

Setting Up a Pre-defined Print Spec

Now that your planning worksheet is filled in, you are ready to set up your Pre-defined Print Spec.

Start up the *File* program in the usual manner. The PFS: File Function Menu is on your screen and the Invent data disk is in Drive 1.

1. Select Print by typing 5. Press **TAB**.
2. Type the file name: INVENT. Press **CTRL-C**. The PRINT Menu appears.
3. Select Define Print Spec by typing 2. Press **CTRL-C**. The current Pre-defined Print Spec screen appears.
4. Type your Print Spec name. Here we're using Effects. Press **CTRL-C**. The Print Spec form appears on the screen.
5. Type a plus sign (+) beside INVENTION. This tells the *File* program you want this data item printed, and to print the next data item on the same line. This will make your printout a little neater than if you use X.
6. Type an X beside each of the other data items you want printed (YEAR, DESCRIPTION, IMPACT). The X tells the program you want to print the item.
7. Type an S beside the X in YEAR. (Recall that S stands for "sort.") Your Print Spec should look like Figure 2.
8. When you have completed the Print Spec, press **CTRL-C** to store it on the disk.

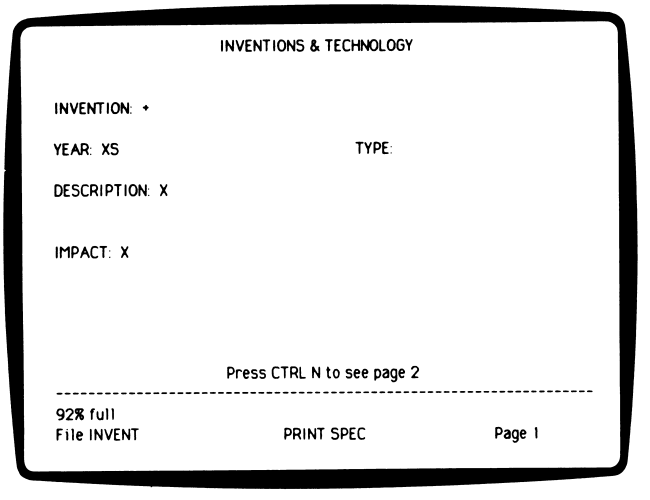


Figure 2

Printing the Data

Now you can use your Pre-defined Print Spec to print out your data. Make sure that your printer is connected to your computer, the printer is turned on, and the paper is aligned in the printer. The PFS: File Function Menu should be on your screen.

Setting up the Retrieve Spec

1. Type 5 and then press **CTRL-C**. The PRINT Menu appears.
2. Choose the Print Forms option by typing the number 1. Press **CTRL-C**. The blank Retrieve Spec appears. The program will ask, "Which forms do you want to select for printing?" Refer to your notes above. What Retrieve Spec were you going to use?
3. Use **TAB** to move the cursor to TYPE.
4. Type: communic..
5. Press **CTRL-C**. The Print Options Menu appears. Fill in the Print Options as shown below. Use **TAB** to get from one option to another.

Pre-defined Print Spec: effects
Print Item Names: N
Add Linefeed Characters (Y/N) : N

6. Press **CTRL-C**. The *File* program begins searching the file for the forms you've requested, and sorting the forms by YEAR. Then printing begins.

Interpreting the Printout

Look at the question at the beginning of this activity. It asks you to judge which inventions have had the greatest effect on our ability to communicate more information, more rapidly, to more people. It also asks you to show that the inventions keep increasing this ability to transmit greater quantities of information more quickly.

The first thing to do is decide which information on the printout is most useful in answering the question. Some of the communications inventions may not have anything to do with the question. Go through your printout, circling five or six inventions you think are most directly related to the question. Include some of the most recent inventions and some of the earlier inventions, so you'll be able to show the increasing communications capabilities over time.

Here is one possible collection of inventions for this study:

- 1450 printing press
- 1844 telegraph
- 1876 telephone
- 1896 radio
- 1923 television
- 1962 communications satellite

Use your judgment and make your own selections.

On your printout paper, make notes beside each of the five or six inventions you circled. Write down whether this invention affected the speed of communication, the amount or kind of information that could be communicated, the number of people who could get the information, or the distance of communication.

Figure 3 on the next page shows a sample part of an annotated printout.

Telephone 1876
An instrument that enables one person to talk with another who is some distance away. It converts sound waves into electric signals; transmits the signals over wires or microwaves; reconverts signals to sound at the receiver. Allowed for global network to convey sound. Local, long-distance and overseas telephones reach 96% of the places in the world.

Communicates voice over longer distances than ever before.

Television 1923
A system for transmitting visual scenes and sound via electromagnetic waves over the distance. Television receiver and transducer reconvert the visual image onto a screen for viewing. Made it possible for the first time to communicate pictures and scenes to the thousands or millions of people. Most effective means of communication ever devised--"the eyes and ears of the world." Force for education, enculturation, political persuasion and merchandising.

Communicates pictures and scenes to millions of people at once.

Radio 1896
A means of communication that relies on the use of electromagnetic waves , or radio waves, that travel through space at the speed of light. Made it possible for the first time to communicate a message instantly to thousands or millions of people at the same time, over long distances.

Speed of light transmits sound. Reaches millions of people.

Figure 3

Deciding What Additional Information You Need

The printout may not tell you enough about a certain invention for you to make a decision about the effect the invention had. You may need to look up more information in the library.

Make a note or a star beside each invention you want to learn more about. Then use the SEARCH/UPDATE function to retrieve the form for that invention on your screen. Use **CTRL-N** to get to page 3 of the form, which tells the source of information for that invention. Make a note of that reference, and then see whether your library has that reference book. If it doesn't, you may find more information in some other reference book in your library.

Finishing Up

To finish the session, get the PFS: File Function Menu on your screen. Remove the Invent data disk from the disk drive and put it back in its protective jacket. Turn off the computer unless someone is waiting to use it. Put the disks wherever your teacher tells you to keep them.

ACTIVITY 5: PLANNING YOUR OWN PRINTOUTS

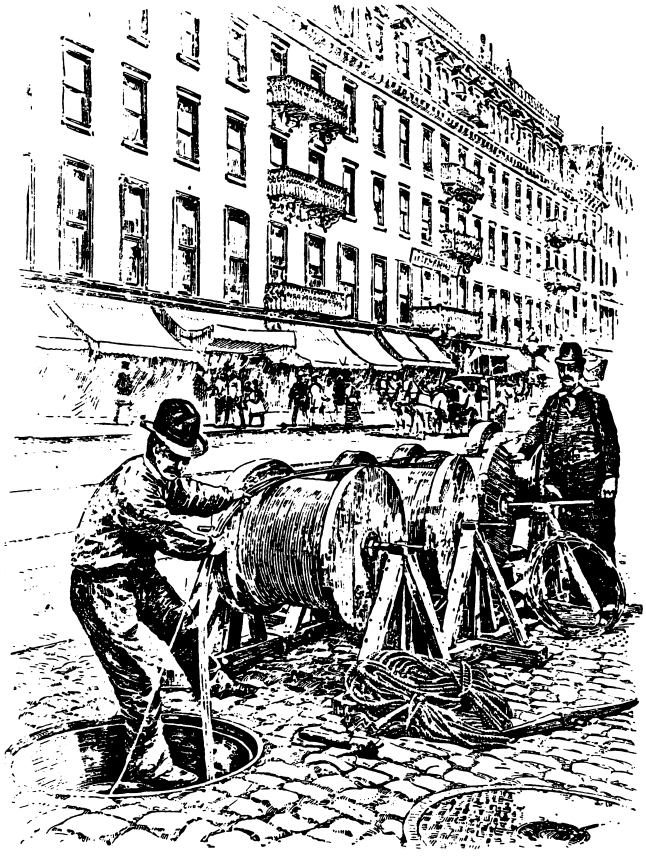
At the end of this activity is a list of suggested questions and projects. You should now be able to use the Invent file to retrieve data that will help you answer the questions and conduct the projects.

What You'll Do

1. Work with a partner to choose a question or project.
2. Plan your printout, using a worksheet for planning printouts.
3. Define the information you need in order to answer the question.
4. Set up a Pre-defined Print Spec and print out your data.
5. Analyze the printout, and decide whether you need more information in order to answer the question.

What You'll Need

1. The worksheet for planning printouts
2. An Apple *II*e or IIc computer
3. *File* program disk
4. Invent data disk
5. Printer



WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a PFS file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

What data items will be included on the printout? _____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

_____

2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Planning

Follow these steps to plan your project.

1. Choose a project or question. You might choose a project from the list at the end of this activity, from a list your teacher provides, or you might invent your own.

On your planning worksheet, state the problem as clearly as you can.

2. Break up the questions into smaller questions, if necessary. If it's a project, break it down into smaller tasks. Use a planning worksheet for each separate smaller project.

3. Decide which forms to select for printing. Does your question deal only with certain types of inventions, certain years, inventors from certain countries, or certain enabling technologies? Decide what Retrieve Spec you will set up to tell the *File* program which inventions you want to include in your printout.

Sometimes you have to experiment first on the computer, using the SEARCH/UPDATE function to try out different ways of retrieving certain groups of forms, before you find a Retrieve Spec that will work.

Sometimes you need to use more than one data item in your Retrieve Spec.

You may need to set up different Retrieve Specs for each separate question you're working on. Write additional Retrieve Specs on your planning worksheets.

4. Make a list of the data items you need to print from the forms to answer each of your questions. Refer as needed to the Invent form on Figure 4, to remember what the data item names are.

List the data items needed on the planning worksheet. Should these data items be combined into one printout, or put on two separate printouts? _____

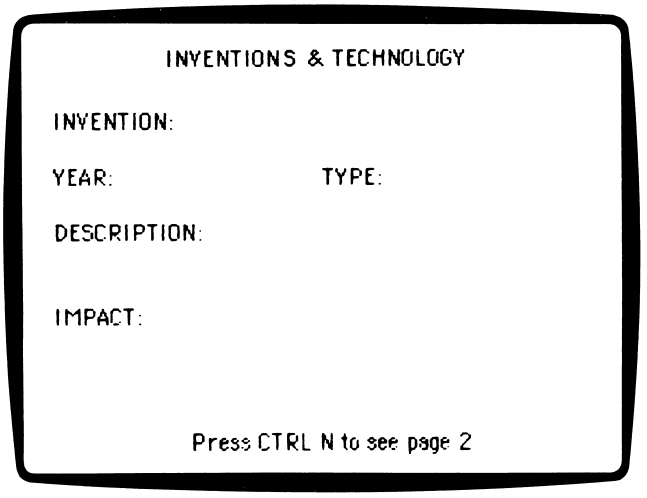
Why? _____

_____

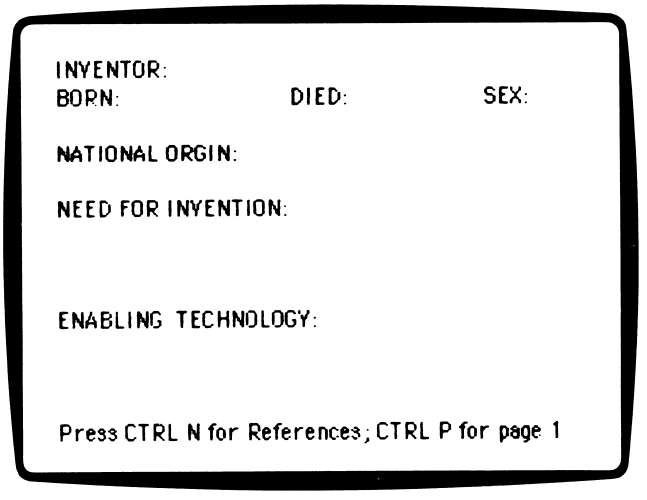
5. Decide on the order in which you want the data listed in the printouts. On your planning worksheet, write the data item that will be used for sorting.

6. Name your Pre-defined Print Spec. The name must be eight characters or less, and should be something you'll remember.

Write your Pre-defined Print Spec name on your planning worksheet.



Page 1



Page 2

Page 3 Figure 4

Preparing Your Printout

Now that you and your partner have a clear plan for how to proceed, you're ready to prepare the printout of the data. Take your planning worksheet with you to the computer.

1. Start up the *File* program and use the Define Print Spec option of the PRINT function to define your Print Spec.

Refer to the notes you made in steps 4 and 5 about the data items you want printed and the data item to use for sorting. Type the codes (X, +, and S) in the print spec form.

2. Use the Print Forms option of the PRINT function to make the printouts you have planned. Do they look the way you intended? If not, change your Pre-defined Print Spec so that you'll get the data you need.

3. Interpret your results. Does your printout give you the information you need in order to answer the original questions? What additional information do you need? Can you get it from the Invent file, or do you need another reference source?

Suggested Projects and Questions

Here are some suggested projects and questions:

1. Developments in transportation have helped people to travel over longer and longer distances in shorter and shorter amounts of time. Choose four or five inventions in transportation and describe how each of these inventions has helped more people to travel further distances more quickly.

2. Prepare a list of inventions that improved travel by land. How many inventions in the file contributed to travel over land? What is the most recent invention in the file related to land travel?

3. Trace the development of guns over time. What was the first gun invented? When? Show that guns have become more powerful over time.

4. Modern microcomputers are preceded by a long history of calculating machines. Prepare a list of calculating machines that have been invented, and describe how they've led to the development of the field of information processing.

5. Many inventions have helped make home life easier and more pleasant. Many of these have depended on electricity. Prepare a list of inventions used for home and leisure (relaxation) that depend on electricity.

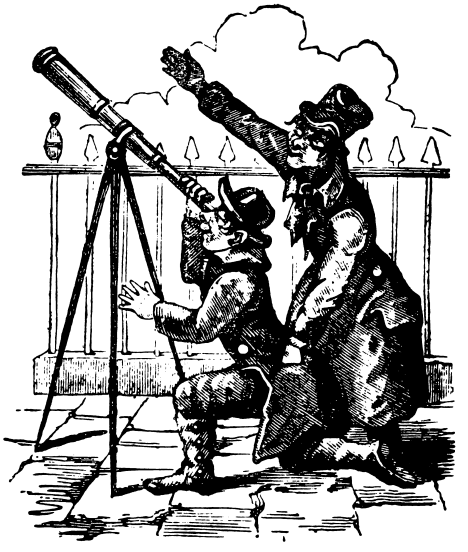
6. Some inventions became possible only after people learned to refine oil into products such as gasoline and diesel fuel. Which inventions depended on oil refining, and when were they invented?

7. Because the Invent file was developed for use in United States history classes, most of the inventions in the file were invented by Americans. Which of the inventions were made by people from countries other than the United States? Who were they and what countries were they from? Do you think an inventions file developed for German school students would have the same inventions in it as our Invent file has? What about a Russian's Invent file?

8. The Industrial Revolution began in England in the eighteenth century. Can you prepare a list of inventions from eighteenth-century England from the Invent file? Why were these inventions important?
9. In what ways did the invention of the steam engine and the refrigerator change the way we prepare and use food?
10. What inventions were made partly because of the steam engine? When were they invented? How long after the steam engine was invented were these inventions made?

Finishing Up

When you finish working on the computer, finish up in your usual manner, putting the disks where they belong. You may want to put your printout on the wall where classmates can see the results of your work and learn from it.



ACTIVITY 6: UPDATING THE INVENT FILE

One reason computerized data files are so useful is that you can easily change or add more information to the file. This process is called updating the file, and that's what this activity is about.

What You'll Do

You'll find new sources of information about inventions. Then you'll update the Invent file by adding those sources of information to the REFERENCES on page 3 of the form.

What You'll Need

1. Your own United States history textbook or some other source of information about inventions or inventors
2. Apple *II*e or IIc computer
3. The *File* program disk
4. The Invent data disk

Finding Sources of Information About Inventions

Choose three or four inventions from the Invent file. Look in your textbook or other reference materials to find information about that invention or inventor. Decide whether the information in the textbook would be useful to you or a classmate if you wanted to learn more about that invention. If it is useful, write down the name of the invention or inventor, the page numbers in the textbook, and the name and publisher of the text book.

Updating the File

If you haven't already started up the *File* program, do so now. The PFS: File Function Menu is on your screen and the Invent data disk is in Drive 1.

1. Select SEARCH/UPDATE by typing 4 and pressing **CTRL-C**. A blank Retrieve Spec appears.
2. Type the name of your invention or inventor on the Retrieve Spec. Press **CTRL-C**. The form for that invention should appear on your screen. If it doesn't, you may have misspelled it. Try again.
3. With the form for your invention on your screen, press **CTRL-N** twice to get page 3 of the form. It says REFERENCES.
4. Use the arrow keys to move the cursor to a blank spot on the page. Type the name of your reference or textbook and the page numbers where information on this invention can be found. If you make a mistake, just press **ESC** and start over again with Step 1.
5. If you want a printout of what you've just done, press **CTRL-O**. The Print Options screen appears. Make whatever changes you need and press **CTRL-C**.
6. Press **CTRL-C** to store the updated form.

If you want to update more forms, just repeat the procedure.

Finishing Up

Finish the session on the computer in the usual manner. Put the disks away where they belong.

ACTIVITY 7: MAKING YOUR OWN INVENTIONS FILE

There have been thousands more inventions and inventors than are in the Invent file. You may want to study one type of invention more closely and learn about more inventions or inventors.

What You'll Do

This project might take several days or weeks to complete. Working either with a partner or alone, as part of a class project, choose a type of invention to study. Next, gather information on that type of invention, using paper forms. Then you'll create your own special inventions file and add data to the file.

What You'll Need

1. An Apple *II*e or IIc computer
2. A printer
3. The *File* program disk
4. The Invent data disk
5. A new blank disk for creating the new file

Example Projects

Here are two examples of the kind of project you might want to try, either alone or as part of a class project:

1. Many inventions have been made because of humankind's efforts in space exploration. Find books on the subject of space exploration and list the inventions having to do with that topic. Create your own Space Inventions file.
2. Find out more about inventions that have to do with the use of energy sources such as coal, oil, solar, wind, and atomic energy. Make your own Energy Inventions file.

When you add data to a file, it's a good idea to work with a partner so that you can check each other's work.

Here is an example of how you can build your own special file. In this example, the new file contains data on energy inventions.

NOTE: You'll add your new inventions to a file on a new disk. You can't add them to the original Invent file, because it already uses up practically the whole disk.

Creating a New File and Blank Paper Forms

Begin by creating your own file and printing out blank forms for data collection. You will need two disk drives and a printer for this operation.

Copying the Design Onto a New Disk

1. Get a new blank disk to use for your project.
2. Start up the *File* program. Place the Invent file disk in Drive 1. Place your blank disk in Drive 2.
3. Type 3 to select the COPY function. Type the file name: Invent.
4. Press **CTRL-C**. The COPY Function Menu appears.
5. Type the number 1 to select the Copy Design Only option.
6. Press **TAB**. Type the name of your new file: Energy.
7. Press **CTRL-C**. A warning screen appears. Open the disk drive door to Drive 2, look at the label on the disk to make sure that this is a new blank disk or one that can be written over. Then close the disk drive door.
8. Press **CTRL-C**. The program begins formatting the disk in Drive 2.
9. When the PFS: File Function Menu appears on the screen, remove the Invent file from Drive 1.
10. Remove your new Energy data disk from the disk drive. Write the name of the file on a disk label and put the label on the disk.

Printing Out Blank Forms

With the PFS: File Function Menu on the screen, insert your new Energy data disk in Drive 1.

1. Now get ready to print out blank forms. With the PFS: File Function Menu on the screen, type 2 to select the ADD function. Type your new file name.
2. Press **CTRL-C**. A blank form appears on your screen.
3. Press **CTRL-O**. This tells the program you want to print the form. Print as many copies of the form as you will need for the number of new forms you want to add to the file.
4. End the session on the computer in the usual manner, unless you want to copy some of the inventions from the original Invent file to your new data disk, as described below.

Copying Selected Forms to Your New File

Depending on the topic of your project, you might want to copy some of the inventions forms from the original Invent file to your own file. For example if you were doing a project on the subject of computers, you might want to copy all the Type: Info Processing inventions onto your file. Here's how:

The PFS: File Function Menu is on your screen.

1. Place your new file disk in Drive 2. Place the original Invent data disk in Drive 1.

CAUTION: Make sure the original Invent data disk is in Drive 1. If you're not sure which is Drive 1, ask someone.

2. Select COPY by typing 3.
3. Press **TAB**. Type the file name: Invent.
4. Press **CTRL-C**. The COPY Function Menu appears.
5. Select Copy Selected Forms by typing 2.
6. Press **TAB**. Type the name of your *new* file.
7. Press **CTRL-C**. A message appears, telling you where to put the files. Check one more time to make sure you put your new file in Drive 2 and the original Invent file in Drive 1.
8. Press **CTRL-C**. If you got the file names mixed up or the wrong disk in the wrong drive, a message appears saying: PROBLEM:? "TO" FILE MUST BE IN DRIVE 2. If this happens, press **ESC** and start over at Step 1.
9. When the blank Retrieve Spec form appears, type your Retrieve Spec for the forms you want copied onto your new file. For example, if you want all the Info Processing inventions copied, you could use **TAB** to choose the TYPE: data item and type: info.. (info followed by two dots).
10. When your Retrieve Spec is complete, press **CTRL-C**. The program begins copying the selected forms onto the new file in Drive 2. This may take a while, depending on how many forms are being copied.
11. When the copy is complete, the PFS: File Function Menu appears. You can now remove both data disks from the disk drive. Put them where they belong. If no one is waiting to use the computer, turn it off.

Gathering Data on Printed Forms

First, you and your partner need to look for and write down sources of information that you will use to gather data on the energy-related inventions and inventors. Your library probably has books on this subject, or you can use encyclopedias or magazine articles.

Some examples of energy-related inventions might include: waterwheel; turbine generator; windmill; solar furnace; nuclear reactor; coke oven; catalytic cracker.

As you and your partner are gathering information about inventions and inventors, write the information on the printed forms you have made. It's not necessary to fill in every data item, but the more you fill in, the more useful your file will be. Be sure to write down the sources of information you used to get the data.

It's sometimes difficult to get information for the ENABLING TECHNOLOGY and the IMPACT data items for an invention. You might have to look in several sources to find this. You might have to leave those data items blank in some cases.

After you gather information on several inventions, think carefully about what type of inventions they are. Perhaps you want to make up new categories. Or maybe they'll all be TYPE: energy.

Check the accuracy of the data. After you have handwritten the data, exchange forms with your partner. Have your partner verify the accuracy of your data, by going back to your original sources. Then check on the consistency of your TYPE categories.

Adding New Data to Your File

Use the ADD function of the *File* program to add the new inventions to your file. You should have the printed copies of the forms with your handwritten notes to work from.

Continue adding new forms to your file as you do more research on your topic. You can also use the SEARCH/UPDATE function to fill in more data items on a form you've already added.

Work with your partner to plan and then print out reports using your file.

Finishing Up

You might donate your file to your school library, so that other students can use it in their study of inventions.

ACTIVITY 8: MORE PROBLEMS AND PROJECTS

Choose a project to work on using the Invent data. Work with a partner.

What You'll Do

You'll follow the steps outlined in Activities 1–7 to:

1. Consider and describe the problem.
2. Define information needs.
3. Plan your printout.
4. Define the Print Spec needed to present the data.
5. Test and debug the printout.
6. Print the data.
7. Analyze the data and decide what further information you need to answer the original question or problem. In some cases, the Invent file may not include all the data you need for your investigation.

The following is a list of possible projects; your teacher may suggest others.

1. *Enabling technologies.* Prepare a chronological list (arranged in the order in which they occurred) of the inventions in a subject area such as Information Processing. Show on your printout the enabling technology for the inventions. Analyze the relationships between enabling technologies and the inventions they made possible.
2. *Impact of inventions.* Prepare a chronological list of inventions of a particular type such as home/leisure or transportation. Include in your list the IMPACT data. Then interview some older people (the older the better), and ask them for their opinion as to how these inventions have changed their lives or the lives of others. Can you summarize this information by selecting three inventions that have had the greatest impact on people or society?
3. *Inventors.* Prepare a list of the inventors, grouped by nationality. Do you see any patterns in the type of inventions made by people of a certain nation? Do you see any patterns in the dates of the inventions that came from certain countries?
4. *The effects of war.* Find out what years were times of war, such as World War I or World War II. Look at the inventions made during those periods, and try to figure out if the wars affected the kinds of inventions made.
5. *Clustering of inventions.* Examining a chronological list of inventions, do you see any periods of time when there were a lot of inventions or a collection of related inventions? Find out more about that period of history and see whether you can find a reason for this. Is it related to the enabling technology that was present?
6. *The pace of change.* See whether the Invent file provides any clues to support the idea that the pace of change in society is accelerating (getting faster). One way to do this is to examine the enabling technologies for a set of inventions. Determine the length of time between the date that the enabling technology was available and the date of the invention. If the pace of change is accelerating, the length of time should be getting shorter.

Scholastic pfs: U.S. History Data Bases

Twentieth-Century America

TWENTIETH-CENTURY AMERICA: LESSON PLANS

Content Overview

The 20thcent file contains statistical data on a wide range of topics about people, the government, and the economy in twentieth-century America.

Key Topic Areas in United States History

Major topics covered are Twentieth-century America, United States Population, and Economics.

Description of File Contents and Organization

The 20thcent form on disk is four pages (screens) long. Each form contains statistics for one YEAR. See Figure A on the next page.

Page 1

For each YEAR, data on the first page of the form includes GROSS NATIONAL PRODUCT, HOURLY EARNINGS OF MANUFACTURING WORKERS, INCOME TAX COLLECTED, UNEMPLOYMENT, and the value of MERCHANDISE IMPORTED AND EXPORTED.

Page 2

Only the decade years (1910, 1920, etc.) contain data on page 2. For all other years, page 2 is blank.

Data for the decade years, drawn from the census, include BIRTHS, DEATHS, LIFE EXPECTANCY, MARRIAGES, and DIVORCES.

Page 3

Data on page 3 is related to households and communities. Every form has data on page 3. It shows, among other things, the percentages of HOUSEHOLDS HAVING 1 PERSON, HAVING 7 OR MORE PERSONS, and HAVING TELEPHONES; the average amount of electricity used by customers of the power companies; and the percentage of HIGH SCHOOL GRADUATES.

Page 4

Page 4 shows the sources used to gather the data on the form.

Grade Level Suggestions

Students in grades six through eight may want to work only with the page 1 data. High school students and advanced junior high students may want to work with the data on all four pages of the form.

Younger students (below high school) may want to use just the first six activities; high school students should go on through Activity 10.

Teaching Tips

You can tailor the learning experience to your curriculum by asking students to solve problems that are closely tied to your own teaching objectives.

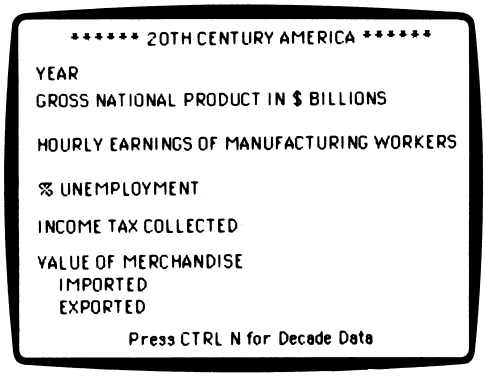
The activities give the students step-by-step procedures for solving the sample questions listed in the activities. However, it's best for the students to be weaned gradually from dependence on the step-by-step procedures. For example, they should learn how to set up a Pre-defined Print Spec on their own.

Encourage students to experiment by making up their own questions and Retrieve Specs. They will learn a lot by debugging their mistakes, rather than getting everything "right" the first time.

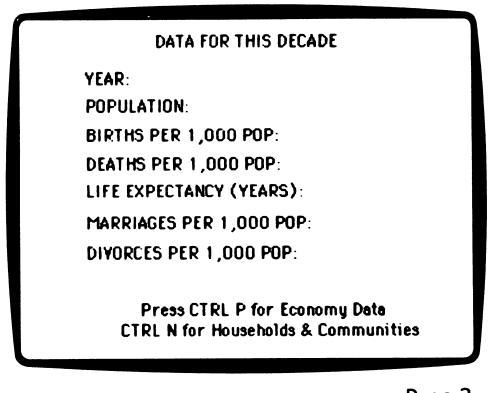
Encourage students to look up information and procedures in the Mini-References when they don't know how to do something. The ability to use reference manuals is a very useful skill in the world of computers and information systems.

Hardware Needed

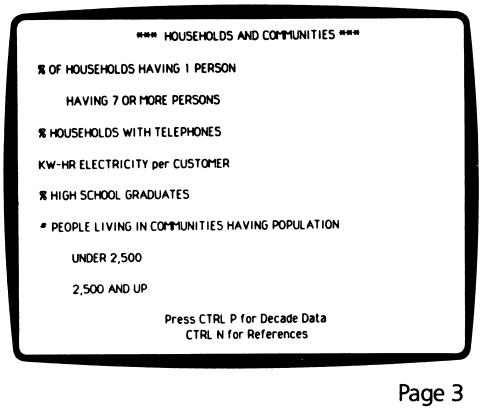
Each activity tells what equipment and software is needed. All activities require an Apple *//e* or IIc computer with monitor and one disk drive. Nothing else is required for Activities 1 through 3. Activities 1 through 10 also require a printer and printer paper. Activities 7 through 9 require a second disk drive.



Page 1



Page 2



Page 3

Figure A

Twentieth-Century America

Activity	Objectives	Preparation	Management	Time (per student)
1.	• Survey topics in the 20thcent file. • Type Retrieve Specs: exact match, "greater than" match.	• Copy the 20thcent file from the master disk onto the working disks. • Introduce concepts, such as "gross national product," as needed.	• Schedule time on computers for student pairs.	25 minutes
2.	• Determine the historical information provided for decades and years in the twentieth century. • Type Retrieve Specs: exact match, partial match, multiple items match.	• Copy the 20thcent file from the master disk onto the working disks. • Introduce concepts, such as "decade" and "life expectancy," as needed.	• Schedule time on computer for student pairs.	25 minutes
3.	• Ask questions about life in twentieth-century America. • Set up Retrieve Specs: exact match, partial match, "greater than" match, numeric range match, multiple items match. • Narrow the search.	• Copy the 20thcent file from the master disk onto the working disks.	• Schedule time on computer for student pairs.	35 minutes
4.	• Select historical data to answer a specific question. • Sequence, analyze, and interpret historical data. • Plan, test, debug, revise, and interpret printout.	• Copy the 20thcent file from the master disk onto the working disks. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students debug their printouts.	45 minutes
5.	• Analyze a historical question and determine the information needed to answer it. • Sequence and interpret the data collected. • Plan, test, debug, revise, and interpet printout.	• Copy the 20thcent file from the master disk onto the working disks. • Set up the printer.	• Schedule time on computer for student pairs. • Help students choose their projects. • Assist students in debugging their printouts.	45 minutes

(Continued on next page.)

Activity	Objectives	Preparation	Management	Time (per student)
6.	• Interpret data in terms of historical question asked. • Formulate and test additional hypotheses for the data.	• Copy the 20thcent file from the master disk onto the working disks. • Set up the printer.	• Help students interpret data and develop further hypotheses. • Schedule time on computer for student pairs.	35 minutes
7.	• Identify historical questions and determine the data needed to answer them. • Categorize data. • Edit the data collected. • Plan, print, debug, and analyze report.	• Copy the 20thcent file from the master disk onto the working disks. • Set up the printer.	• Schedule time on the computer for student pairs.	35 minutes if students are familiar with *Report*, two class periods if not.
8.	• Identify a historical problem using statistical information, and determine statistical data needed to answer it. • Analyze historical information, interpret results, and draw conclusions. • Plan, print, debug, and interpret report.	• Copy the 20thcent file from the master disk onto the working disks. • Set up the printer.	• Help students choose their projects. • Help students debug their printouts.	45 minutes
9.	• Define a historical problem and the data needed to solve it. • Edit the report. • Plan x and y axes of graph. • Display, debug, and interpret the graph.	• Copy the 20thcent file from the master disk onto the working disks. • Set up the printer. • Schedule time on the computer for student pairs.	• Help students choose their projects. • Help students debug their printouts.	45 minutes
10.	• Identify an economic, political, or social trend in twentieth-century American life. • Determine data needed to analyze the trend. • To synthesize information and draw conclusions. • Plan, print, debug, and interpret printout, report, or graph.	• Copy the 20thcent file from the master disk onto the working disks. • Set up the printer.	• Help students choose their projects. • Schedule time on the computer for student pairs. • Help students debug printouts and reports.	45 minutes

INTRODUCTION

This series of activities shows you how to use the data file named 20thcent. The file contains information about America during the twentieth century.

These activities will teach you skills in managing information stored in computer data files. You can apply these skills to many other subjects in school and to other areas of your personal life.

Here are some examples of the questions you can answer using the 20thcent file:

- How have American households changed through the years? Are families getting larger or smaller? How have marriage and divorce rates changed?
- When was the "baby boom"? What does this say about the future of the Social Security system? Has the birthrate increased or decreased over the past ten years?
- In what years has the United States had a strong economy? What indications or signs of prosperity are there in the file? In what years has the United States had an economic depression or recession?
- What has been the pattern of imports and exports of manufactured goods? What does this say about Americans' dependence on foreign goods?
- How much longer does the average American live today compared to 50 years ago? Is the average lifespan continuing to increase?
- How many families now have telephones? What is the most recent year in which most (more than 50 percent) American households had telephones?

There is practically no limit to the number and kinds of questions you can study — it depends on your curiosity and willingness to experiment.

Activities in This Unit

The first six activities in this unit use the *PFS: File* program and the 20thcent data file.

All of the data in this file is statistical information — that is, it contains facts and figures rather than text. The *PFS: Report* program is very helpful in analyzing and printing the data. Activities 7 and 8 show you how to use the *Report* program with the 20thcent file.

Statistical kinds of data are often easier to study when they appear as a graph. Activity 9 shows how to prepare graphs of the data using the *PFS: Graph* program. If you don't have the *Graph* program, you can draw your own graphs by hand. Activity 10 suggests a few of the many interesting projects you can do on your own or as part of a class project.

The following is a list of the activities in this unit. Activity 1 is designed for people who have never used the *File* program before. If you already know how to use *File*, you can skip Activity 1 and go to Activity 2. Please do the activities in the order shown here:

- Activity 1. Finding Your Birth Year in the File
- Activity 2. Exploring the 20thcent File
- Activity 3. Asking Questions
- Activity 4. Defining Your Information Needs
- Activity 5. Planning Your Own Printouts
- Activity 6. Analyzing Results and Getting More Data
- Activity 7. Planning Your Reports
- Activity 8. Planning Reports With Computations
- Activity 9. Graphing Data
- Activity 10. Projects

ACTIVITY 1: FINDING YOUR BIRTH YEAR IN THE FILE

You can do this activity whether or not you've ever used the *Scholastic PFS: File* program before. You'll learn a little about the twentieth century and a little about the *File* program.

What You'll Do

First, you'll start up the *File* program. If you don't already know how to do this, now is the time to learn! Next, you'll get information about the year you were born, and learn some things about how to get data on to your screen. The fancy phrase for what you'll do is "information retrieval."

What You'll Need

1. A *File* data disk called 20thcent
2. A *File* program disk
3. An Apple® *IIe* or IIc computer

Starting Up the File Program

The following is the standard procedure for starting up the *File* program. Use this same procedure any time you start up *File*.

1. Remove the *File* program disk from its protective jacket, and insert it into Drive 1. (On an Apple IIc, Drive 1 is the built-in drive.) Close the door on the disk drive.
2. If the computer is off, turn it on. Turn on the monitor. If the computer is already on, press the **CTRL**, **APPLE**, and **RESET** keys all at the same time. The PFS: File Function Menu appears on the screen.
3. Remove the *File* program disk from Drive 1. You won't need it any more in this lesson. That's the end of the start-up procedure.
4. Insert the 20thcent data disk in Drive 1 and close the door on the disk drive.

CAUTION: Never remove the disk from the disk drive unless the PFS: File Function Menu is on screen.

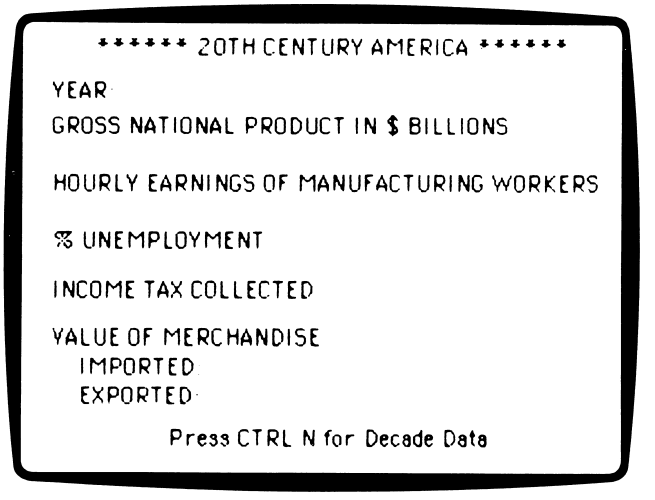
Selecting the SEARCH/UPDATE Function

The PFS: File Function Menu is on your screen. It lists six functions. The only function we'll use right now is SEARCH/UPDATE. This part of the *File* program finds information that is stored in a file on a data disk.

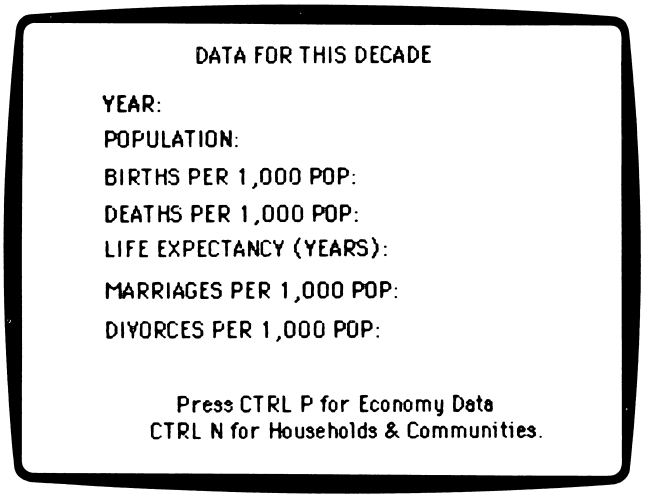
1. Select SEARCH/UPDATE by typing 4.
2. If FILE NAME is blank, leave it blank. If it says FILE NAME: 20THCENT that's okay too. You don't need to type a file name when you choose SEARCH/UPDATE. The program will find the name of the file in Drive 1.
3. Press **CTRL-C**. (Hold down **CTRL** and press **C**.) A Retrieve Spec appears on the screen.

Figure 1 shows the form for this file. Page 1 should be on your screen. If it isn't, you have the wrong data file disk. Find the file disk labelled 20thcent and start over.

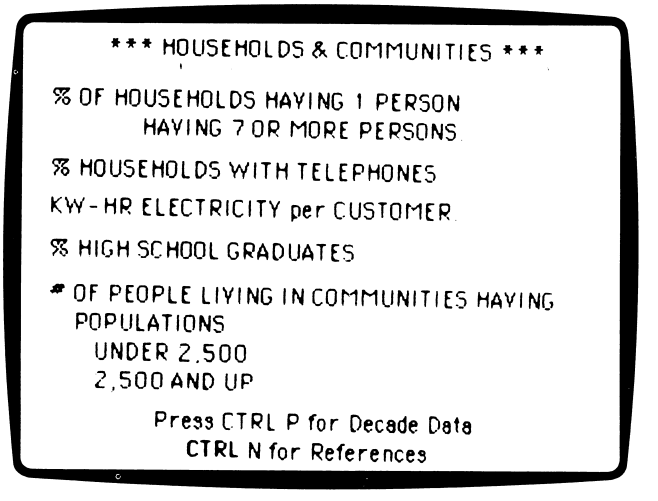
You've just completed the procedure for selecting the SEARCH/UPDATE function. From now on, when we say "select SEARCH/UPDATE from the PFS: File Function Menu," follow the procedure you just learned.



Page 1



Page 2



Page 3

Figure 1

Finding the Year You Were Born

The blank Retrieve Spec is on your screen.

1. With the cursor next to YEAR, type the year you were born. For example, if you were born in 1970, type: 1970.

2. Press **CTRL-C**. Immediately, the form for your year appears.

After the YEAR, the first data item is GROSS NATIONAL PRODUCT IN $ BILLIONS. Gross national product represents the total value of goods and services produced in the United States in a given year. A strong GNP is one sign of a healthy economy.

For your birth year, what figure is shown? _____To get billions, add eight zeros to the end and take out the decimal point.

REMINDER: If you accidentally change any data on the form, press ***ESC*** *to avoid changing the data on disk.*

What were the average hourly earnings of manufacturing workers in the year you were born? _____This is the average amount of money workers were paid for each hour of work. (Of course, some people were paid less and some more.)

Getting the PFS: File Function Menu

When you finish looking at a form on your screen and you want the PFS: File Function Menu again, press **ESC**. The menu appears.

Looking Up the Year Your Grandmother Was Born

Do you know when one of your grandmothers was born? If you don't know, then guess around 1920. Look up the data for that year.

The PFS: File Function Menu is on your screen.

1. Type 4 and then press **CTRL-C**. The Retrieve Spec appears.

2. Type either the year your grandmother was born, or 1920.

3. Press **CTRL-C**. What year is on your screen? _____

What were the average hourly earnings of workers in that year? _____

Compare that to the wages of people in the year you were born. Based on this information, do you think that wages have been increasing during the twentieth century?

When you finish looking at the form, press **ESC**. The PFS: File Function Menu appears.

Based on what you have seen so far, can you guess what the hourly earnings of workers were by 1982? _____

Test your guess by looking up the form for 1982. This time, you should be able to find the form without having a written procedure to follow.

What were the earnings in 1982? _____

What was the rate of unemployment in 1982? _____

When you're finished looking at 1982, press **ESC**. The PFS: File Function Menu appears.

Looking Up Unemployment Rates

The % UNEMPLOYMENT data item shows the percentage of people who wanted to work but could not find jobs. This is an average for the year.

Were there any years in the twentieth century when the unemployment rate was higher than it was in 1982? Here's how to find out:

The PFS: File Function Menu is on your screen.

1. Type 4 and then press **CTRL-C**. The Retrieve Spec form appears.

2. Press **TAB** to move the cursor to % UNEMPLOYMENT, and then type: >. This is the sign for "greater than."

3. Type the unemployment percentage you found earlier for 1982.

4. Press **CTRL-C**. A data form appears on your screen. Answer these questions:

- What is the year on the form? _____
- What is the rate of unemployment? _____
- Is it higher than the rate in 1982? _____ If not, you used the wrong Retrieve Spec. Press **ESC** and go back to Step 1 in this procedure.

5. Press **CTRL-C**. What year appears on the screen?

6. Keep pressing **CTRL-C**. Make a list showing the years of the forms you find, and the rates of unemployment.

YEAR	% UNEMPLOYMENT
_____	_____
_____	_____
_____	_____

7. A message will appear telling how many forms were found. How many forms were found?_____

8. Press **CTRL-C**. The PFS: File Function Menu appears.

On Your Own

Find out the year in which hourly earnings of manufacturing workers first became higher than $5.00. _____

Finishing Up

When you finish this activity, be sure the PFS: File Function Menu is on the screen. If it isn't, press **ESC**. Then remove the 20thcent data disk from Drive 1 and put it back carefully in its protective jacket. Put the disk where your teacher tells you to keep it. Then turn off the computer.

ACTIVITY 2: EXPLORING THE 20THCENT FILE

Whenever you use a computer data file that's new to you, you should first explore it. Find out what kinds of data are in it, and how the data are organized.

Let's just explore the twentieth century for a while, to become familiar with our data.

What You'll Do

First you'll start up the *File* program. Then you'll browse through the 20thcent data file to find out what kinds of data are in the file.

What You'll Need

1. An Apple *II*e or IIc computer
2. A *File* program disk
3. A 20thcent data disk

Starting Up the File Program

Start up the *File* program. If you don't remember how to do this, see Activity 1. Place the 20thcent data disk in Drive 1. The PFS: File Function Menu should be on your screen.

Looking at a Form

You may not know what information is in this file. You might guess, however, that a file on the subject of twentieth-century America would probably have some information about the population of the United States.

To look at a form for a particular year, follow the procedure for retrieving a form.

Retrieving a Form

The PFS: File Function Menu is on your screen.

1. Type 4 to select SEARCH/UPDATE.
2. Press **CTRL-C**. The Retrieve Spec for the 20thcent file should appear. If it doesn't, you've gotten the wrong data disk. Find the right one and start over.
3. Beside the data item name YEAR on the Retrieve Spec, type: 1980.
4. Press **CTRL-C**. The form for 1980 should be on your screen.

REMINDER: If you accidentally change any data on the form, press ***ESC*** *to avoid changing the form on disk.*

5. Press **CTRL-N** to see the data for POPULATION.

The population of the United States is counted every ten years (each decade) by the government. Therefore, the data for population is only available for the decade years (1910, 1920, 1930, etc.) All of the data on page 2 of the 20thcent form are decade data.

6. When you finish looking at the 1980 form, press **ESC** to get the PFS: File Function Menu.

Browsing Through the File

Since you don't know what information is in a file that is new to you, you don't know what Retrieve Specs to set up. To find out what's in the file, browse through it, form by form. This is similar to the way you might browse through a book to get an idea of what's in it. Here's the procedure for doing that:

The PFS: File Function Menu is on your screen.

1. Type 4 to select SEARCH/UPDATE.
2. Press **CTRL-C**. The Retrieve Spec blank form appears.
3. Leave the Retrieve Spec blank. Press **CTRL-C**. The last form in the file appears on the screen. Notice the form number. This tells you the total number of forms in the file. How many are there? _____
4. Press **CTRL-N** to see the next page of the form.

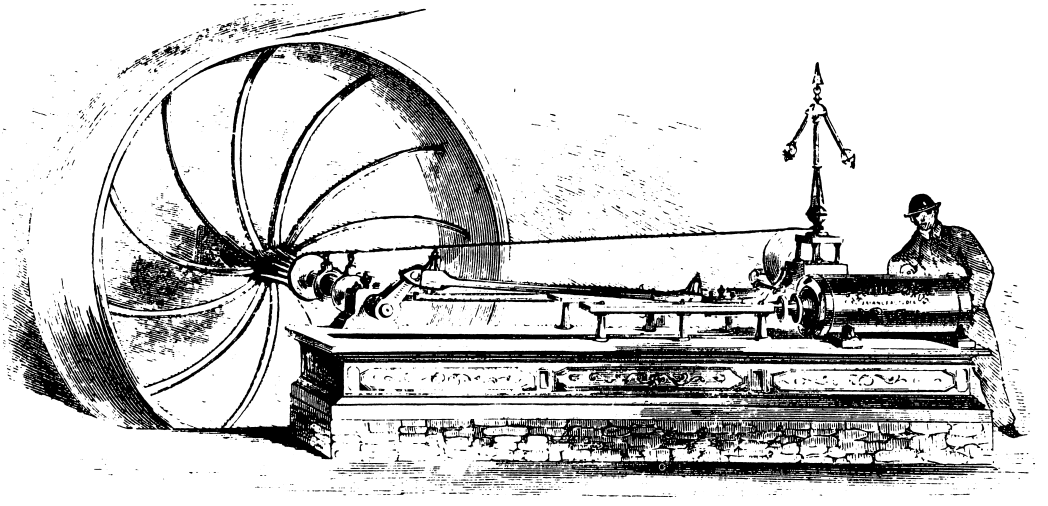
What is the title of the page? _____
5. Press **CTRL-N** again.

What is the title of Page 3 of the form? _____

Look at the KW-HR ELECTRICITY PER CUSTOMER. This is the average number of kilowatt-hours used by customers of the electric companies. Customers include families with many children and companies with lots of employees, so this number represents much more electricity than any individual would use in a year.

What was the average amount of electricity (number of kilowatt-hours) used per customer in 1900? _____

6. Press **CTRL-N** again. What information is on Page 4 of the form? _____
7. When you are finished looking at a form, press **CTRL-C**. The next form appears.
8. Browse through the file for a while, reading forms and pressing **CTRL-C**. When you've looked at enough forms, press **ESC**. The PFS: File Function Menu appears.



Looking at the Decades

Some of the data is available only for the decade years. Here's how to look at just the decade years:

1. The PFS: File Function Menu is on your screen. (If it isn't, press **ESC** to get it.)
2. Type 4 and then press **CTRL-C**. The Retrieve Spec blank form appears.
3. With the cursor beside YEAR, type: ..0 (with no period after it). This tells the program to find all forms for years ending in zero. (Be sure to type the number zero, not the letter O.)
4. Press **CTRL-C**. The form for what year appears on the screen? _____. If the year does not end in zero, you made a mistake in your Retrieve Spec. Go back to step 1 in this procedure. If the year does end in zero, go to step 5.
5. Look at the DECADE data for this year. What was the average life expectancy for a person born in this year? _____
6. Press **CTRL-C**. What year form appears on the screen? _____
Continue looking at the DECADE data (page 2 of the form) and noting the life expectancy.
7. When the message FORMS FOUND appears on the screen, notice how many forms the program found. This is the total number of decade years in the file. Press **CTRL-C**. The PFS: File Function Menu appears.

On Your Own

Find out what percentage of households had telephones in the year you were born.

Finishing Up

When you're finished with this activity, be sure the PFS: File Function Menu is on the screen. If it isn't, press **ESC**. Then remove the 20thcent data disk from the disk drive and put it back carefully in its protective jacket. Put the disk where your teacher tells you to keep it. Then turn off the computer.

ACTIVITY 3: ASKING QUESTIONS

Now that you know what data are in the file, you can begin asking questions and setting up Retrieve Specs to find the answers.

What You'll Do

You'll retrieve information about twentieth-century America. Then you'll learn how to set up Retrieve Specs to answer questions.

What You'll Need

1. An Apple *IIe* or IIc computer
2. A *File* program disk
3. A 20thcent data disk

Starting up the File Program

Start up the *File* program. The PFS: File Function Menu is on your screen and your 20thcent data disk is in Drive 1.

Narrowing the Search

When you're looking for the data to answer a question, you don't want to retrieve more information than you need. In some situations you need to figure out how to narrow the search. "Narrow the search" means to set up a Retrieve Spec so that you will retrieve only the data you need to answer your question. In this exercise, you'll use two different methods for retrieving the answer to a question. The first method retrieves too many forms, while the second method narrows the search.

Question: When was the first year in which more than half the households in the U.S. had telephones?

Here is one method for searching for the answer to that question:

The PFS: File Function Menu is on your screen.

1. Select SEARCH/UPDATE by typing 4.
2. Press **CTRL-C**. The blank Retrieve Spec form for the 20thcent file appears.
3. Press **CTRL-N** twice, to see page 3 of the 20thcent form.
4. Press **TAB** to move the cursor to % HOUSEHOLDS WITH TELEPHONES:
5. Type: >50.0
6. Press **CTRL-C**. A data form appears on the screen. What year is it? _____
7. Press **CTRL-N** twice to get to page 3. What percent of households had telephones in this year? _____
8. Press **CTRL-C**. What year is it this time? _____ What percent of households had telephones? _____
9. Continue pressing **CTRL-C** and looking at the years and the percent of households, until you find the earliest year in which more than 50 percent of households had telephones. When was that? _____

When you're finished, the PFS: File Function Menu is on the screen.

You had to look at a lot of forms. In the next exercise, you'll use a better method.

Searching in a Numeric Range

You want to find the first year when more than 50 percent of households had telephones. You don't want to look at all the years >50.0. Instead, you just want to see the years close to the 50 percent point. One easy way to narrow the search is to look for just a narrow range. Rather than looking at all the forms where the percent of households with telephones is greater than 50 percent, we can look at forms in which the percent of households with telephones was between 50 percent and 55 percent. This is called looking for a *numeric range*. Here's the procedure:

If the PFS: File Function Menu is not on your screen, press **ESC** to get it.

1. Select SEARCH/UPDATE by typing 4 and pressing **CTRL-C**. The blank Retrieve Spec appears.

2. Press **CTRL-N** twice to get page 3.

3. Press **TAB** to get the cursor to % HOUSEHOLDS WITH TELEPHONES.

4. Type: =50..55

5. Press **CTRL-C**. A form appears on your screen. What year did you retrieve? _____
Look at page 3 of the form. What percent of households had phones? _____

6. Press **CTRL-C** to see the next year.

7. Continue looking at the forms until you have found the earliest year when more than 50 percent of households had phones. How many forms did you have to look at this time, in order to get the answer? _____

Setting Up Your Own Retrieve Specs

Now that you know what data items are on the 20thcent form, you can begin asking questions and setting up Retrieve Specs to search for the answers.

Set up Retrieve Specs to search for the answers to these questions:

Question: Was there ever a time when the unemployment rate was higher than 20 percent?

Your Retrieve Spec would be: % UNEMPLOYMENT: >20.0

Question: What was the average life expectancy of Americans in 1980?

Your Retrieve Spec would be: _____

Question: Was there a time when the average life expectancy of Americans was less than 50 years?

HINT: For your Retrieve Specs: life expectancy data is available only for the decade years. Use ..0 in the YEAR data item, and <50 in the LIFE EXPECTANCY data item.

Your Retrieve Spec would be: _____

Challenging Your Partner

Make up a question about the twentieth century, and figure out what Retrieve Spec you would use to answer the question. Try out your Retrieve Spec and see what answers you get. Then ask your partner to answer the same question, but don't explain the method you used to get the answer. Can your partner solve the problem? Did your partner think of a method different from yours?

Finishing Up

If the PFS: File Function Menu isn't on the screen, press **ESC** to get it there. Remove the 20thcent disk from Drive 1 and put it in its protective jacket. Turn off the computer, unless someone else is waiting to use it. Put the disk where your teacher tells you to keep them.

ACTIVITY 4: DEFINING YOUR INFORMATION NEEDS

Rather than retrieving forms one at a time on the computer screen, you can have the *File* program print out a list of selected information for a particular study.

What You Will Do

You will learn to plan a printout of data that will help you answer questions or solve problems. You'll use a worksheet for planning printouts, shown on the next page.

Here is the procedure:

1. Define what information you need in order to answer a question.
2. Set up a Print Spec that tells the *File* program what information to print.
3. Use the Print Forms option of the PRINT function to print the data.
4. Interpret the results of the printout and decide whether you need more information to answer your question.

What You'll Need

1. A worksheet for planning printouts (See page 19.)
2. An Apple *II*e or IIc computer
3. A *File* program disk
4. A 20thcent data disk
5. A printer connected to the computer

Determining Information Needs

The first step in planning a *File* printout is to define the information you need to answer a particular question or problem. For example, consider the following question:

> Question: The period called the Great Depression was characterized by a very high rate of unemployment. At what point during the years from 1927 to 1940 was unemployment the highest?

On your worksheet for planning printouts, write this question down.

Planning Your Printout

You could answer the question by retrieving on the screen the forms for each of the years in question. But an easier, quicker and more useful way is to get a printout that contains just the data you want to help answer the question.

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

What data items will be included on the printout?

_____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters) _____

Printing the data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

2. Setting up the PRINT options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines per Page option.

Deciding Which Forms to Select for Printing

The first thing you should decide is which forms should be selected for the printout. Usually, only certain selected data forms from the file are needed on a particular printout.

The question deals with the years 1927 to 1940. So you'll want to select just the forms for those years for the printout. This means your Retrieve Spec will be:

YEAR: = 1927. . 1940

On your planning worksheet, find the place where it asks which forms will be selected for printing. Write the Retrieve Spec in the blank beside that question.

Deciding Which Data Items to Include in the Printout

Look at the 20thcent form on Figure 2, and decide which of the data items would be useful in answering the question. The YEAR is of course needed. The question also talks about the rate of unemployment. So, you'll need the % UNEMPLOYMENT data.

When you define information requirements, try to include only those data items that are really needed for the purpose at hand. For the problem you are working on now, for example, the only data items needed are YEAR and % UNEMPLOYMENT.

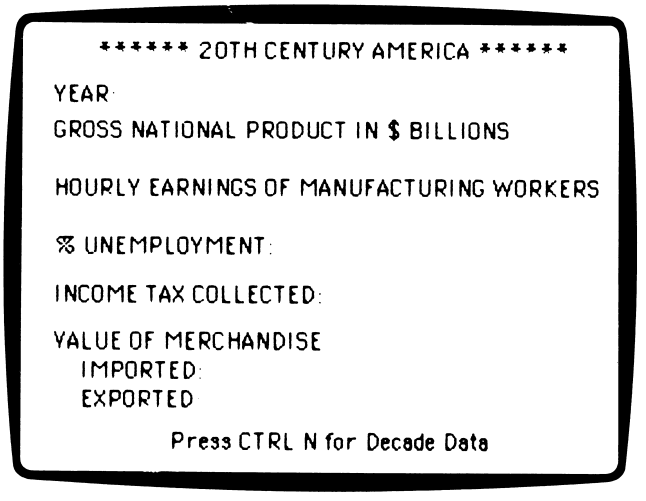
On your worksheet, write YEAR and % UNEMPLOYMENT in the blanks where it asks, "What data items will be included on the printout?"

Listing Data in Order

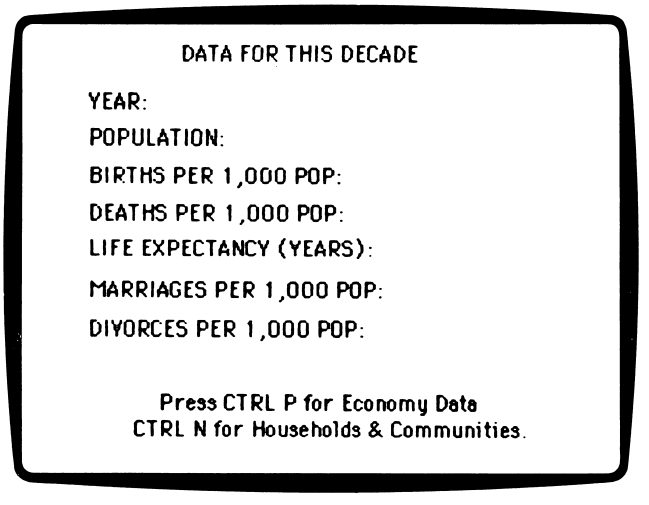
In what order should the data be listed in the printout? There are a couple of possibilities. You could list the years in chronological order. That is, you could have the program sort the forms by YEAR. However, since the question asks you when unemployment was the highest, you might want to sort by % UNEMPLOYMENT. This will cause the program to list the years in order from lowest to highest unemployment.

Choose which you will use for sorting — YEAR or % UNEMPLOYMENT. (Remember, there often isn't any single "right way" to retrieve information. Sometimes you have to try a couple of different ways before you find the most useful approach.)

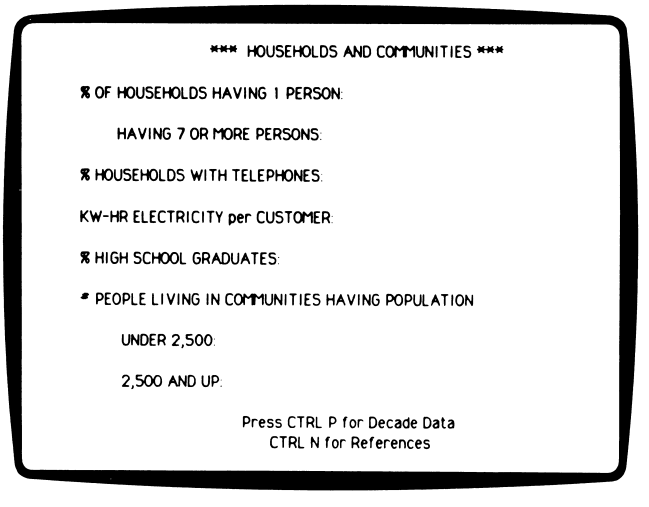
On your planning worksheet, write the data item you'll use for sorting.



Page 1



Page 2



Page 3

Figure 2

Naming the Pre-defined Print Spec

What will you name the Print Spec? It should be related to the data or problem. This example uses UNEMPLOY, but you can use any name you like. Remember that the name must be eight characters or less.

On your planning worksheet, write the name you'll use for your Pre-defined Print Spec.

Setting Up a Pre-defined Print Spec

Now that you have planned your printout, you can set up the Pre-defined Print Spec. The Print Spec will tell the *File* program which data items to print and in what order.

First start up the *File* program in the usual manner. If you don't remember how to do this, see Activity 1.

The PFS: File Function Menu is on your screen and the 20thcent data disk is in Drive 1.

1. Select the PRINT function by typing 5. Press **TAB**.
2. Type: 20THCENT next to FILE NAME. Press **CTRL-C**. The PRINT Menu appears.
3. Select Define Print Spec by typing 2. Press **CTRL-C**. The Current Pre-defined Print Specs screen appears.
4. Type your Print Spec name. This example uses Unemploy.
5. Press **CTRL-C**. The Print Spec form appears on the screen.
6. Type a plus sign (+) beside YEAR on page 1 of the blank Print Spec. The + tells the *File* program to print this data item, and to print the next data item on the same line.
7. Press **TAB** to move the cursor to % UNEMPLOYMENT.
8. Type X. This tells the program to print this data item on its own line. Then type S. (Remember that S stands for "sort.")
9. Your Print Spec should look like Figure 3.
10. When you have completed the Print Spec, press **CTRL-C** to store it on disk.

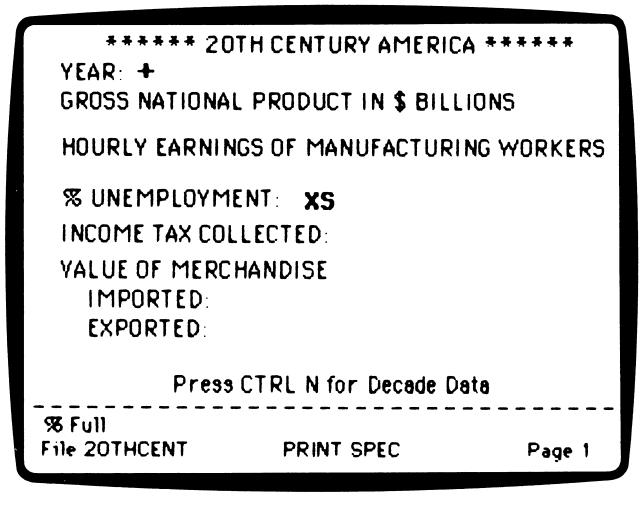


Figure 3

Printing the Data

Now you can use your Pre-defined Print Spec to print out your data. Make sure that your printer is connected to your computer, the printer is turned on, and the paper is aligned in the printer. The PFS: File Function Menu should be on your screen.

Setting Up the Retrieve Spec

1. Type 5 and then press **CTRL-C**. The PRINT Menu appears.
2. Choose the Print Forms option by typing the number 1. Press **CTRL-C.** The blank Retrieve Spec appears.
3. Beside YEAR:, type: = 1927. . 1940
4. Press **CTRL-C**. The Print Options Menu appears.

Filling in the PRINT Options

Fill in the PRINT Options as shown below. Use **TAB** to get from one option to another.

PRE-DEFINED PRINT SPEC: unemploy
PRINT ITEM NAMES: N
ADD LINEFEED CHARACTERS (Y/N): Y
LINES PER PAGE: 3
NUMBER OF COPIES: 1

Now press **CTRL-C**. The *File* program begins searching the file for the forms you've requested, and then sorts the forms. The printing begins.

If the printer does not print your data, make sure it is turned on and connected to your computer.

Interpreting the Printout

Your printout provides information about unemployment from 1927 to 1940. You have in your printout "raw data," or numbers and figures that have little meaning until you "make sense," or interpret the information. The data only have meaning in relation to some question or hypothesis.

Go back to the original question you wrote on your planning worksheet. It asks at what point during the Depression unemployment was at its highest.

The first thing to do is decide which information on the printout is most useful in answering the question.

If you sorted the data by YEAR, you can read the years one by one until you come to the year when unemployment was highest. Then, you'll notice, the unemployment rate starts going down again.

If you sorted the data by % UNEMPLOYMENT, the last data item on your list will be the highest unemployment for the years printed.

If "depression" means high unemployment, in which year was the depression the deepest?

_____

In which year would you say the Great Depression started? _____

If you sorted your printout by YEAR, look at someone else's printout that was sorted by % UNEMPLOYMENT. Which way of sorting do you think is most useful for answering the questions about the Depression?

Finishing Up

To finish the session, get the PFS: File Function Menu on your screen. Remove the 20thcent data disk from the disk drive and put it back in its protective jacket. Turn off the computer unless someone is waiting to use it. Put the disks wherever your teacher tells you to keep them.

ACTIVITY 5: PLANNING YOUR OWN PRINTOUTS

The last activity showed you step-by-step procedures for determining information requirements and preparing a printout of data. This activity teaches you to plan your own printouts.

What You'll Do

You will work with your partner to define the information you need in order to answer questions. You'll use a worksheet for planning printouts. Next, you'll set up a Pre-defined Print Spec and print out your data. Then you'll analyze the printout, and decide whether you need more information in order to answer the question.

What You'll Need

1. A worksheet for planning printouts (See next page.)
2. An Apple *II*e or IIc computer
3. A *File* program disk
4. A 20thcent data disk
5. A printer connected to the computer

Defining Your Information Needs

The following questions relate again to the years of the Great Depression:

Question: Examine the changes in the gross national product during the years 1927-1941. In which of these years was the GNP the lowest? The highest?

Question: Examine the pattern of hourly wages between 1927 and 1941. In which years were hourly wages the lowest? The highest?

Plan what information you need in order to answer these two questions. First of all, will you get the information in one printout or will you need two separate printouts?

_____Why?_____

(Remember, there isn't just one "right answer" to questions such as "one printout or two?" Some methods may be easier for you, or may give you more useful data. Sometimes you have to try out more than one method before you find the printout that gives you just what you need.)

On your planning worksheet, write down the questions you're going to try to answer.

Deciding Which Forms to Print

Decide on a Retrieve Spec that will tell the *File* program which forms you want to include in your printout.

Write the Retrieve Spec on your planning worksheet. If you're going to make two separate printouts, will you use the same Retrieve Spec for both?

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

What data items will be included on the printout?

_____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters) _____

Printing the data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

2. Setting up the PRINT options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines per Page option.

Selecting Data Items to Include in the Printout

What data items are needed to answer each of your questions? Refer to the 20thcent form on Figure 4 on next page to remember what the data item names are.

On your planning worksheet, list the data items to be included in the printouts.

Listing the Data in Order

On your planning worksheet, write the data item which will be used for sorting the printout.

Naming Your Pre-defined Print Spec

The name you use must be eight characters or less, and should have some meaning to you.

On your planning worksheet, write your Pre-defined Print Spec name.

Setting up a Pre-defined Print Spec

Now that you and your partner have a clear plan for how to go on, you're ready to prepare the printout of the data. If you plan to make two separate printouts for the two questions, set up two Pre-defined Print Specs.

Start up the *File* program and use the Define Print Spec option of the PRINT function to define your Print Spec.

Refer to your notes on your planning worksheet about the data items you want printed and the data item to use for sorting. Type the codes (x, +, and s) in the Print Spec form.

Printing the Data

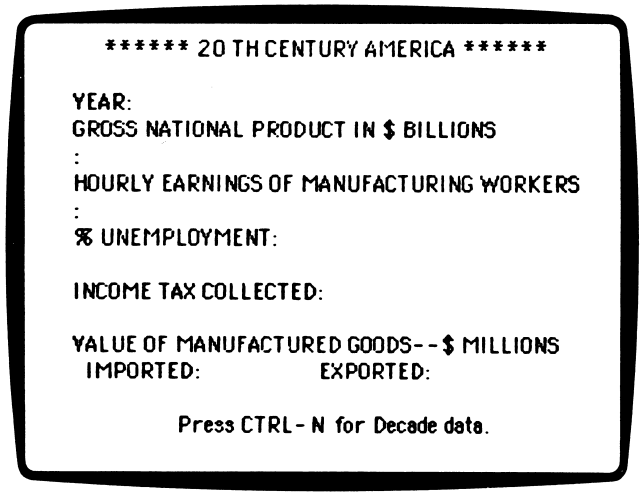
Use the Print Forms option of the PRINT function to make the printouts you planned. Do they look the way you wanted them to? If not, change your Pre-defined Print Spec so that you'll get the data you need.

Interpreting the Data

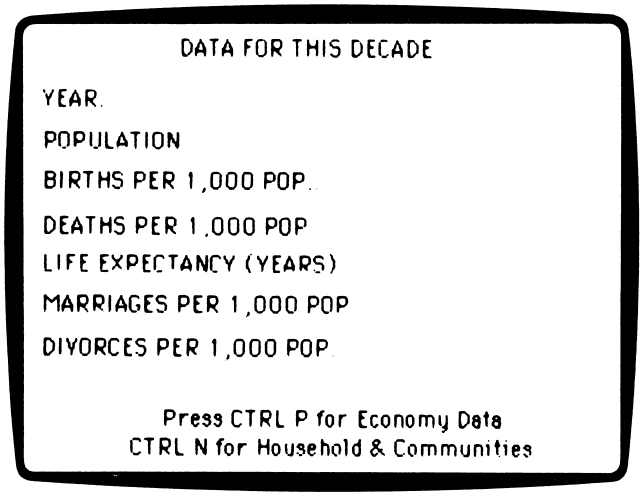
Does your printout give you the information you need to answer the original questions? What additional information do you need? Can you get it from the 20thcent file, or do you need to go to some other reference source?

Finishing Up

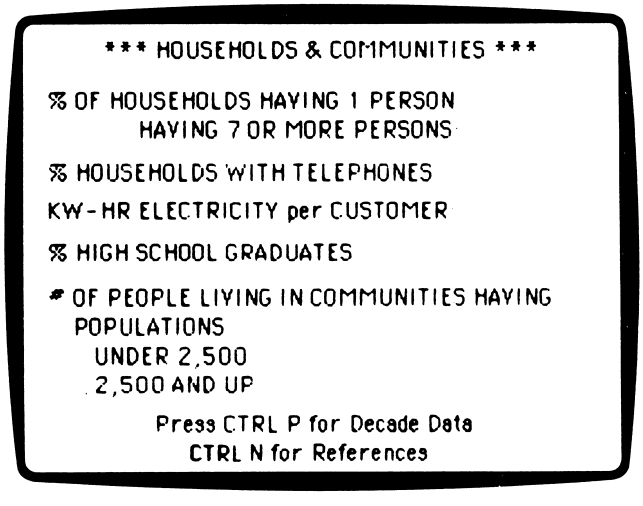
When you've finished working on the computer, finish up in your usual manner, putting the disks where they belong. You may want to put your printout on the wall where classmates can see the results of your work and learn from it.



Page 1



Page 2



Page 3

Figure 4

ACTIVITY 6: ANALYZING RESULTS AND GETTING MORE DATA

You now have printouts showing the patterns of change in unemployment, hourly earnings, and gross national product for the years 1927-1941. In this activity you'll analyze these data and look for more information to support your hypotheses about the Great Depression.

What You'll Do

You will examine the data you've printed out from the file and interpret the data. Then you'll get more data from the 20thcent file to support your interpretations.

What You'll Need

1. Your printouts showing the unemployment rates, hourly earnings, and gross national product for the years 1927-1941
2. An Apple *IIe* or IIc computer
3. The *File* program disk
4. The 20thcent data disk

Interpreting the Data

Assuming that low unemployment rates, high earnings, and high gross national product are all signs of a healthy economy, in which year(s) was the Depression at its deepest?

_____

What years showed signs of economic recovery? _____

What signs or indications do you have of this? _____

_____

In what year did the GNP climb back up to its pre-Depression level? _____

Sometimes drawing a graph of the data can help you to see relationships and trends more clearly. For example, you could draw a bar graph to show the figures for unemployment, hourly earnings, and gross national product for each year from 1927 through 1941. A graph gives you a picture of the data and helps you to interpret it.

Developing Further Hypotheses

If in an economic depression many people are unemployed, then you would expect to find other signs of the economy changing also.

- What other data items in the 20thcent file might help in getting a picture of the economic trends during the Great Depression?

_____ _____ _____

- What pattern would you expect to see, for example, in the percent of households with telephones during the years 1927-1941? _____
- Would you expect the dollar value of imports and exports to increase or decrease as the Depression gets deeper? _____
- What do you predict would happen to the amount of income tax collected by the Federal government as the Depression gets deeper? _____

Testing Your Hypotheses

Choose one or two of the economic signs suggested above. Test your hypothesis about those indicators by retrieving the data for the years 1927—1941. You can either retrieve the forms directly on the screen and take notes, or you can get a printout.

Do the data support your hypotheses? Why or why not? Discuss these questions with your classmates and teachers.

Finishing Up

Share your findings with your classmates. Did they discover any economic indicators that you didn't think of? What patterns did they find?

When you're finished using the 20thcent file, close the session on the computer in the usual manner and put the disks where they belong.

ACTIVITY 7: PLANNING REPORTS

The printouts you made of data from the Depression years provide useful information for that study. If you have the *PFS: Report* program, you can get printouts that are even more useful and easy to read for certain purposes. The *Report* program is especially useful in working with files like 20thcent that have a lot of statistical information in them, because *Report* will also do computations.

What You'll Do

As before, you'll first consider a sample problem and define your information needs. You'll use a worksheet for planning reports. Then you'll learn how to use the *Report* program to get information from the 20thcent file. Finally, you'll interpret the data from the report.

What You'll Need

For this activity, you'll need:

1. A worksheet for planning reports (See next page.)
2. An Apple *IIe* or IIc computer
3. A printer connected to the computer
4. A 20thcent data disk
5. A *PFS: Report* program disk
6. A *Report Sortwork* disk

In planning a report, you begin by carefully considering the question or problem you want to solve. If you don't understand the problem, you won't be able to decide what data to put in the report.

Considering the Problem

Think about this problem:

> Question: Compare the trends in birthrate (births per 1,000 population) to the actual growth in population in the United States over the twentieth century.

The *Report* program is useful for making such comparisons, because it will list the data items side-by-side in neat columns on the page.

Write down the problem on your worksheet for planning reports. If you can, restate the problem in your own words. For example, one student wrote on her worksheet, "List birthrate and population side-by-side for each year." Another student wrote a question, "Did birthrate and population go up or down in the same years?" Another asked, "Did population go down at the same time as birthrate?"

Whenever a question asks about "trends," it's asking about changes over time.

Usually, when looking at trends, you want to see the data in order by year. The "trend" in birthrate means, is the birthrate going up or down over time?

WORKSHEET FOR PLANNING REPORTS

Use this worksheet to plan reports of data from a *PFS* file, using the *Report* program. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you pre-define a report, set new headings, and then print the report.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

What data item will be used for sorting the report? _____
(This data item will be in Column 1 of the report.)

What data item for each column? (If a column is to be a Derived Column, write the formula to be used.)

Column 1 _____

Column 2 _____

Column 3 _____

Column 4 _____

Column 5 _____

Column 6 _____

Pre-defining a Report

What name will you give to the Pre-defined Report? (1–8 characters) _____

Setting New Headings

List here the new headings you will set for the columns.

Data Item Name	New Heading
_____	_____
_____	_____
_____	_____
_____	_____

Printing the Report

1. Setting up the Retrieve Spec. Which forms will be selected for Reporting? _____

_____

2. Setting up the report options. What title do you want to be printed at the top of each page of the report? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

Defining Information Needs

What information is needed to answer the questions about the trends in birthrates and population? Here are the data items you'll need:

YEAR
BIRTHS PER 1,000 POP
POPULATION

Since you want to compare the trend in birthrate to the trend in population, you'll want to see these two data items side-by-side.

In planning a report, it's useful to make a hand sketch of the columns you want. Figure 5 shows a sketch of the report for this problem.

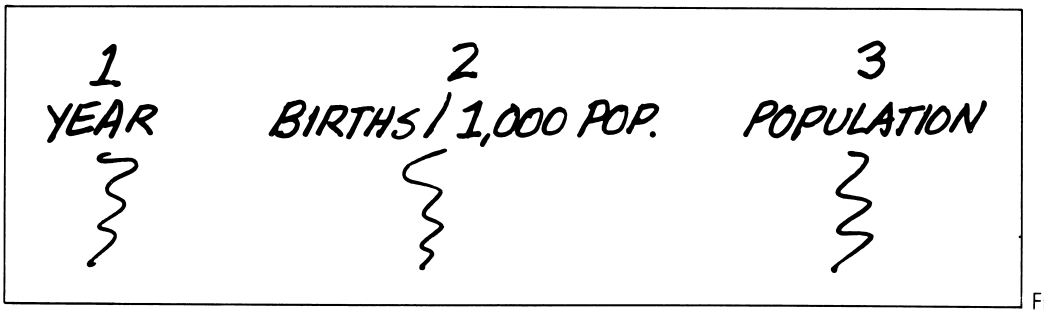


Figure 5

Deciding Which Data Goes In Column 1

The *Report* program puts the data in order based on the data item in Column 1. Since you're looking at trends over time, you probably would want to have the report sorted by YEAR, so YEAR goes in Column 1.

On your planning worksheet, write the data item that will be used for sorting.

Choosing Column Numbers for the Other Data Items

In this case, it probably doesn't matter which data item goes in Column 2 and which in Column 3. You decide.

On your planning worksheet, list the data items that will go in each column of the report. (There will not be any Derived Columns in this report.)

Naming the Report Spec

You'll need a name for the Pre-Defined Report. It must be eight characters or less. This example will use BIRTHPOP.

Write the name of your Pre-defined Report on your planning worksheet.

Choosing Headings for the Columns

The *Report* program uses the data item names from the form as the column headings on the report. But often the data item names in the file are too long to fit as column headings. When you are deciding on headings for your columns, you need to think about how wide the actual data will be in the column. For example, the POPULATION data is 11 characters wide (e.g. 226,504,825). The data item name POPULATION fits nicely as a column heading. On the other hand, the data for birthrate is only four characters wide (e.g. 32.3). But the data item name BIRTHS PER 1,000 POP: is 21 characters wide. To make a neater report, you need to change that column heading to something shorter, such as BIRTHS/1,000.

On your planning worksheet, list the new headings you will set for your columns. The following are recommended:

Data Item Name	New Heading
YEAR:	YEAR
BIRTHS PER 1,000 POP:	BIRTHS/1,000

Deciding on a Retrieve Spec

Which forms in the file will be selected for the report? Since the population data is only available for the decade years (which end in zero), your Retrieve Spec would be YEAR: ..0.

Write the Retrieve Spec on your planning sheet (Question 1 under Printing the Report).

Choosing a Title for the Report

Decide on a title for the report. The program will print the title at the top of each page of the report (32 characters or less).

This example will use BIRTHRATES AND POPULATIONS as the title.

Write on your planning sheet the title you will use for your report.

Completing the Planning Worksheet

There is one more little detail you need to plan before your worksheet is complete. Do you know whether your printer needs to have a linefeed character sent to it by the program? If you're not sure, ask the teacher.

Your plan is now complete. If you don't have time to finish this activity today, this is a good breaking point.

Setting Up the Report on the Computer

Now that you have planned your report, you're ready to prepare the report on the computer. Take your planning worksheet to the computer with you.

First, start up the *Report* program.

1. Place the *Report* program disk in Drive 1.
2. If the computer is turned off, turn it on. Turn on the monitor. If the computer is already on, press three keys all at once: **CTRL-APPLE-RESET**.
3. When the PFS: Report Menu appears on the screen, remove the *Report* program disk from the disk drive.
4. Insert the 20thcent data disk in Drive 1.
5. Insert the *Sortwork* disk in Drive 2.

Pre-defining a Report

The PFS: Report Menu is on your screen.

1. Type 2 to select Pre-define a Report. Press **TAB**.
2. Type the file name 20thcent. Press **CTRL-C**. The Pre-defined Report screen appears.
3. Type your report name: BIRTHPOP. Press **CTRL-C**. The blank report form appears.
4. On the report form, type 1 next to YEAR. This will cause the *Report* program to put the YEAR data in Column 1 of the report.
5. Press **CTRL-N** for page 2 of the form.
6. Press **TAB** until the cursor moves to POPULATION.
7. Type 2 or 3, whichever column you want population to appear in.
8. Press **TAB** to get the cursor to BIRTHS PER 1,000 POP.
9. Type 2 or 3, whichever column you want birthrates to appear in.
10. Press **CTRL-C** to store the Report Spec. The PFS: Report Menu appears.

Setting New Column Headings for the Report

Now you set new headings for the columns:

The PFS: Report Menu is on your screen.

1. Type 3 to select Set New Headings. Press **CTRL-C**. The Headings blank form appears.
2. Beside YEAR on page 1 of the form, type: YEAR.
3. Get page 2 of the form by pressing **CTRL-N**.
4. Press **TAB** to move the cursor to BIRTHS PER 1,000 POP.
5. Type: BIRTHS/1,000.
6. Press **CTRL-C** to store the new headings. The PFS: Report Menu appears on the screen.

Printing the Report

You're ready now to print the report. Make sure the printer is turned on and the paper is aligned in the printer.

The PFS: Report Menu is on your screen.

1. Type 1 to select Print a Report. The blank Retrieve Spec form appears.
2. Look at your planning worksheet to see what Retrieve Spec you were going to use for this report. Type your Retrieve Spec.
3. Press **CTRL-C**. The Report Options screen appears.
4. Refer to your planning worksheet to see what title you planned for your report. Type the title of your report. Press **TAB**.
5. Type your Pre-defined Report Name. This example uses BIRTHPOP but you should use the name you wrote on your planning worksheet.
6. If your printer requires a linefeed, press **TAB** to select Add Linefeed Characters option and type Y.
7. Press **CTRL-C**.

The *Report* program begins selecting the forms for printing. When the printout is complete, finish the session on the computer in the usual manner. Put the disks where they belong.

Analyzing the Report

Go back to the original problem statement. It asks you to compare trends in birthrate to trends in population. First, look at the birthrate. Has it been increasing or decreasing over time? _____

Then look at population. What is the trend? _____

How do you explain the fact that the population is increasing while the birthrate is decreasing? Examine the data more closely. What additional analysis might be useful? For example, it might be helpful to figure out the rate of population growth for each of the decades. Do you think the rate of population growth is increasing or decreasing?

Finishing Up

Save your worksheet for planning reports. It may help you in the next activity.

ACTIVITY 8: PLANNING REPORTS WITH COMPUTATIONS

The *Report* program is especially useful in working with files like 20thcent that have a lot of statistical information in them, because *Report* will also do computations.

What You'll Do

As before, you'll first consider a sample problem and define your information needs. Then you'll learn how to use the *Report* program to do needed calculations on data from the 20thcent file. Finally, you'll interpret the data from the report.

What You'll Need

1. A worksheet for planning reports (See next page.)
2. An Apple *IIe* or IIc computer
3. A printer connected to the computer
4. A 20thcent data disk
5. A *Report* program disk
6. A *Report Sortwork* disk

Considering the Problem

The following is a sample problem you'll use in learning how to prepare reports using the 20thcent file and the *Report* program:

At the turn of the century, most Americans lived in small rural communities having populations under 2,500. In 1980, most Americans lived in urban communities having more than 2,500 people.

When did the number of people living in urban communities exceed (become greater than) the number of people living in rural communities (under 2,500 population)?

The *Report* program is useful for obtaining data for this problem, because it will list the data items in neat columns down the page, and it will perform the computations needed.

On your planning worksheet, write this problem in your own words.

WORKSHEET FOR PLANNING REPORTS

Use this worksheet to plan reports of data from a *PFS* file, using the *Report* program. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you pre-define a report, set new headings, and then print the report.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

What data item will be used for sorting the report? _____
(This data item will be in Column 1 of the report).

What data item for each column? (If a column is to be a Derived Column, write the formula to be used.)

Column 1 _____
Column 2 _____
Column 3 _____
Column 4 _____
Column 5 _____
Column 6 _____

Pre-defining a Report

What name will you give to the Pre-defined Report? (1–8 characters) _____

Setting New Headings

List here the new headings you will set for the columns.

Data Item Name	New Heading
_____	_____
_____	_____
_____	_____
_____	_____

Printing the Report

1. Setting up the Retrieve Spec. Which forms will be selected for reporting? _____

_____

2. Setting up the Report Options. What title do you want to be printed at the top of each page of the report? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

Setting Up the Report on the Computer

When your planning worksheet is complete, it's time to set up the report on the computer.

First, start up the *Report* program:

1. Load the *Report* program.
2. When the PFS: Report Menu appears on the screen, remove the *Report* program disk from the disk drive.
3. Insert the 20thcent data disk in Drive 1.
4. Insert the *Sortwork* disk in Drive 2.

Pre-defining the Report

1. Select option 2 from the main menu.
2. Type the file name 20thcent. Press **CTRL-C**.
3. When the REPORT NAME prompt appears, type your report name. Then press **CTRL-C**. The blank report form appears.
4. On the report form, type 2 after YEAR. This tells the program to put the YEAR in Column 2 of the report.
5. Press **CTRL-N** twice to see page 3 of the form.
6. After the data item UNDER 2,500, type 3.
7. After the data item 2,500 AND UP, type 4.
8. Press **CTRL-D** to get the Derived Columns screen.

Defining the Derived Column

You'll want the first column of the report to show the results of subtracting number of rural people from number of urban people. You want this in Column 1, because you want the data to be sorted in order of the results of the subtraction. Recall that the *Report* program automatically sorts on the first column.

1. Type: URBAN–RURAL for the column heading. Press **TAB**.
2. Type #4 – #3. This is the formula for calculating this column. Then press **TAB**.
3. For the Report Spec, type the number 1. This tells the program to put this derived column in Column 1.
4. Your Derived Columns screen should look like Figure 6. Press **CTRL-C** to store the Report Spec. The PFS: Report Menu appears.

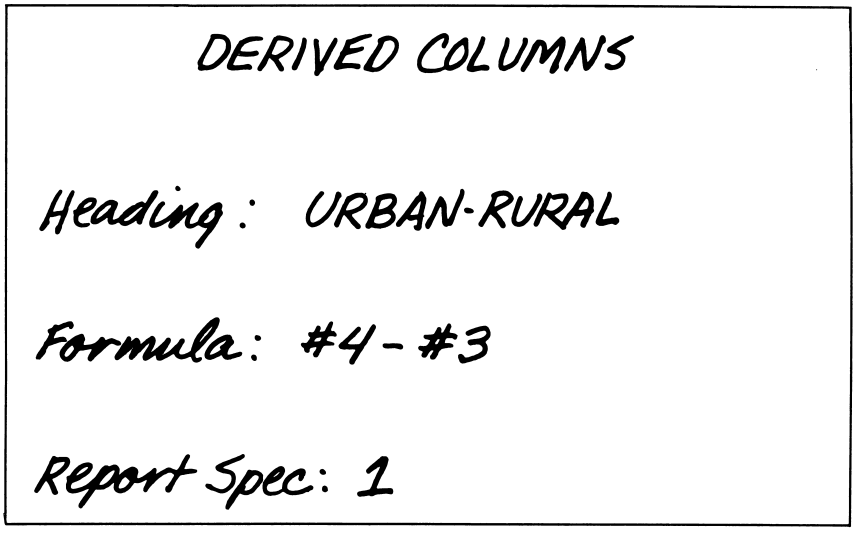


Figure 6

Defining Information Needs

First, you need to decide what information is needed for this problem, and whether the data you need is available in the 20thcent file.

The problem is to determine when the number of people living in urban communities exceeded the number of people living in rural communities. You can find this out by subtracting the number of people in rural communities from the number in urban communities. When the results of that subtraction are positive, the number of people in urban communities has exceeded (become greater than) the number in rural communities.

In all, you have four data items needed for this report. They include:

The calculated item, the results of subtracting item 3 from item 4.
YEAR
OF PEOPLE LIVING IN COMMUNITIES HAVING POPULATION UNDER 2,500
2,500 AND UP

Deciding on Columns for the Data Items

The *Report* program prints out data in columns. An important decision to make is what data item to put in what column. This is important because *Report* sorts the report according to the data in Column 1.

The question you are trying to answer is: When did the number of people living in urban communities begin to exceed the number in rural communities? If you put the answer to URBAN–RURAL in Column 1, then you'll be able to quickly spot the point at which the answer changes from negative to positive.

On your planning worksheet, write the data items to be printed in Columns 2, 3, and 4. Then write the formula that will be used to produce Column 1. The formula is #4 − #3.

Column 1 will be a Derived Column. A Derived Column is a column of data that the *Report* program "makes up." Rather than getting the data directly from the file, the *Report* program performs certain calculations and puts the answers from the calculations into the Derived Column. In this case, the program is going to subtract the data in Column 3 from the data in Column 4, and put the answer in Column 1.

Completing the Planning Worksheet

There are a few more planning details you need to complete. Fill in the rest of the worksheet for planning reports. Name your Pre-defined Report. List the new column headings. Tell what Retrieve Spec you're going to use. Write a title for the report.

Setting New Column Headings for the Report

Look at your planning sheet to see what new headings you had planned for your columns. Then set new headings:

The PFS: Report Menu is on your screen.

1. Type 3 to select Set New Headings. The blank Headings form appears.
2. Press **CTRL-N** twice to see page 3 of the form.
3. Press **TAB** to select # OF PEOPLE LIVING IN COMMUNITIES HAVING POPULATION UNDER 2,500.
4. Type: RURAL COMMUNITIES.
5. Press **TAB** to select 2,500 AND UP.
6. Type: URBAN COMMUNITIES.
7. Press **CTRL-C** to store the new headings. The PFS: Report Menu appears.

Printing the Report

Now you're ready now to print the report. Make sure the printer is turned on and the paper is aligned in the printer.

1. From the PFS: Report menu, type 1 to select Print a Report. Press **CTRL-C**. The blank Retrieve Spec appears.
2. Refer to your planning worksheet. Find the Retrieve Spec you planned to use for this report. Type the Retrieve Spec.
3. Press **CTRL-C**. The Report Options screen appears.
4. Type the title of your report. Press **TAB**.
5. Type your Pre-defined Report name.
6. If you need a linefeed for your printer, type Y for that option.
7. Press **CTRL-C**. The *Report* program begins selecting the forms for printing.

Debugging the Report

Does your report look the way you intended? It should look like Figure 7. If it doesn't, here are some tips on debugging.

1. See if the columns are in the correct order. The column headings should be in this order:

URBAN-RURAL YEAR RURAL COMMUNITIES URBAN COMMUNITIES

If your column headings aren't in the right order, go back to the procedure for Pre-defining the Report on page 39. Check over your Report Spec for the report, and make corrections as needed.

2. Look at the column 1 results of the calculation. Check the arithmetic. If column 1 is not the correct result of subtracting rural from urban, then you have set up the wrong formula for calculating the Derived Column. Go back to the procedure for Defining the Derived Column on page 39.
3. See if you have more than just the decade years in the report. If some of your years don't end in zero, you gave the wrong Retrieve Spec when you printed your report. Go back to the procedure for Printing the Report.
4. See whether all four columns fit across the page. If not, you forgot to set new column headings for the report. Read the section for setting new column headings on page 41.
5. Are some of your data in error? Look down the column for RURAL. Does one of the values look wildly different from all the others? For example, is one of the values in the thousands, while all the others are in millions? If so, your data file has an error in it. Bring this problem to your teacher's attention.

URBAN—RURAL	Year	Rural Communities	Urban Communities
95,438.00	1970	53,887,000	149,325,000
71,215.00	1960	54,054,000	125,269,000
42,238.00	1950	54,230,000	96,468,000
17,184.00	1940	57,240,000	74,424,000
15,135.00	1930	53,820,000	68,955,000
2,605.00	1920	51,553,000	54,158,000
-7,974.00	1910	49,973,000	41,999,000
-15,675.00	1900	45,835,000	30,160,000

Figure 7

Interpreting the Report

Interpret the data on your report by answering the following questions:

- In what year did the number of urban people exceed the number of rural people?

_____

- Does it appear that the "urbanization" of the United States was a slow, gradual process or a quick and dramatic change? _____
- Have there been periods in the twentieth century when the number of people in rural communities increased? When did they begin to decline in number? _____

Continuing the Research

If the trend continues, do you think there will not be any rural communities left by the twenty-first century? Do you think there are any factors that might reverse the pattern of people settling in urban areas?

What other sources of information could you use in order to study more closely the trend towards urbanization? What factors might you look at to help explain this trend?

ACTIVITY 9: GRAPHING DATA

A graph is often a very useful way to display the kinds of data you have in the 20thcent file. You can produce graphs of your data in either of two ways. You can print out selected data in the order needed, then draw a graph by hand, or you can use the *PFS: Graph* program to draw a graph directly from the data in the 20thcent file.

The difference between these two methods is that after you know how to use the *Graph* program, it is much quicker to have the computer draw the graph than to draw it by hand.

What You'll Do

You'll learn how to prepare a graph using the *Graph* program. If you don't have the *Graph* program, you can create your own graph by hand.

What You'll Need

1. An Apple *II*e or IIc computer
2. Two disk drives
3. A printer that will print graphics
4. A *Graph* program disk
5. A 20thcent data disk

Considering the Problem

The following is a sample problem that you'll use to define information needs and demonstrate the graphing of data from a file:

There have been major changes in the birth rate in the United States during the twentieth century. The changes in the birthrate affect American life in many different ways. For example, the Social Security system is greatly affected when there is a large increase in the number of people who reach age 65 and start receiving Social Security benefits.

In this activity you'll identify changes in birthrate. You'll pinpoint the so-called "baby boom" years. You'll identify the decade with the biggest drop in birthrates.

Defining Information Needs

The problem you're considering has to do with changing birthrates in the United States over a period of time. The first thing you need to do is decide what data items in the 20thcent file can be useful to you in studying this problem.

- What data items from the 20thcent file will be needed in order to analyze this problem?

_____

- Which years should be selected in the Retrieve Spec? Remember that the birthrate data is available only for the decade years, which end in zero (e.g. 1960) Write your Retrieve Spec here _____
- Which data item should be the X-axis of the graph? _____ Which data item should be the Y-axis of the graph? _____

If you want to see changes in birth rate over time, it would be useful to have the YEARS on the X-axis and the birthrates on the Y-axis.

You'll need to tell the *Graph* program that the X-axis data is to be numeric (N), so that *Graph* will sort the years in order from 1900 to 1980.

Getting the Data From the File

Follow these steps to get the data from the 20thcent file into the *Graph* program:

1. Start up the *Graph* program. The Graph Menu appears on your screen.
2. Insert the 20thcent data disk in Drive 2.
3. Type 1 to select GET/EDIT DATA. Press **CTRL-C**. The GET/EDIT DATA Menu appears on the screen.
4. Type 3 to select GET PFS FILE. Press **TAB**.
5. Select GRAPH: A. Press **CTRL-C**. A blank Retrieve Spec appears on the screen.
6. Type your retrieve spec. YEAR: ..0. Press **CTRL-C**. A blank Graph Spec appears on the screen.
7. Type the X-axis spec: YEAR: XN. This tells the program that YEAR: is the X-axis and it is numeric data.
8. Press **CTRL-N** to get page 2 of the form.
9. Type the Y-axis spec: BIRTHS PER 1,000 POP: Y. This tells the program that BIRTHS PER 1,000 POP: will be the Y-axis data. Press **CTRL-C**. The *Graph* program begins reading the data from the file.
10. When the screen says FORMS READ: 9, you know the program has read the data successfully. Press **CTRL-C**.

Displaying and Debugging the Graph

Take a look at your graph by selecting 2 (Display Chart) from the Graph Menu.

It looks strange, doesn't it? All the data points are scrunched up in the 1900s on an X-axis that goes from zero to 2000. Can you guess why?

You must edit the data so that the data points will be spread out on the graph.

Press **CTRL-C** to get back to the PFS: Graph Menu.

Editing the Data

Follow these steps to edit the data:

1. Type 1 to select GET/EDIT DATA. Press **CTRL-C**. The GET/EDIT DATA Menu appears.
2. Select ENTER/EDIT DATA by typing the number 1. Press **TAB**.
3. Select GRAPH: A. Press **CTRL-C**. The data appears on the screen.
4. Using the arrow keys and the **SPACE BAR**, erase the "19" from all the X-axis data. When you're finished, the X-axis data should include "00," "10," "20," and so forth, down to "80."
5. When you finish editing the data, press **CTRL-C**. The screen says: Reading Data. Then the PFS: Graph Menu appears.

Displaying the Chart Again

From the PFS: Graph Menu, select 2 Display Chart by typing 2. Press **CTRL-C**. The graph appears on the screen.

It looks much better now, doesn't it?

Think about how to improve the presentation. First, notice that the legend says BIRTHS PER 1,00. This is not accurate, is it? It should say BIRTHS PER 1,000.

Also, the graph would be more understandable if it had a title, as well as titles for the X and Y axes.

Press **CTRL-C** to get the PFS: Graph Menu.

Adding Titles to the Chart

The PFS: Graph Menu is on your screen.

1. Select Define Chart by pressing 3. Press **CTRL-C**. The Define Chart Menu appears.
2. Press **TAB** to select Legend, and replace BIRTHS PER 1,000 by typing BIRTHS/1,000.
3. Press **TAB** to select CHART TITLE, and type: 20TH CENTURY BIRTHRATES.
4. Press **TAB** to select X-AXIS TITLE and type: DECADE.
5. Press **TAB** to get to the Y-AXIS TITLE and type: BIRTHRATE.
6. Press **CTRL-C** to store the titles. The PFS: Graph Menu appears on the screen.

Displaying the Chart With Titles

Display the chart again. How does it look now? Is it neat and clear?

Compare your chart to Figure 8. If they don't look the same, you still have some debugging to do. If the chart looks right, print it.

Printing the Chart

If your chart looks good, you can print it now. If you don't have time or a printer to print it right away, use the chart in Figure 8 to do your interpretation of the data.

1. From the PFS: Graph Menu, select Print/Plot by typing 6. Press **CTRL-C**. The Print/Plot Menu appears.
2. From the Print/Plot Menu, type 1 if you have a printer or 2 if you have a plotter. Then press **CTRL-C**. The Printer Menu appears on the screen. If you don't know what kind of printer you have, you can just keep trying different printer selections until you find one that works.
3. Make sure that the printer is turned on and the paper is aligned in the printer.
4. Press **CTRL-C** to start the printout.

If all goes well, you should have a descriptive graph of the birthrates printed out. If not, you and your teacher may have to experiment with the Printer Menu to find out which choice works for you.

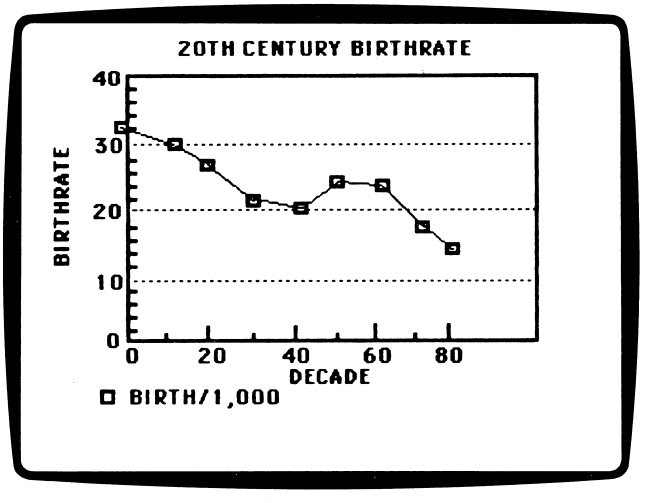


Figure 8

Interpreting the Graph

It should be easy to answer the questions posed at the beginning of this activity, now that you have a graph of the data.

Approximately when were the "baby boom" years? _____

Can you figure out approximately when the "baby boom" people will become age 65?

_____

Discuss with your classmates how this will affect the Social Security system.

Notice the times when the birthrate was relatively low. What might have caused the very low birthrate around 1940? _____

_____

What might have caused the very low birthrate around 1980?_____

_____

The data don't tell you the answers to all of the questions; you need to depend on other information about events in the twentieth century in order to make such interpretations.

On Your Own

Produce a graph showing the population trends in the United States during the twentieth century. Based on what you know about birthrates, would you expect the population to be increasing or decreasing in recent decades?

Produce a graph showing trends in life expectancy. Does this data help to explain the population growth?

What other data from the 20thcent file can help you to interpret the population trends during the twentieth century?

Finishing Up

End your session on the computer in the usual manner. Put the disks away where they belong.

Put your graphs up on a bulletin board where others can learn from your work.

ACTIVITY 10: PROBLEMS AND PROJECTS

Working with a partner, select a project to work on using the 20thcent data file. Follow the steps you've been using throughout these activities, to do the following:

1. Consider and describe the problem.
2. Define information needs.
3. Decide whether to use the *File, Report,* or *Graph* program to retrieve and print the data.
4. Define the Print Spec, Report Spec, or Graph Spec needed to present the data.
5. Test and debug the printout, report, or graph.
6. Print the data using *File, Report*, or *Graph.*
7. Interpret the data.

If you use *File* to make a printout, use a worksheet for planning printouts. If you use *Report*, use a worksheet for planning reports.

The following is a list of possible projects. Your teacher may suggest others.

- *Households:* Write a report describing some of the ways in which American families and households have changed over the twentieth century. Use such indicators as size of household, marriage and divorce rates, and use of telephones and electricity. Include in your report printouts of data that support your interpretations.
- *Imports/Exports:* Write a report describing the relationship between value of merchandise imported and exported during the years between 1970 and 1980. When did the value of imports first become greater than the value of exports? Is this relationship typical of earlier times in the United States? If the trend towards greater imports continued, what would you predict could be the result for the United States economy? See if you can find some discussions of this issue in the current newspapers or magazines.
- *Conservation:* Examine the data on electrical usage over the twentieth century. Do you see any evidence of efforts to conserve energy? When?
- *Economic Recession:* During the 1950s there was a major economic recession. A recession is similar to a depression. Use data such as gross national product, unemployment, and hourly earnings to determine when the recession was at its deepest and when the recovery began. Do export and import data shed any light on this question?

WORKSHEET FOR PLANNING REPORTS

Use this worksheet to plan reports of data from a *PFS* file, using the *Report* program. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you pre-define a report, set new headings, and then print the report.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

What data item will be used for sorting the report? _____
(This data item will be in column 1 of the report).

What data item for each column? (If a column is to be a Derived Column, write the formula to be used.)

Column 1 _____
Column 2 _____
Column 3 _____
Column 4 _____
Column 5 _____
Column 6 _____

Pre-defining a Report

What name will you give to the Pre-defined Report? (1–8 characters). _____

Setting New Headings

List here the new headings you will set for the columns.

Data Item Name	New Heading
_____	_____
_____	_____
_____	_____
_____	_____

Printing The Report

1. Setting up the Retrieve Spec. Which forms will be selected for reporting? _____

_____

2. Setting up the Report Options. What title do you want to be printed at the top of each page of the report? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

What data items will be included on the printout? _____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters)

_____

_____

_____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Scholastic pfs: U.S. History Data Bases

American Presidents

AMERICAN PRESIDENTS: LESSON PLANS

Content Overview

The activities in this unit teach students how to create a data file that has already been designed. The file will contain data about the American Presidents, including their backgrounds, careers, and accomplishments.

Building such a file is a class project. You'll have to divide the class into pairs of students, and assign each pair the responsibility of gathering certain types of data. For example, each student pair might be assigned two Presidents, or each student pair might gather one or two types of data for all Presidents — birthdate and term of office, for example.

Key Topic Areas in United States History

The major topic covered is American Presidents.

Description of File Contents and Organization

Figure A, on the next page, shows the file design. It also appears in the students' activities unit. You should feel free to tinker with the design to tailor it to your curriculum needs.

The form design is named Amerpres. The form is three pages (screens) long. Each form contains information about one President.

Page 1

The President's NAME appears on page 1, as well as the name the President was popularly known as. Other data on page 1 cover the President's major ACHIEVEMENTS IN OFFICE and EVENTS DURING ADMINISTRATION.

Page 2

Data on page 2 includes personal information about the President, including his EDUCATION, PREVIOUS EXPERIENCE, and PREVIOUS OCCUPATION(S). Also included are data pertaining to the First Lady.

Page 3

On page 3, the references used to compile the data on pages 1 and 2 are listed.

Grade Level Suggestions

This unit is suitable for students in fifth grade and above. The data needed to construct the file are readily available in the school library.

Hardware Needed

Each activity tells what equipment and software is needed. No equipment is needed for Activities 2 and 3. The other activities require an Apple *//*e or IIc computer, one disk drive, a monitor, and a printer.

Teaching Tips

You can tailor the learning experience to your curriculum by asking students to answer questions that are closely tied to your own teaching objectives.

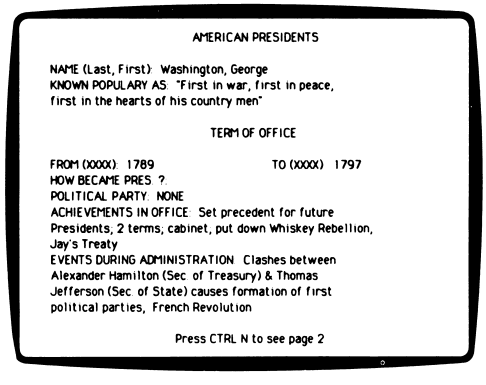
The activities give the students step-by-step procedures for performing each of the tasks listed above. However, it's best for the students to be gradually weaned from dependence on the step-by-step procedures. For example, they should learn how to set up a Pre-defined Print Spec on their own.

Encourage students to experiment by making up their own questions and Retrieve Specs. They will learn a lot by debugging their mistakes, rather than getting everything "right" the first time.

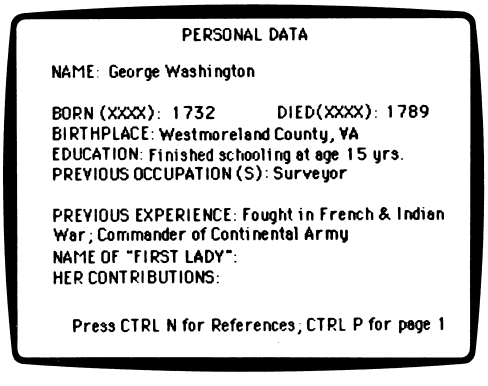
Encourage students to look up information and procedures in the Mini-References when they don't know how to do something. The ability to use reference manuals is a very useful skill in the world of computers and information systems.

Disk Management

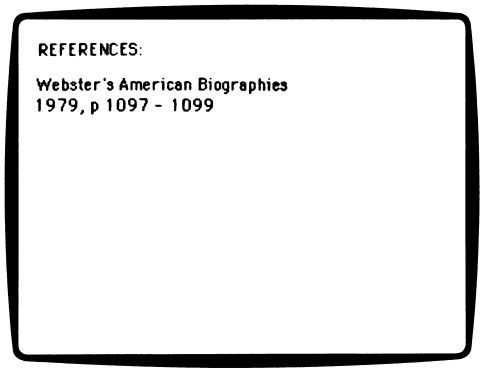
If each student pair is entering data on different disks, you could end up with 10 or 15 disks. You will want to combine the forms contained in these data disks into one file. To do this, use the COPY function from the PFS: File Function Menu. Copy the specific forms, not the entire disk (using the Copy Selected Forms option). You may want to ask students to label their disks with the names of the Presidents they researched, so you know which forms to select for copying.



Page 1



Page 2



Page 3 Figure A

American Presidents

Activity	Objectives	Preparation	Management	Time (per student)
1.	• Brainstorm questions about American Presidents. • Locate sources of historical information. • Select data to use.	• Use the DESIGN function of *PFS: File* to create the Amerpres file design on disk. Make copies for each student pair. • Assign each student pair a list of presidents to work on. • Arrange for students to go to the library to use reference sources, or have those sources available in the classroom.	• Introduce the project and this activity to the class. • Schedule time on the computer for student pairs.	25 minutes
2.	• Gather and organize information from a selection of historical sources. • Summarize information to answer a historical question. • Format data for file.	• Arrange for library use, or have sources available in classroom.	• Help students select the most important achievements of the Presidents they're researching, and help them write short summaries for the file. • Collect filled-in data forms for use in next activity.	45 minutes
3.	• Check data collected for historical accuracy.	• Hand out the filled-in data collection forms to students to check for accuracy. Make sure each student pair receives a form other than the one they themselves filled out.	• Review with students the guidelines for checking the data forms as discussed in the activity. • Collect the checked forms when students finish.	35 minutes
4.	• Enter data into a computerized data base. • Proofread and edit data. • Add new forms to the file.	• Set up the printer. • Distribute disks with Amerpres file design to each student pair. • Hand out checked data forms.	• Schedule time on the computer for student pairs. • Help students understand the questions being asked. • Help students debug their printouts.	45 minutes

(Continued on next page.)

Activity	Objectives	Preparation	Management	Time (per student)
5.	• Define a historical problem and the information needed to answer it. • Organize collected data. • Plan printout.	• Copy the Amerpres file from the master disk onto the working disks. • Schedule time on computer for student pairs.	• Help students choose their projects. • Label disks so that each student pair can identify the disk containing their Pre-defined Print Spec.	35 minutes
6.	• Analyze a printout of historical data. • Determine whether additional information is needed. • Print using Pre-defined Print Spec, and interpret printout.	• Give student pairs the Amerpres file disk with their Pre-defined Print Spec. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students to interpret data and to decide what further information would help them answer their original questions. • Display students' printouts on the wall so students can learn from each other's work.	35 minutes
7.	• Update and validate data on file.	• Copy the Amerpres file from the master disk onto the working disks. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students manage the data disks.	Depends on amount of data gathering and file updating to be done.
8.	• Define a historical problem and data needed to solve it. • Organize and analyze data. • Synthesize information and draw conclusions. • Plan printout.	• Copy the Amerpres file from the master disk onto the working disks. • Set up the printer.	• Help students choose their projects. • Help students debug their printouts.	45 minutes

INTRODUCTION

The American Presidents unit of activities will help you learn:

1. How to create and use computer data files about American Presidents
2. Interesting and important information about American Presidents

The skills you develop in creating and using data files will be useful to you not only in your school work, but in organizing information on any subject that is important to you, such as your record album collection, your personal address book, club members and club activity schedules, or paper route customers.

The knowledge you gain about American Presidents, and the file of data you create about the Presidents, will help you study such questions as these:

- Which Presidents were not elected to the Presidency?
- What are the most common previous occupations of American Presidents? What is the best occupation to have if you want to become President? Do you think it is possible for any person to become President of the United States?
- What state has produced the greatest number of Presidents? Were any Presidents from your state?
- Which President served the longest term in office? Which served the shortest?
- Is there any relationship between length of term in office and the achievements made by the President?
- Is there any relationship between length of term in office and whether the country was at war?
- Which Presidents were most effective? What were their achievements?
- Looking at Republican Presidents as a group and Democrat Presidents as a group, do you see any major differences in their achievements?
- Did most Presidents hold a political office prior to becoming President?
- What were the contributions of the Presidents' wives (''First Ladies'')?

The Activities in this Units

This unit of eight activities shows you how to create and use a file of data on American Presidents. Complete the activities in order. Here is a list of the activities:

- Activity 1: Preparing to gather data
- Activity 2: Gathering data on paper forms
- Activity 3: Checking accuracy of data
- Activity 4: Adding new forms to the file
- Activity 5: Planning printouts from the file
- Activity 6: Making the printout
- Activity 7: Updating the file
- Activity 8: Using the file

ACTIVITY 1: PREPARING TO GATHER DATA

What You Will Do

First, you and a partner will use the *PFS: File* program on your computer to print out blank data forms for the American Presidents file. Figure 1 on page 9 shows the form. Next, you'll prepare to gather data about the presidents from reference books.

What You'll Need

1. A *File* data disk called Amerpres, which contains the form design for the file
2. A *File* program disk
3. An Apple *IIe* or IIc computer
4. A printer connected to the computer

Getting a List of Presidents to Work On

There have been forty Presidents so far. If ten pairs of students are creating the file, then each pair of students would gather data on four Presidents. You and your partner need to know which Presidents you're going to gather data on. Your teacher may give you a list of the presidents to work on.

How many Presidents will you and your partner work on? _____

Who are they? _____

_____

Printing Out Your Blank Data Forms

Before you print out your blank data forms, decide how many copies you'll need. Make twice as many blank forms as you have Presidents to work on (some will get messy and you'll have to copy the data over again on a clean form).

How many forms will you print out? _____

Next, follow the procedure below to get your copies of the blank data forms.

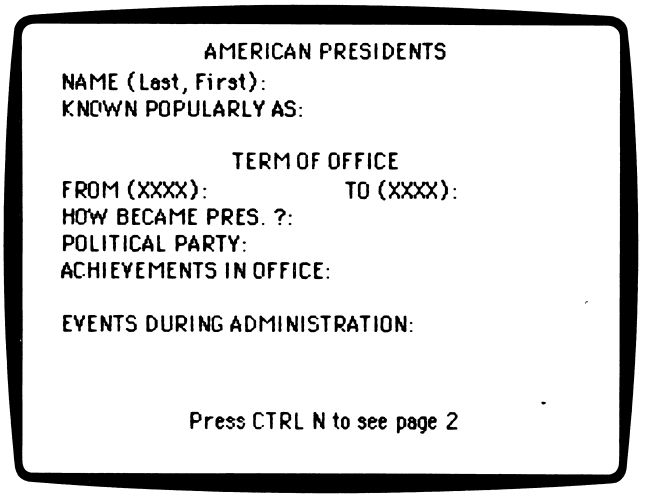
Start up the *File* program. Then place the Amerpres data disk in Drive 1.

The PFS: File Function Menu is on the screen.

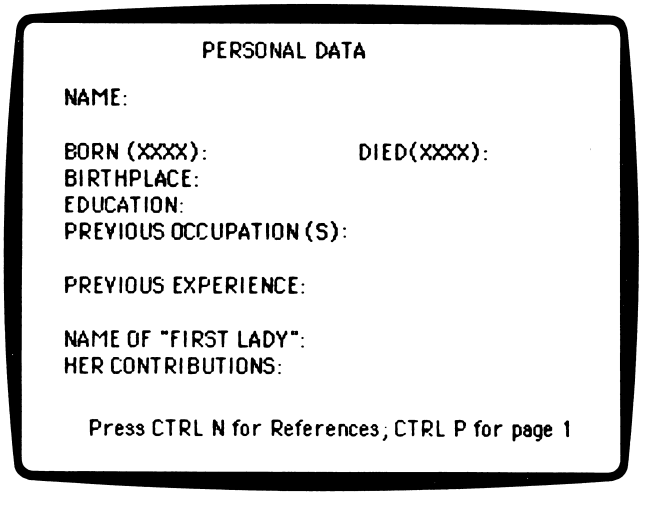
1. Turn the printer on and adjust the paper so that the top of the page of paper is under the print head.
2. Select the ADD function by typing 2 and then pressing **CTRL-C**. The Amerpres form appears.
3. Press **CTRL-O** (the letter O. It stands for "output."). The Print Options Menu appears.
4. Press **TAB** to move the cursor to Add Linefeed Characters. Type Y for "yes."
5. Press **TAB** to move the cursor to Print Item Names and type Y (for "yes").
6. Press **TAB** to move the cursor to Lines Per Page. Type 22.
7. Press **TAB** to move the cursor to Number of Copies. Type the number of copies you need.
8. Press **CTRL-C**. Your printer should begin printing out your blank data forms.
9. When printing is complete, press **ESC** to return to the PFS:File Function Menu.

Follow the standard procedure for ending the session on the computer.

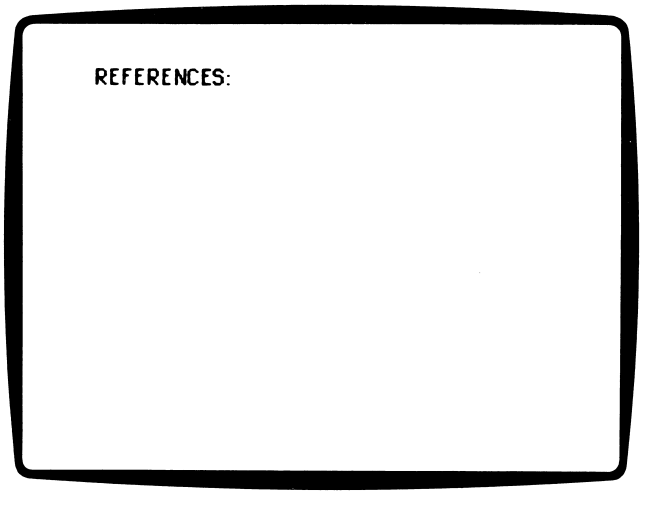
REMINDER: The PFS: File Function Menu must *be on the screen before you remove a data disk.*



Page 1



Page 2



Page 3

Figure 1

Finding and Listing Your References

Figure 2 shows a sample filled-in form for George Washington.

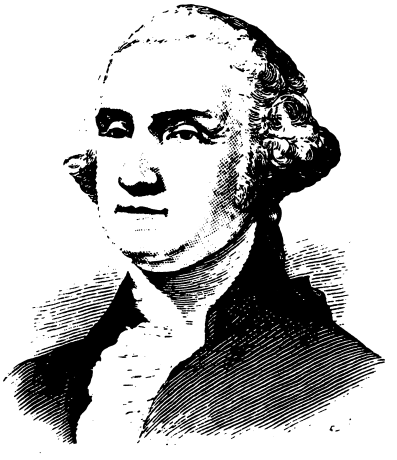
Fill in the NAME item on your blank forms, one form for each President you'll be working on.

Where will you get the data for your Amerpres file? Look in your textbook first, and then visit your school library. There may be other places to find information. These other places include county libraries, local museums, and college libraries.

Go with your partner to the library. Take your blank data forms with you. Look at various reference materials, such as the encyclopedia or *Dictionary of American Biography*. Also, look for biographies of the individual American Presidents. Talk to the librarian about additional reference materials available.

On one of your blank data forms, write the names of the references you intend to use to gather your data. Now, try filling out a form for one of the Presidents. You'll probably need to use more than one reference to get all the data for one President. Take notes on which reference books have which data items in them.

Now you and your partner can divide up the work of gathering data and writing it on your blank data form.



AMERICAN PRESIDENTS

NAME (Last, First): Washington, George
KNOWN POPULARY AS: "First in war, first in peace, first in the hearts of his country men"

TERM OF OFFICE

FROM (XXXX): 1789 TO (XXXX): 1797
HOW BECAME PRES. ?:
POLITICAL PARTY: NONE
ACHIEVEMENTS IN OFFICE: Set precedent for future Presidents; 2 terms; cabinet; put down Whiskey Rebellion, Jay's Treaty
EVENTS DURING ADMINISTRATION: Clashes between Alexander Hamilton (Sec. of Treasury) & Thomas Jefferson (Sec. of State) causes formation of first political parties, French Revolution

Press CTRL N to see page 2

Page 1

PERSONAL DATA

NAME: George Washington

BORN (XXXX): 1732 DIED(XXXX): 1789
BIRTHPLACE: Westmoreland County, VA
EDUCATION: Finished schooling at age 15 yrs.
PREVIOUS OCCUPATION (S): Surveyor

PREVIOUS EXPERIENCE: Fought in French & Indian War; Commander of Continental Army
NAME OF "FIRST LADY":
HER CONTRIBUTIONS:

Press CTRL N for References; CTRL P for page 1

Page 2

REFERENCES:

Webster's American Biographies
1979, p 1097 - 1099

Page 3

Figure 2

ACTIVITY 2: GATHERING DATA ON PRINTED FORMS

Now you're ready to gather data on the Presidents.

What You Will Do

You and your partner will fill in the data on your printed forms (blank data forms), for all the Presidents you're working on.

What You'll Need

1. Your printed data forms and something to write with
2. Reference materials

Gathering Data on Printed Forms

Take your printed forms to the library. Use the reference materials you've already located to look up information on each president. Fill in the data with pencil. On each form, be sure to write down the references you used and include page numbers.

Here are some things to pay attention to in filling out the forms:

- The format for filling in President's name is last name, then first name.
- Fill in the TERM OF OFFICE data item like this: FROM: 1976 to 1980
- On page 2 of the form, fill in the BORN and DIED data items like this: BORN: 1900 DIED: 1980
- There is only a small amount of space in which to fill in the ACHIEVEMENTS IN OFFICE and EVENTS DURING ADMINISTRATION data items. Compose a very short summary to fit the space available.
- Most Presidents have had many achievements while in office. You will have to determine which achievements were the most important. If you and your partner disagree, examine each other's references or discuss this problem with another student or your teacher.
- If you can't find data for every data item, that's okay. Fill in what you can.
- Write your name on the bottom of the References part of each form.

Finishing Up

When you have filled in the data on your forms, turn them in to your teacher. The teacher will give the forms to another student to use in the next activity.

ACTIVITY 3: CHECKING ACCURACY OF DATA

If you have used computerized data files to retrieve information, you know how important it is for the data to be accurate. It's impossible to retrieve information if it's not all in the right format and spelled correctly. For example, suppose a classmate had entered the form for Harry Truman, but had spelled the name "Trumman." You'd have a terrible time finding the form for that President.

What You'll Do

You and your partner will check the data forms prepared by your classmates, and correct mistakes or misspellings.

What You'll Need

1. Printed data forms for American Presidents, filled in by your classmates.

Checking the Accuracy of the Data

Here are some guidelines for checking the data forms:

- First, make sure each form has the REFERENCES data item filled in. If it doesn't, you won't know where your classmates got their data. REFERENCES should include both a book and a page number. If references haven't been included, give them back to your teacher to return to the students who filled them in.
- Next, check the format of the data. Are the TERM IN OFFICE dates written in the correct format (XXXX, such as 1950)? If not, rewrite them in the proper format. An example of an incorrect format is "Jan. '50."
- Now look up the information in the books listed under REFERENCE on each form. Make sure the information is accurate. Make corrections as needed.
- Look at the ACHIEVEMENTS IN OFFICE and EVENTS DURING ADMINISTRATION data items. Do you think the achievements and events listed on the data form are the important ones to put in the computerized file? Are all the words spelled correctly? Make any changes you think are needed. You may want to discuss some of your changes with the classmate who wrote the data on the form.

Finishing Up

When you finish checking and correcting a form, write your name on the bottom of the page. When you finish checking and correcting all the forms, turn them in to your teacher.

ACTIVITY 4: ADDING NEW FORMS TO THE AMERPRES FILE

Now that you have a collection of Presidents data on printed forms, ready and checked for accuracy, it's time to store the data on the file disk.

What You'll Do

You and your partner will work together to type data into the American Presidents file.

What You'll Need

1. A set of printed forms that have been filled in by classmates (not you and your partner) and checked by another pair of classmates (not you and your partner)
2. A *File* program disk
3. An Amerpres data disk
4. An Apple *II*e or IIc computer

Entering Data

Decide with your partner how you will work together to enter the data. One person should work on the keyboard while the other reads the instructions and data. Take turns doing this.

Start up *File* in the usual manner. Put the Amerpres data disk in Drive 1. The PFS:File Function Menu is on the screen.

1. Select the ADD function by typing 2.
2. Press **TAB** to move the cursor to Filename.
3. Type AMERPRES, and then press **CTRL-C**.

Now type the data for your first president. Partner 1 reads the data from the printed form out loud, while Partner 2 types the data.

Both partners should proofread the data on the screen. If you see a mistake, use **TAB** and **APPLE-TAB** to move the cursor back and forth between the data items. Use the arrow keys to move the cursor within a data item. Correct mistakes by typing over them.

If you make a big mess and want to start all over again, just press **ESC**. This takes you back to the PFS: File Function Menu without storing the messy form.

When you agree that the data is accurate, press **CTRL-C** to store the form. Continue until you've entered the data for all Presidents.

Finishing Up

Follow this procedure after you've typed the data onto the data forms:
1. When a blank form appears and you don't have any more Presidents to add, press **ESC**. The PFS: File Function Menu appears.
2. Remove the Amerpres data disk drive from the disk and put the disk in its protective jacket.
3. Turn the computer off, unless someone else is waiting to use the same program.
4. Put the program and data disks where your teacher has instructed you to keep them.

ACTIVITY 5: PLANNING PRINTOUTS OF THE AMERPRES FILE

Now that you and your classmates have stored data on American Presidents into the Amerpres file, you can use the file to get information in all kinds of useful ways.

What You Will Do

You and your partner will plan a printout from the file and define a Print Spec.

Your creative challenge is to define a question or problem that is interesting to you, and to produce a printout that is useful in answering that question or problem.

Use the worksheet on page 19 to help plan your printout.

What You'll Need

Before you go any further, make sure that someone has made a backup copy of the Amerpres data disk containing the data forms for all the Presidents.

You will need:

1. A worksheet for planning printouts
2. A printed copy of the Amerpres data form (either blank or with data written on it)
3. A *File* program disk
4. An Amerpres data disk
5. An Apple *II*e or IIc computer

Defining Your Problem

Look at the list of questions at the beginning of the Presidents unit. What question do you find interesting? Discuss with your partner what question or problem you want to work on. You don't have to use exactly the same problem or question from the list, but the list may suggest some ideas to you.

What question will you and your partner try to answer? Write it on your planning worksheet.

Planning Your Printout

What information from the Amerpres file will be useful to you in answering your question?

You and your partner should have in front of you a printed copy of the Amerpres data form. Discuss with your partner what you want your printout to look like. Here are some questions to discuss:

1. Which data items do you want on the printout? For example, you might print just the President's NAME and TERM OF OFFICE. (But that wouldn't tell you a whole lot.) If your question relates to the political party and achievements in office, you probably would want the President's NAME, POLITICAL PARTY, and ACHIEVEMENTS IN OFFICE.

On your planning worksheet, write a list of the data items you want to include in your printout.

2. In what order do you want the forms to be printed? Think about this carefully. For example, if you are looking at the Presidents' political parties, you might want to sort the forms by POLITICAL PARTY, so that all the Presidents for one party would be grouped together. Or, if you are interested in the occupations of Presidents, you would want to sort by OCCUPATION.

Write on your planning worksheet the data item you will use for sorting forms for the printout.

3. Which Presidents do you want included in your printout? For example, you might want data only for Presidents during the 1800s. If you are studying the Presidents who came from Virginia, you might want to include only Presidents who where born in Virginia. You can include all the data forms if you want. There are many possibilities.

Write on your planning sheet the Retrieve Specs you'll use \ to select the forms for printing. For example, if you want to select all Presidents whose term of office started in the 1800s, use Term of Office FROM:-1800..1899

4. You'll need to use a special procedure to set up your printout with the right spacing. There are two major considerations:

- Each form in the file has three pages of data. Will your printout include data items from just one of those pages? Two of the pages? Or all three?
- How many lines will be printed from each of the three pages of the form (depending on which data items you will be printing). For example, NAME takes only one line, while ACHIEVEMENTS IN OFFICE can take up to four lines.

Here's a formula for setting up your printout with the correct spacing:

1. Write the number of lines you think will be printed from each page of the data form:

Number of lines from page 1 of the form: _____

Number of lines from page 2 of the form: _____

Number of lines from page 3 of the form: _____

2. Add 3 to the largest number above: _____

3. Does this number divide equally into 66?

If yes, then this is the number of Lines Per Page you will put in your Print Options menu.

Number for Lines Per Page: _____

If no, then pick the next larger number that divides equally into 66. For example, if the number in Step 2 (above) was 9, the next larger number that divides equally into 66 is 11.

Number of Lines Per Page: _____

What will you name your Pre-defined Print Spec? Remember, the name must be eight characters or less. The name should be meaningful to you. You might use your own last name. Better yet, give the Pre-defined Print Spec a name that has something to do with your printout. For example, a printout of first ladies might have a Pre-defined Print Spec called Ladies.

Write on your planning worksheet the name you will give to your Pre-defined Print Spec.

Defining Your Print Spec

Now, you and your partner are ready now to take your planning worksheet to the computer and define your Print Spec. Here's the procedure:

Start up the *File* program as usual. Put the Amerpres data disk in Drive 1. The PFS: File Function Menu is on the screen.

1. Select Print by typing 5, and then press **CTRL-C**. The Print Menu appears.
2. Select Define Print Spec by typing 2, and then press **CTRL-C**. The Pre-defined Print Spec Menu appears.
3. Respond to the PRINT SPEC NAME prompt by typing the name you've chosen for your Print Spec.
4. Press **CTRL-C**. The blank Print Spec form appears.
5. Look at your list of the data items you want printed.
6. On the Print Spec blank form, type an X in each data item you want to have printed on the printout. Press **TAB** to move the cursor from one data item to another. Press **CTRL-N** and **CTRL-P** to get back and forth between the pages of the form.
7. Type S in the data item you want to use for sorting. If you also want that data item to be printed, you also need an X in that data item.
8. When your Pre-defined Print Spec is filled out the way you want it, press **CTRL-C**. The *File* program automatically stores your Print Spec on the Amerpres data disk.

*REMINDER: You can always press **ESC** and start over again if you make a mistake.*

Finishing Up

End the session on the computer in the usual manner, putting the disks where they belong.

NOTE: Please save your planning notes to use in the next activity!

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

What data items will be included on the printout? _____

_____ _____ _____

Which data item will be used for sorting the printout? _____

Setting up a Pre-Defined Print Spec

What will you name the Pre-defined Print Spec? (1– 8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? ____

How many times do you need to print from each form page? ____
Use this number in the Lines Per Page option.

ACTIVITY 6: MAKING THE PRINTOUT

You've planned your printout and prepared a Pre-defined Print Spec. In this activity, you'll print out your data and use the data to answer the questions you originally posed.

What You'll Do

You'll print out the data, using your Pre-defined Print Spec. Then you'll analyze the printout and decide whether the information on it helps you answer your original question. Finally, you'll decide what additional information you need to answer your question.

What You'll Need

Before you continue, make sure that someone has made a backup copy of the Amerpres data disk containing the data forms for all the Presidents.

You also need:

1. The planning worksheet from the last activity when you were planning your printout
2. A *File* program disk
3. An Amerpres data disk
4. An Apple *IIe* or IIc computer
5. A printer connected to the computer

Printing Your Data

Now you're ready to print the data from your Amerpres file. Start up the *File* program in the usual manner.

The PFS:File Function Menu is on the screen and Amerpres data disk is in Drive-1.

1. Turn the printer on and adjust the paper.
2. Select PRINT by typing 5 and then pressing **CTRL-C**. The PRINT Menu appears.
3. Select Print Forms by typing the number 1 and then pressing **CTRL-C**. A Retrieve Spec appears. Refer to your notes. Which data items were you planning to use to select forms for printing?
4. Type your Retrieve Specs. Press **CTRL-C** to continue.
5. The Print Options Menu appears. Type the name of your Pre-defined Print Spec.
6. Press **TAB** to move the cursor to Lines Per Page. Refer to your planning notes. How many Lines Per Page did you need? Type in your number.
7. Press **TAB** to move the cursor to Number of Copies. Type 1.
8. Press **CTRL-C** to continue.

The printout begins. If it doesn't, check to make sure the printer is turned on and properly connected to your computer. Make sure there is paper in the printer.

Finish your session on the computer in the usual manner.

Using the Printout to Answer Your Question

Look over your printout. Does it look the way you expected it to look? Does it give you the information you want? Do you think the data are accurate? Why or why not?

Decide whether the information on your printout is enough to answer the question you had set up. Sometimes you have too much information! If that happens, take a pencil and circle the information that is directly related to your question or problem.

Sometimes you have to study the data for a while, and make some judgments and interpretations. For example, if your question related to the most common occupation of Presidents, it might take you a while to study your printout and look at the occupations of all the Presidents. Then make the judgment.

Sometimes you'll find that the data isn't in exactly the right order to be useful. For example, if your question is about the states the Presidents came from, but you sorted your data by term of office, it will be hard to analyze the information.

In some cases, the data in the Amerpres file can only give you part of the answer to your question. You may need to look up more information in the library.

Try to summarize your answers to the original question, based on the information in your printout. If this is impossible, decide instead what additional information you need in order to answer the question.

Answer or additional information needed: _____

_____

_____

Finishing Up

It might be fun to tape everyone's printout on the wall for a couple of days, so everyone will have a chance to study the data.

As you are looking at your printout and the printouts your classmates have made, notice any data that you think is wrong. Circle the data item on the printout with a pencil or pen. Is there some data missing that you know how to fill in? Write it on the printout.

Talk with your classmates about what you learned from their printouts.

ACTIVITY 7: UPDATING THE FILE

By now you and your classmates have probably discovered some errors or missing data in the Amerpres file.

What You'll Do

You and your partner will work together to update the forms for certain Presidents, correcting errors and filling in missing data.

Which Presidents' forms are you and your partner responsible for updating?

_____ _____

_____ _____

_____ _____

What You'll Need

1. An Apple *II*e or IIc computer
2. An Amerpres data disk
3. Printouts on which your classmates have circled errors

Getting Copies of the Data Forms

Make a printed copy of the data form for each of the Presidents you are working on. Here's one way to make these forms:

Start up the *File* program in the usual manner. The PFS: File Function Menu is on the screen and the Amerpres data disk is in Drive 1.

1. Turn the printer on and adjust the paper.
2. Select SEARCH/UPDATE by typing 4. Press **CTRL-C**. A blank Retrieve Spec form appears.
3. Use the Retrieve Spec to search for the first president you'll be working with. When the President's data form comes on the screen, press **CTRL-O**. The Print Options Menu appears.
4. Press **TAB** to move the cursor to Lines Per Page and type 22.
5. Press **CTRL-C**. The form should begin printing.
6. Press **ESC** to return to the PFS:File Function Menu.
7. Repeat this procedure until you've gotten a copy of the data form for each of your presidents.
8. End the session on the computer in the usual manner.

Handwriting Your Updates

Use your paper data forms to write down corrections and additions to the data. You may get some help from the notes your classmates have been making on everyone's printouts. You may have to go to the library and look up some of the missing information.

When you have typed onto the printed forms all the corrections and additions you can, you're ready to update the Amerpres data disk.

Updating the Amerpres Data File

Here's the procedure:

1. Start up the *File* program as usual. The PFS: File Function Menu is on the screen and the Amerpres data disk is in Drive 1.
2. Select SEARCH/UPDATE by typing 4. Press **CTRL-C**.
3. On the Retrieve Spec, type the name of the first President you want to update.
4. When the President's data form appears on the screen, type in your additions and corrections. Refer to your paper update forms for the new or changed data.
5. After you update a form, press **CTRL-C**.
6. Press **ESC** or **CTRL-C** to return to the PFS: File Function Menu.
7. Continue updating forms until you have finished all your presidents.
8. End the session in the usual manner.

ACTIVITY 8: USING THE AMERPRES FILE

Now you and your classmates have a tested and updated file of data on American Presidents. You've already learned a lot about American Presidents, and now you can learn even more by using the Amerpres file to help in your studies.

What You'll Do

Use the planning worksheet to plan your project. Then get the printouts you need to answer the questions.

Suggested Projects

Here is a list of suggested projects you can do with your files. In many cases you will need to get several different printouts in order to answer the questions completely. Have fun!

- Is there a relationship between the length of time a President was in office, and whether the country was at war at that time? Find out which Presidents served the longest terms, and which Presidents served the shortest terms. Find out which Presidents were in office during times of war. Is there any relationship between these three sets of data?
- Conduct a panel discussion on the topic, "How to Prepare to Become an American President." To prepare for the panel discussion, get printouts from the file that show the education, political party, previous occupations, and previous experience of the Presidents.
- Make a bulletin board display of the American Presidents. Include information from your printouts. Prepare special printouts that illustrate interesting collections of data about certain Presidents.
- Prepare for "Meet the President" week. Choose a President and play the role of that person. Using information from the Amerpres file, prepare a description of your role. When the week is over, hold an election to decide who was the most effective President. On the next week, you might conduct a "Meet the First Lady" day.
- Write a "Help Wanted" advertisement for the job of American President in the year 2000. What kind of background would you expect? What experience? What occupation? Compare this description to the same kind of information about a President from the early 1800s. Have Presidents changed over the years?

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

What data items will be included on the printout? _____

_____ _____ _____

Which data item will be used for sorting the printout? _____

Setting up a Pre-Defined Print Spec

What will you name the Pre-defined Print Spec? (1– 8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____
2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many times do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Scholastic pfs: U.S. History Data Bases

Local History

LOCAL HISTORY: LESSON PLANS

Content Overview

The activities in this unit teach students how to create a data file that has already been designed. The file focuses on the events and people that shaped the development of the area you live in. The file design is named Local, but you may want to give it the name of your town, county, or city.

This file can teach your students a lot about where they live, and may also arouse their interest in oral history, as they learn that the memories and experiences of community members are a valuable resource.

Building the file is a class project. You'll have to divide the class into pairs of students, and assign each pair the responsibility of gathering data for a few different events. If the project is planned and well organized, the resulting file may be useful not only to your class but to the community at large. Other community members, such as the local historical society, may even be interested in participating.

The activities in this unit carefully describe how to build a file, and suggest the kinds of data that will be useful, but the final "look" of the file is open-ended. You and your class should discuss the type of events you want to concentrate on. The clearer you are as to your goal, the more useful the data file will be.

The file design appears on the next page, and also in the student activities. You should feel free to tinker with it to tailor it to your curriculum needs.

Key Topic Areas in United States History

The major topics covered are Local history and Oral history.

Description of File Contents and Organization

The form design is named Local, but you might choose the name of your town, county, or city. The form design is two pages (screens) long. See Figure A.

Page 1

Each form covers one EVENT, which is described on page 1. Data on page 1 includes the year the EVENT occurred, the PEOPLE INVOLVED, WHAT HAPPENED, WHERE, and the PREVIOUS EVENTS leading up to this event.

You'll also find a data item called TYPE. Use it to classify an event by category, so that you'll have a way to retrieve all events that have something in common. In the example file for Rappahannock County, we used these types to categorize events:

Education	Taxes	Transportation	Business
Government	Population	Nature	Agriculture
Legislation	War		

Page 2

Students use page 2 of the form to personalize the file by writing their own observations. For example, a student might go and look at a historic building involved in an important event. Students also note down the references they use on page 2 to gather data.

Grade Level Suggestions

This unit is suitable for students in fifth grade and above. It gives students a chance to do serious research by going out into the community and gathering data.

The difficulty level of these activities depends mostly on how complex the research questions are that the class sets out to answer. For example, younger students might focus on two or three types of events within one particular period of history, while older students can look for trends and relationships among several types of events over a longer period of time.

Teaching Tips

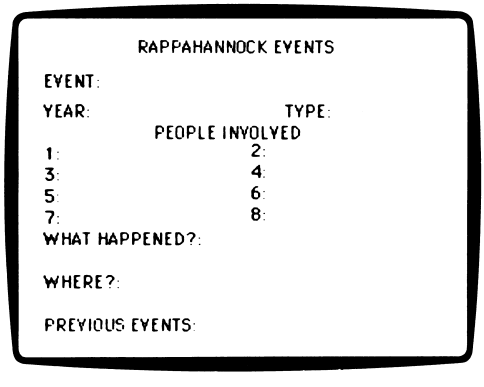
You can tailor the learning experience to your curriculum by asking students to answer questions that are closely tied to your own teaching objectives.

Hardware Needed

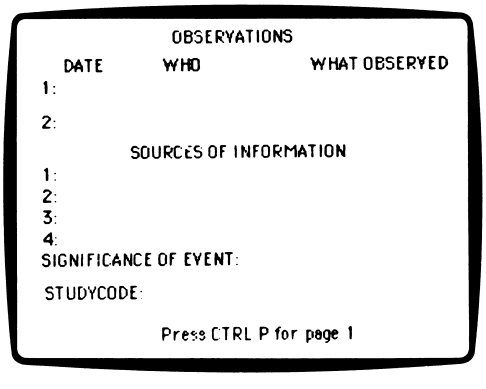
Each activity tells what equipment and software is needed. No equipment is needed for Activities 2 and 3. The other activities require an Apple *IIe* or IIc computer, one disk drive, a monitor, and a printer.

Disk Management

If each student pair is entering data on different disks, you could end up with 10 or 15 disks. You want to combine the forms contained in these data disks into one file. To do this, use the COPY function from the PFS: File Function Menu. Copy the specific forms, not the entire disk (using the Copy Selected Forms option). You may want to ask students to label their disks with the events they researched, so you know which forms to select for copying.



Page 1



Page 2 Figure A

Local History

Activity	Objectives	Preparation	Management	Time (per student)
1.	• Brainstorm ideas about local history. • Locate sources of historical information. • Select data to use.	• Prepare a list of ideas for research projects to discuss with class. • Use the DESIGN function of *PFS: File* to create the Local file design on disk. Make copies for each student pair.	• Introduce the project and the activity to the class. • Schedule time on the computer for student pairs.	One class period
2.	• Gather and organize information from a selection of historical sources. • Summarize information to answer a historical question. • Format data for file.	• Arrange for students to use library, historical society, or other resources for gathering data, or have reference sources available in the classroom.	• Assist students in locating sources of information. • Assist students in selecting events to describe. • Assist students in writing short summaries for the file. • Collect filled-in data forms for use in next activity.	Depends on complexity of project. Some research may be assigned for homework.
3.	• Check data collected for historical accuracy.	• Hand out the filled-in data collection forms to students to check for accuracy. Make sure each student pair receives a form other than the one they themselves filled out.	• Review with students the guidelines for checking the data forms as discussed in the activity. • Collect the checked forms when students finish.	35 minutes
4.	• Enter data into a computerized data base. • Proofread and edit data. • Add new forms to the file.	• Set up the printer. • Distribute disks with Local file design to each student pair.	• Hand out checked data forms. • Schedule time on the computer for student pairs.	15–45 minutes, depending on number of data forms each student pair is to enter.
5.	• Define a historical problem and the information needed to answer it. • Organize collected data. • Plan printout.	• Copy the Local file from the master disk onto the working disks.	• Schedule time on computer for student pairs. • Help students choose their projects. • Label disks so that each student pair knows which disk contains their Pre-defined Print Spec.	35 minutes

(Continued on next page.)

Activity	Objectives	Preparation	Management	Time (per student)
6.	• Analyze a printout of historical data. • Determine whether additional information is needed. • Print using Pre-defined Print Spec, and interpret printout.	• Give student pairs the Local file disk that has their Pre-defined Print Spec. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students to interpret data and to decide what further information would help them answer their original questions. • Display student printouts on the wall so students can learn from each other's work.	35 minutes
7.	• Update and validate data on file. • Collect data to be entered.	• Copy the Local file from the master disk onto the working disks. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students manage the data disks.	Depends on amount of data gathering and file updating to be done.
8.	• Determine a historical problem and data needed to solve it. • Organize and analyze data. • Synthesize information and draw conclusions. • Plan, print, and interpret printout.	• Copy the Local file from the master disk onto the working disks. • Set up the printer.	• Help students choose their projects. • Help students debug their printouts.	45 minutes

INTRODUCTION

This series of activities will help you learn:

1. How to create and use computer data files; and
2. About the history of your city, town or county

The skills you develop in creating and using data files will be useful to you not only in your school work, but in organizing information on any subject that is important to you, such as your record album collection, your personal address book, club members and club activity schedules, or paper route customers

When you investigate the history of your town or county, and then use the file of data you create, you can study many different aspects of your local area. Here are a few of the kinds of themes you might research:

- the history of certain buildings in your city or county
- important events in certain periods of the history of your area, such as the Civil War period or the Great Depression period
- roles of key people or families
- development of transportation in your area
- changing population trends
- history of your schools
- how business and industry grew and changed
- the factors that affected your local economy

The Activities in this Unit

This unit of eight activities shows you how to create and use a file of data on local history. Complete the activities in order.

Here is a list of the activities:

- Activity 1: Preparing to Gather Data
- Activity 2: Gathering Data on Printed Forms
- Activity 3: Checking Accuracy of Data
- Activity 4: Adding New Forms to the File
- Activity 5: Planning Printouts From the File
- Activity 6: Making the Printout
- Activity 7: Updating the File
- Activity 8: Using the File

ACTIVITY 1: PREPARING TO GATHER DATA

What You Will Do

First, you'll discuss with your teacher and classmates what kinds of information your class will gather. Then you and a partner will use the PFS:*File* program on your computer to print out blank data forms for the local history file. The form is shown on page 9.

What You'll Need

1. A *File* data disk called Local, which contains the form design for the file
2. *File* program disk
3. An Apple *II*e or IIc computer
4. A printer connected to the computer

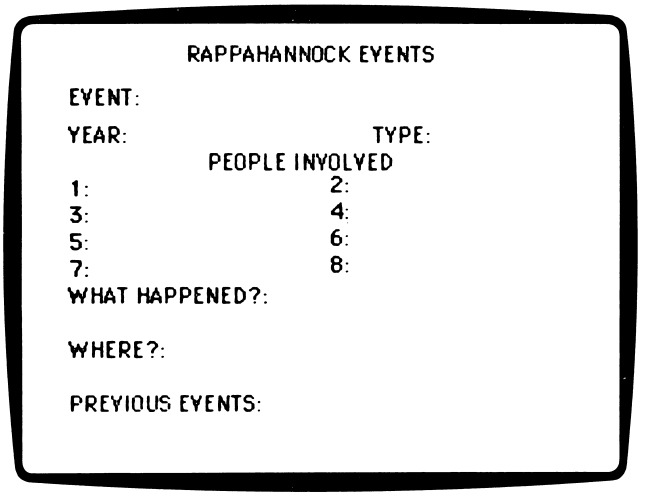
Planning Your Research

Your teacher will lead a class discussion about the kinds of research questions your class might investigate. It's important for you and your classmates to be clear about what questions you want to be able to answer with your file. You need to get clear about this *before* you start gathering data.

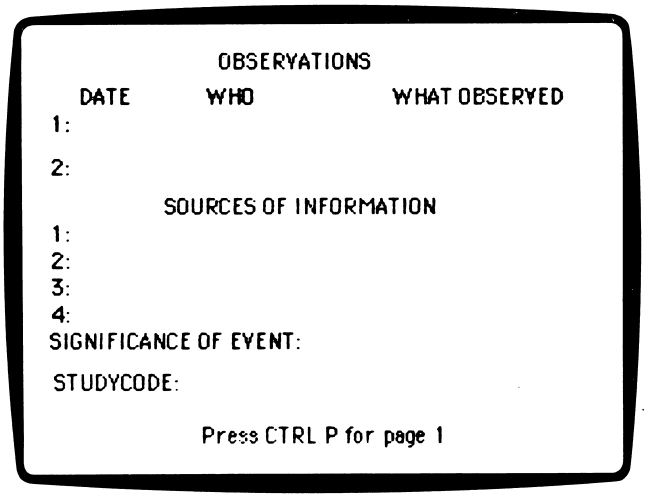
Decide on Your Topic or Research Questions

You might decide to study a particular era of history in your town, say the Civil War period. Or you might choose a particular issue to investigate:

> *EXAMPLE:* In studying the history of Rappahannock County, Virginia, we were interested in the changes in our local schools. Today there are only two schools in the county — one elementary school and one high school. In the 1800s there were dozens of small local schools throughout the county. We wondered, what happened to them? What factors in our history contributed to this consolidation of schools?
>
> We discussed some possibilities. Better roads and vehicles may have made it possible to transport students to more distant schools. Maybe it had something to do with state requirements for school facilities. Perhaps it had to do with population changes in the county, or the costs of operating schools.
>
> We decided to gather data on schools and their locations; school populations at different points in time; events in transportation; state legislation that affects schools; and the economy in the county.



Page 1



Page 2 Figure 1

Decide Who Will Gather Which Data

Once you and your classmates have listed the kinds of data to be gathered, you have to decide how to split up the work. Who will gather which data?

> *EXAMPLE:* For our study of school consolidation, one team gathered data on the schools and school populations at different times. Another team gathered data related to transportation, especially roads. Other teams looked for events related to state requirements for schools, and data related to the costs and financing of schools.

The Local file is organized around events. If you look at the form for the Local file, you see there is a data item called TYPE. This data item is used to categorize the events according to a standard set of categories. During the class discussion, you and your classmates will discuss what types of events you are including in your file, and what the definitions are for each of these types.

> *EXAMPLE:* For the study of schools in Rappahannock County, we used these types of events:
>
> EDUCATION
> GOVERNMENT
> LEGISLATION
> TAXES
> POPULATION
> WAR
> TRANSPORT
> NATURE
> BUSINESS
> AGRICULTURE

Depending on what questions your class is studying about your local history, you might set up different types, such as ARCHITECTURE or IMMIGRATION or FAMILIES.

What types of events or data items are you and your partner responsible for gathering?

_____

_____

Printing Out Blank Data Forms

Before you print out your blank data forms, decide how many copies you'll need. Make twice as many blank forms as you have events to work on (some will get messy and you'll have to copy the data over again on a clean form).

How many forms will you print out? _____

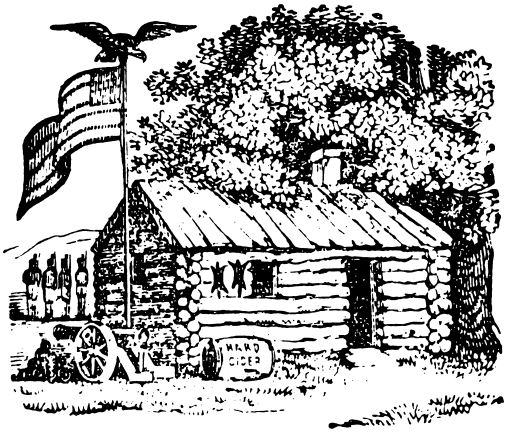
Start the *File* program. Then place the Local data disk in your drive. Next, follow the procedure below to get your copies of the blank data forms.

The PFS: File Function Menu is on the screen.

1. Turn the printer on and adjust the paper so that the top of a page of paper is under the print head.
2. Select the ADD function by typing 2, and then press **CTRL-C.** The Local form appears.
3. Press **CTRL-O** (the letter O). The PRINT Options Menu appears.
4. Press **TAB** to move the cursor to Add Linefeed Characters. Type Y for "yes."
5. Press **TAB** to move the cursor to Print Item Names.
6. Press **TAB** to move the cursor to Lines Per Page. Type 22.
7. Press **TAB** to move the cursor to Number of Copies. Type the number of copies you need.
8. Press **CTRL-C.** Your printer should begin printing out your blank data forms.
9. When printing is complete, press **ESC** to return to the PFS:File Function Menu.

Follow the standard procedure for ending the session on the computer.

REMINDER: The PFS:File Function Menu must *be on the screen before you remove a file disk from the drive. If something else is on the screen when you remove the disk or turn off the computer, you may erase data from the disk.*



ACTIVITY 2: GATHERING DATA ON PRINTED PAPER FORMS

Now you're ready to gather the data on the events.

What You'll Do

You and a partner will find out where to get the data you need for your research. Then you and your partner will fill in the data on your paper forms (blank data forms), for all the events you're working on.

What You'll Need

1. Your notes about the types of events you're going to gather data on
2. Your printed data forms
3. Reference materials

Finding and Listing Your References

Figure 2 shows a sample form for one event in the Rappahannock events file.

Where will you get the data for your Local file? You may have books about your local history in your school library, county libraries, local museums, local historical society, or college libraries. Or, your research may involve interviewing older people who have lived in your town for a long time, or people involved in your local historical society. Your teacher may have prepared a list of suggested sources of information.

Go with your partner to the library. Take your blank data forms with you. Look at various reference materials, such as books about your city or area. Also, look for biographies of the individual people or families in your local history. Talk to the librarian about additional reference materials available.

On one of your blank data forms, write the names of the references you intend to use to gather your data. Now, try filling out a form for one of the events. You'll probably need to use more than one reference to get all the data for one event. Take notes on which reference books have which data items in them.

Now you and your partner divide up the work of gathering data and writing it on your blank data forms.

RAPPAHANNOCK EVENTS

EVENT: Rappahannock High School Built

YEAR: 1960 TYPE: Education

PEOPLE INVOLVED

1: Q.D. Gasque Supt. 2: W.C. Campbell Schbd.
3: 4:
5: 6:
7: 8:

WHAT HAPPENED?: Present H.S. built for about $230,000. Enrollment in 1960 was 298

WHERE?: Between Sperryville & Washington

PREVIOUS EVENTS:

Page 1

OBSERVATIONS

	DATE	WHO	WHAT OBSERVED
1:			
2:			

SOURCES OF INFORMATION

1: Johnson, Rapp.Hist., p. 215
2:
3:
4:

SIGNIFICANCE OF EVENT:

STUDYCODE:

Press CTRL P for page 1

Page 2 Figure 2

Gathering Data on Printed Forms

Use the reference materials you've already located to look up information on each event. Fill in the data with a pencil. On each form, be sure to write down the references you used and include page numbers.

Here are some things to pay attention to in filling out the forms:

- For the EVENT, try to make up a short phrase that tells just what the event was. Figure 3 shows examples of events for the Rappahannock file.
- For YR, use all four digits, such as "1871" or "1950." Don't abbreviate in any way, such as '84.
- The word you use for TYPE is very important. It requires judgment on your part. Be sure you are clear about how you decide on the TYPE for each event. You may have to discuss this with your partner. Also, be sure you always spell the same type in the same way. For example, FARM is a different word from FARMING. Decide which word you'll use, and always use the same word for the same type of event.
- There is only a small amount of space in which to fill in the WHAT HAPPENED?, WHERE?, PREVIOUS EVENTS, and SIGNIFICANCE OF EVENT data items. You'll have to compose a very short summary to fit the space available.
- When you first start gathering data, you might not know the previous events or significance of an event. It's okay to just leave these data items blank for now. You'll know more about this after you've worked with the file for a while.
- If you're studying particular buildings or certain locations in your city, the way you fill in the WHERE? data item is very important. Just as you standardized the TYPE of event, you may also need to standardize the way you write the names of certain buildings or neighborhoods.
- The OBSERVATIONS data item is a chance for you to tell what you observed about this event. For example, you may actually go and look at a certain building or battlefield, and tell what you observed. Write down the DATE you made this observation and your initials (WHO).
- SOURCES OF INFORMATION is where you tell how you got this information. It might be a page in a published book, an old new article, or an interview with someone. Example: author, title, volume, page #.
- If you can't find data for every data item on the form, just fill in as much as you can.
- Write your name on the bottom of each paper form you fill out.

Finishing Up

When you have filled in the data on your forms, turn them in to your teacher. The teacher will give the forms to another student to use in the next activity.

Transportation

YR	RAPPAHANNOCK EVENTS
1975	Gravel Roads decrease to 139.95 miles
	Hard-topped Roads increase to 78.67 miles
1976	Gravel Roads decrease to 139.70 miles
	Hard-topped Roads increased to 78.92 miles
1978	Gravel Roads continue at 139.70 miles
	Hard Topped Roads Maintained at 78.92 miles
1980	Gravel Roads decrease to 127.62 miles
	Hard-topped Roads increase to 91.00 miles
	Primary Roads at 53.87 miles

Figure 3

ACTIVITY 3: CHECKING ACCURACY OF DATA

If you have used computerized data files to retrieve information, you know how important it is for the data to be accurate. It's impossible to retrieve information if it's not all in the right format and spelled correctly. For example, suppose a classmate had entered the form for a WAR type event, but had spelled it WER. If you printed a list of all the WAR events, you wouldn't get that one.

What You'll Do

You and your partner will check on the accuracy of the data forms prepared by your classmates, and correct mistakes or misspellings.

What You'll Need

1. Printed data forms for Local, filled in by your classmates

Checking the Accuracy of the Data

Here are some guidelines for checking the data forms:

- First, make sure each form has the SOURCES OF INFORMATION data item filled in. If it doesn't, you won't know where your classmates got their data. SOURCES OF INFORMATION should include both a book and a page number. If SOURCES OF INFORMATION haven't been included, give them back to your teacher to return to the students who filled them in.
- Next, check the TYPE of event. Is it spelled correctly? Is it on the list of types of events your class had agreed upon (in Activity 1)?

Now look up the information on the form, in the books listed under SOURCES OF INFORMATION on each form. Make sure the information is accurate. Make corrections as needed.

Look at the WHAT HAPPENED? description. Does it make sense to you? Can you understand the description of what happened? Are all the words spelled correctly? If you don't think the event is explained clearly, discuss this with the person who wrote the description or rewrite it yourself.

Finishing Up

When you finish checking and correcting a form, write your name on the bottom of the page.

When you finish checking and correcting all the forms, turn them in to your teacher.

ACTIVITY 4: ADDING NEW FORMS TO THE LOCAL FILE

Now that you have a collection of events data on printed forms, read and checked for accuracy, it's time to store the data on the file disk.

What You'll Do

You and your partner will work together to type data into the Local file.

What You'll Need

1. A set of printed forms that have been filled in by classmates (not you and your partner), and checked by another pair of classmates (not you and your partner).
2. A *File* program disk
3. A Local data disk
4. An Apple *IIe* or IIc computer

Getting Ready to Enter Data

Decide with your partner how you will work together to enter the data. One person should work on the keyboard while the other reads the instructions and data. Take turns doing this.

Start up *File* in the usual manner. Put the Local data disk in Drive 1. The PFS: File Function Menu is on the screen.

1. Select the ADD function by typing 2.
2. Press **TAB** to move the cursor to FILE NAME.
3. Type: Local, and then press **CTRL-C**. A blank form appears.

Now type the data for your first event. Partner 1 reads the data from the paper form out loud, while Partner 2 types the data.
Both partners should proofread the data on the screen. If you see a mistake, use **TAB** and **APPLE-TAB** to move the cursor back and forth between the data items. Use the arrow keys to move the cursor within a data item. Correct mistakes by typing over them.

Use **CTRL-N** and **CTRL-P** to move back and forth between the pages of a form.

If you make a big mess and want to start all over again, just press **ESC**. This takes you back to the PFS: File Function Menu without storing the messy form.

When you agree that the data is accurate, press **CTRL-C** to store the form. Continue until you've entered the data for all events on your printed forms.

Finishing Up

Follow this procedure after you've typed the data onto the data forms.

REMINDER: Do not remove the data disk from the disk drive unless the PFS:File Function Menu is on the screen. Removing the data disk at any other time can result in loss of data.

1. When a blank form appears and you don't have any more events to add, press **ESC**. The PFS: File Function Menu appears.
2. Remove the Local data disk from the disk drive and put the disk in its protective jacket.
3. Turn the computer off, unless someone else is waiting to use the same program.
4. Put the program disk and data disk where your teacher has instructed you to keep them.

ACTIVITY 5: PLANNING PRINTOUTS OF THE LOCAL FILE

Now that you and your classmates have stored data for the local history events on the Local file disk, you can use the file to study the questions you originally set up in Activity 1.

What You Will Do

You and your partner will plan a printout from the file and define a Print Spec. Then you will analyze the data and discover whether you can answer your questions or whether you need to gather more information.

Your creative challenge in this activity is to decide what kinds of information need to be gathered in order to make the file useful for studying the questions you originally set out to answer.

Use the worksheet on page 21 to help plan your printout.

What You'll Need

Before you continue, make sure that someone has made a backup copy of the Local data disk containing the data forms for all the events the students have input.

You will need:

1. A printed copy of the Local data form (either blank or with data written on it)
2. A *File* program disk
3. A Local data disk
4. An Apple *IIe* or IIc computer
5. A worksheet for planning your printout (See page 21.)

Defining Your Problem

Look at the list of questions your class decided to study at the beginning of Activity 1. What question do you find interesting? Discuss with your partner what question or problem you want to work on. You don't have to use exactly the same problem or question from the list, but the list may suggest some ideas to you.

> *EXAMPLE:* In our study of the history of Rappahannock schools, one of our questions was, "When did the small schools close?"

When you're just starting to use a new file such as your Local file, it's useful to begin by asking very general questions, such as "What are all the events in the file, and what are the types of events?" Getting a listing of events by TYPE helps you see whether the TYPE categories are logical and useful.

What question will you and your partner try to answer? _____

_____

_____

Planning Your Printout

What information from the Local file will be useful to you in answering your question?

You and your partner should have in front of you a paper copy of the Local data form. Discuss with your partner what you want your printout to look like. Here are some questions to discuss:

1. Which data items do you want on the printout? For example, you might print just a list of all the events in the file, in order by year. Or you might want a list of all the transportation-type events.

Write on your planning worksheet the data items you want to include in your printout.

2. In what order do you want the forms printed? Think about this carefully. For example, if you are interested in studying the history of particular buildings or neighborhoods, you might sort by WHERE? Or, if you just want a chronology of events of a certain type, you would sort by YR.

Write on your planning worksheet the data item you will use for sorting forms for the printout.

3. Which events do you want included in your printout? For example, you might want data only for events during the 1800s. Or, if you are studying particular neighborhoods, you can include only those forms that have the name of that neighborhood in the WHERE? data item. You can include all the data forms if you want. There are many possibilities.

Write on your planning worksheet the Retrieve Specs you will use to select the forms for printing. For example, if you want all the transportation type events, your Retrieve Spec would be TYPE:Transportation. If you want to select all events in the 1800s, your Retrieve Spec would be:

YR: = 1800 . . 1899

4. You'll need to use a special procedure to set up your printout with the right spacing. There are two major considerations:

- Each form in the file has three pages of data. Will your printout include data items from just one of those pages? Two of the pages? Or all three?
- How many lines will be printed from each of the three pages of the form (depending on which data items you will be printing)? For example, NAME takes only one line, while ACHIEVEMENTS IN OFFICE can take up to four lines.

Here's a formula for setting up your printout with the correct spacing:

1. Write the number of lines you think will be printed from each page of the data form:

Number of lines from Page 1 of the form: _____

Number of lines from Page 2 of the form: _____

Number of lines from Page 3 of the form: _____

2. Add 3 to the largest number above: _____

3. Does this number divide equally into 66? _____

If yes, then this is the number of Lines Per Page you will put in your PRINT Options menu.

Number for Lines Per Page: _____

If no, then pick the *next larger number that divides equally into 66.* For example, if the number in Step 2 (above) was 9, the next larger number that divides equally into 66 is 11.

Number for Lines Per Page: _____

What will you name your Pre-defined Print Spec? Remember, the name must be eight characters or less. The name should be meaningful to you. You might use your own last name. Better yet, give the Pre-defined Print Spec a name that has something to do with your printout. For example, a printout of just EVENT and WHERE? might be called "PLACES."

Write on your planning worksheet the name you will give to your Pre-defined Print Spec.

Defining Your Print Spec

Now, you and your partner are ready to take your notes to the computer and define your Print Spec. Here's the procedure:

Start up the *File* program as usual. Put the Local data disk in Drive 1. The PFS: File Function Menu is on the screen.

1. Select PRINT by typing 5, and then press **CTRL-C**. The PRINT Menu appears.
2. Select Define Print Spec by typing 2, and then press **CTRL-C**.
3. Respond to the PRINT SPEC NAME prompt by typing the name you've chosen for your Print Spec.
4. Press **CTRL-C.** The blank Print Spec form appears.
5. Look at your list of the data items you want printed.
6. On the Print Spec blank form, type an X in each data item you want to have printed on the printout. Press **TAB** to move the cursor from one data item to another. Press **CTRL-N** and **CTRL-P** to get back and forth between the pages of the form.
7. Type S in the data item you want to use for sorting. If you also want that data item to be printed, you also need an X in that data item.
8. When you Pre-defined Print Spec is filled out the way you want it, press **CTRL-C**. The *File* program automatically stores your Print Spec on the Local data disk.

Remember, your can always press **ESC** and start over again if you get messed up.

Finishing Up

If you have time, go on to the next activity to make your printout. If you don't have time now, close the session on the computer in the usual manner and put the disks away where they belong.

NOTE: Please save your planning notes to use in the next activity!

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

What data items will be included on the printout? _____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1– 8 characters) _____

Printing the Data

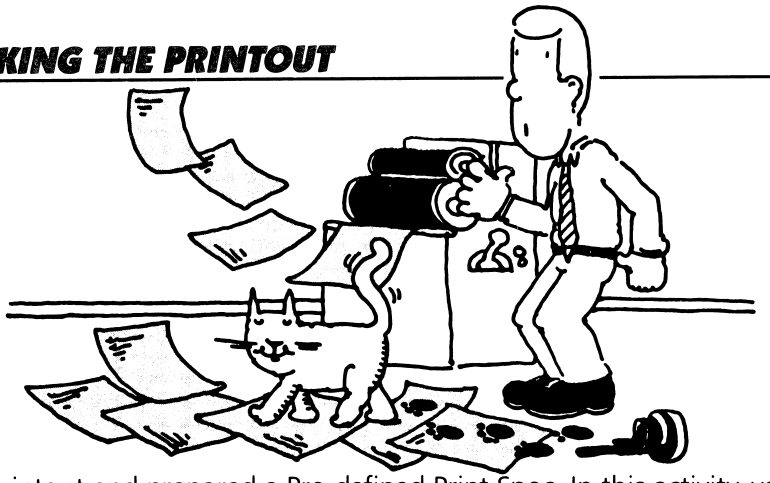
1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

ACTIVITY 6: MAKING THE PRINTOUT



You've planned your printout and prepared a Pre-defined Print Spec. In this activity, you'll print out your data and use the data to answer the questions you originally posed.

What You'll Do

You'll print out the data, using your Pre-defined Print Spec. Then, you'll analyze the printout and decide whether the information on it helps you answer your original question. Finally, you'll decide what additional information you need to answer your question.

What You'll Need

Before you continue, make sure that someone has made a backup copy of the Local data disk containing the data forms for all the events

You also need:

1. Your worksheet for planning printouts
2. A *File* program disk
3. A Local data disk
4. An Apple *//e* or IIc computer
5. A printer connected to the computer

Printing Your Data

Now you're ready to print the data from your Local file. Start up the *File* program in the usual manner.

The PFS: File Function Menu is on the screen and Local data disk is in Drive 1.

1. Turn the printer on and adjust the paper.
2. Select PRINT by typing 5 and then pressing **CTRL-C.**
3. Select Print Forms by typing the number 1 and then pressing **CTRL-C.** A Retrieve Spec appears. Refer to your worksheet. What Retrieve Specs were you planning to use to select forms for printing?
4. Press **TAB** to move the cursor to the data items you'll use to type your rules for selecting forms for printing.
5. Type your selection rules. Press **CTRL-C** to continue.
6. The Print Options Menu appears. Type the name of your Pre-defined Print Spec.
7. Press **TAB** to move the cursor to Lines Per Page. Refer to your worksheet. How many Lines Per Page did you need? Type in your number.
8. Press **TAB** to move the cursor to Number of Copies. Type 1.
9. Press **CTRL-C** to continue.

The printout begins. If it doesn't, check to make sure the printer is turned on and properly connected to your computer. Make sure there is paper in the printer.

Finish your session on the computer in the usual manner.

Using the Printout to Answer Your Question

Look over your printout. Does it look the way you expected it to look? Does it give you the information you want? Do you think the data are accurate? Why or why not?

Decide whether the information on your printout is enough to answer the question you had set up. There is a good chance that you and your classmates have not yet gathered enough data for the file in order to answer the questions.

Sometimes you have to study the data for a while, and make some judgments and interpretations. For example in looking at the school closing events in Rappahannock County, we found that we only had information on a few of those school closings. The data file was not yet complete enough to give us a picture of when most of the schools were closed.

At this point, you need to decide what important information is still missing from the file. Your teacher will lead a class discussion to determine everyone's ideas about what information still needs to be gathered.

Try to summarize your answers to the original question, based on the information in your printout. If this is impossible, decide instead what additional information you need in order to answer the question.

Answer or additional information needed: _____

_____

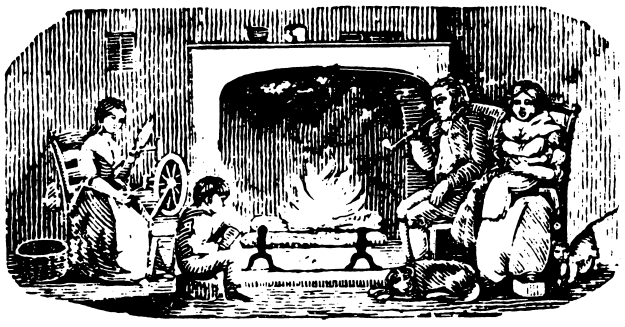
_____

Finishing Up

It might be useful to tape up everyone's printout on the wall for a couple days, so everyone will have a chance to study the data.

As you are looking at your printout and the printouts your classmates have made, notice any data that you think is missing or in error. Circle the data item on the printout with a pencil or pen. Is there some data missing that you know how to fill in? Write it on the printout.

Talk with your classmates about what you learned from their printouts.



ACTIVITY 7: UPDATING THE FILE

By now you and your classmates have discovered errors or missing data in the Local file.

What You'll Do

You and your partner will work together to update the forms for certain events, correcting errors and filling in missing data.

Which events or types of events are you and your partner responsible for updating?

_____ _____

_____ _____

_____ _____

What You'll Need

1. An Apple *IIe* or IIc computer
2. A *File* program disk
3. A Local data disk
4. Printouts on which your classmates have circled errors
5. List of types of events needed for the file

Making Copies of the Data Forms

Make a printed copy of the data form for each of the events you are working on. Here's one way to make these forms:

Start up the *File* program in the usual manner. The PFS: File Function Menu is on the screen and the Local data disk is in Drive 1.

1. Turn the printer on and adjust the paper.
2. Select SEARCH/UPDATE by typing 4. Press **CTRL-C**. A blank Retrieve Spec form appears.
3. Use the Retrieve Spec to search for the first event you'll be working with. When the event's data form comes on the screen, press **CTRL-O**. The Print Options Menu appears.
4. Press **TAB** to move the cursor to Lines Per Page and type 22.
5. Press **CTRL-C**. The form should begin printing.
6. Press **ESC** to return to the PFS: File Function Menu.
7. Repeat this procedure until you've gotten a copy of the data form for each of the events you're going to get more information on.

If you need blank forms for new events, use the ADD function to get a blank form on the screen. Press **CTRL-O** to print the blank form. Then press **ESC** to avoid storing the blank form.

Finish the session on the computer in the usual manner.

Handwriting Your Updates

Now is the time to fill in missing data items such as PREVIOUS EVENTS and SIGNIFICANCE OF EVENT.

Use your printed data forms to write down corrections and additions to the data. You may get some help from the notes your classmates have been making on everyone's printouts. You may have to go to the library and look up some of the missing information.

When you have typed onto the paper forms all the corrections and additions you can, you're ready to update the Local data disk.

Updating the Local Data File

Here's the procedure:

1. Start up the *File* program as usual. The PFS: File Function Menu is on the screen and the Local data disk is in Drive 1.
2. Select SEARCH/UPDATE by typing 4. Press **CTRL-C**.
3. On the Retrieve Spec, type the name of the first event you want to update.
4. When the event's data form appears on the screen, type in your additions and corrections. Refer to your printed update forms for the new or changed data.
5. After you update a form, press **CTRL-C**.
6. Press **ESC** or **CTRL-C** to return to the PFS: File Function Menu.
7. Continue updating forms until you have finished all your events.

Adding New Events to the File

You should remember how to use the ADD function to add new data forms to the file. Add a new form for each new event you are adding to the file.

End the session in the usual manner.

ACTIVITY 8: USING THE LOCAL FILE

Now you and your classmates have a tested and updated file of data on local history events. You have already learned a lot about local history events, and you can learn even more by using the Local file to help in your studies.

As you continue to use the file to try to answer questions, you will again find there is some data missing. You can continue updating the file throughout the school term, so that by the end of the term or school year you will have a well-developed file.

You will make some discoveries as you use the file. For example, in our study of Rappahannock schools, here are some things we discovered:

- Population of the county was continually declining after 1850.
- School enrollment decreased by 28 percent for whites and 63 percent for blacks between 1930 and 1950.
- At least 13 schools were closed between 1930 and 1950.

One conclusion we drew from our study of Rappahannock schools was that the decline in population made it uneconomical to operate many small schools. We also discovered that integration of black and white students did not take place until 1967, which was when the last black school was closed.

Figure 4 shows a report of school closings from the Rappahannock history file.

School Closings

YR	RAPPAHANNOCK EVENTS
1927	One School Closes
1929	Woodville School Destroyed by Tornado
1931	One School Closes
1932	Two Schools Close
1936	One School Closes
	U.S. Gov't Buys Hazel Mtn. School and Hull School for Park Land.
1937	One School Closes
1938	One School Closed Two Schools Consolidated
1942	One School Closes
1944	One School Closes
1945	Land Purchased for New High School
	Two Schools Close
1950	Sperryville and Washington High Schools Consolidated
1960	Three Schools Close
1962	One School Closes
1966	One School Closes
1967	Two Schools Close

Figure 4

Here is a list of sample projects. You'll have to make up a similar project that takes advantage of the data your class has built in your Local history file. In many cases you will need to get several different printouts in order to answer the questions thoroughly. Use the Worksheet for Planning Printouts. Have fun!

Sample Local History Projects

- Select certain historical buildings that are still standing in your community. Trace the events that went into the construction of these buildings. When were they built? By whom? What is their historical significance? Has anyone in your class observed these buildings? Did they notice anything about the architecture of the buildings?
- What was the involvement of your community with the Civil War? How did events of the Civil War affect the people, buildings, or economy of your area? Are there any existing battlefields or monuments from that era?
- How did the Great Depression affect your community? What events took place in business? What happened to the population?
- What are some of the families that have been in your community for a long time? What contributions have they made?
- What important developments took place in transportation in your area? How did they affect such things as population, business, construction of buildings?
- What is the history of education in your community? In what ways have schools changed over the years?
- What have been the major industries and businesses in your community? Has the nature of business and industry changed much in the past few decades? Do you see any relationship between population and industry?
- Can you identify major events that have affected the economy in your area? What kinds of events were these?

Sharing Your Local History Files

There are many possible ways you can share your local history files with others. Here are some possibilities you and your class might explore:

- Donate the file to your school library. Ask the librarian to make copies to circulate to other history classes. The librarian might ask other history teachers to donate their classes' local history files to the collection also. If all the files use the same form, it will become possible to combine the files in new ways. Eventually, your library could have a very extensive collection of local history data.
- Ask your local historical society to become involved with the files, or demonstrate the file at a meeting of the society. They may be interested in building upon them, or in helping other classes of students develop more local history files.
- Donate your files to your city or county library. Set up a demonstration at the library.

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

_____

_____

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_____

_____

_____

_____

What data items will be included on the printout? _____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1– 8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

_____

2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Scholastic pfs: U.S. History Data Bases

Fun With American History

FUN WITH AMERICAN HISTORY: LESSON PLANS

Content Overview

The activities in this unit teach students how to create a data file that has already been designed. The file is full of "popular history" fun facts and trivia from the twentieth century. The file design is named Fun, but you may want to call it Trivia or something else.

Key Topic Areas in United States History

The major topics covered are Twentieth-century America, Disasters, and News Stories.

Description of File Contents and Organization

The form design is named Fun. It is four pages (screens) long. See Figure A on page 5. Each form covers a year.

Page 1

Page 1 is full of superlatives, including the year's HIT SONG, BEST FICTION, BEST MOVIE, and BASEBALL WORLD SERIES teams.

Page 2

Page 2 of the form contains the names of IMPORTANT MEN and WOMEN OF THE YEAR and the NOBEL PEACE PRIZE winner, and data about DISASTERS and TRIVIA.

Page 3

All of page 3 is reserved for the TOP NEWS STORIES OF THE YEAR.

Page 4

On page 4, students cite the references they used in compiling their data.

Grade Level Suggestions

This unit is suitable for students in fifth grade and above. The data are readily available in almanacs and trivia books.

Older students might want to participate in a class effort to change the file design, perhaps adding some data items of special interest to them, or even changing the file to concentrate on a particular aspect of popular history. For example, students might design a file of popular musicians including blues, jazz, folk, and rock artists, and learn how racial background, locality, and sound technology, to name but a few factors, help shape the type of music played. (File design always requires that students do some preliminary research, to determine what kinds of data are available and in what format.)

Teaching Tips

You can tailor the learning experience to your curriculum by asking students to answer questions that are closely tied to your own teaching objectives.

Encourage students to look up procedures in the *Scholastic PFS: File* Mini-Reference when they don't know how to do something. The ability to use reference manuals is a very useful skill in the world of computers and information systems.

Two different methods are suggested in the unit for gathering data.

Method One

One method is to assign each pair of students the task of gathering data for one data item (such as the NSTA TENNIS CHAMPIONS) for every year. This method simplifies the research task, since each pair of students will probably only need to use one reference source. However, entering the data is more difficult, because the teacher must first add (create) forms for the years 1920 to 1985 to the file, and the students must then update (enter data in) each form.

Method Two

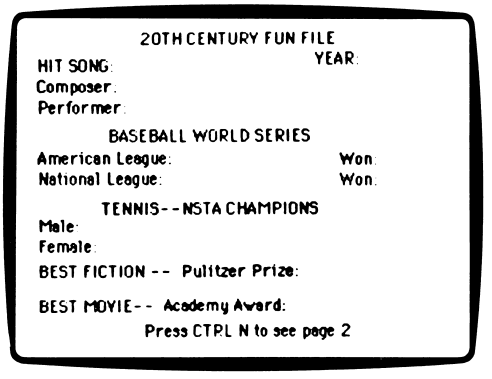
The second method is to have each pair of students collect all the data for just a few years. This method is more difficult from a research point of view, since each pair of students will probably need to locate several different reference sources. On the other hand, the task of entering data is greatly simplified. Each pair of students adds a data form for each of their years, then types in all the data.

Hardware Needed

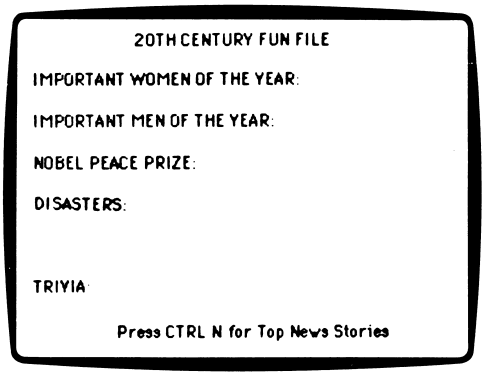
Each activity tells what equipment and software is needed. No equipment is needed for Activities 2 and 3. The other activities require an Apple *IIe* or IIc computer, one disk drive, a monitor, and a printer.

Disk Management

If each student pair is entering data on different disks, you could end up with 10 or 15 disks. You will want to combine the forms contained in these data disks into one file. To do this, use the COPY function from the PFS: File Function Menu. Copy the specific forms, not the entire disk (using the Copy Selected Forms option). You may want to ask students to label their disks with the years they researched, so you know which forms to select for copying.



Page 1



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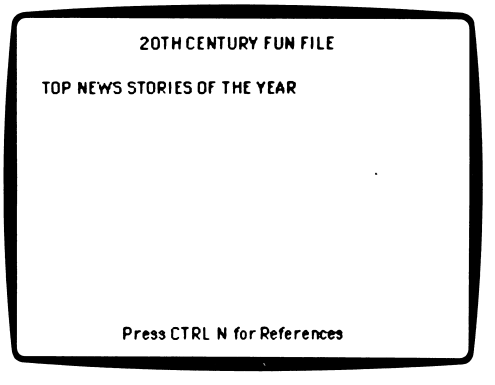
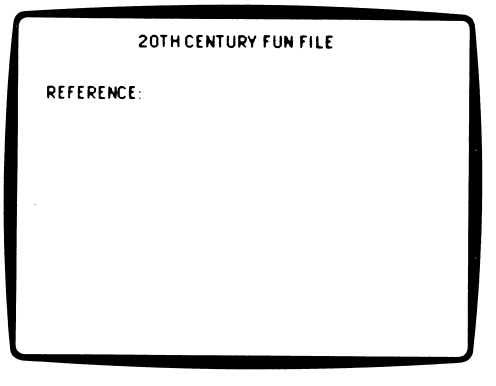


Page 3



Page 4

Figure A

Fun with American History

Activity	Objectives	Preparation	Management	Time (per student)
1.	• Brainstorm questions about American lifestyles. • Locate sources of historical information. • Select data to use.	• Use the DESIGN function of *PFS: File* to create the Fun file design on disk. Make copies for each student pair. • Assign each student pair a list of topics or years to work on. • Arrange for students to go to the library to use reference sources, or have those sources available in the classroom.	• Introduce the project and this activity to the class. • Schedule time on the computer for student pairs.	25 minutes
2.	• Gather and organize information from a selection of historical sources. • Summarize information to answer a historical question. • Format data for file.	• Arrange for library use, or have sources available in classroom.	• Discuss format of the data items. Show students an example of a properly filled-in data form. • Collect filled-in data forms for use in next activity.	25–45 minutes; can be assigned as homework.
3.	• Check data collected for historical accuracy.		• Hand out the filled-in data collection forms to students to check for accuracy. Make sure each student pair receives a form other than the one they themselves filled out. • Review with students the guidelines for checking the data forms as discussed in the activity. • Collect the checked forms when students finish.	35 minutes

(Continued on next page.)

Activity	Objectives	Preparation	Management	Time (per student)
4.	• Enter data into a computerized data base. • Proofread and edit data. • Add new forms to the file or update data.	• Set up the printer. • Distribute disks with Fun file design to each student pair.	• Hand out checked data forms. • Schedule time on the computer for student pairs.	15–45 minutes, depending on number of data forms each student pair is to enter.
5.	• Define a historical problem and the information needed to answer it. • Organize collected data. • Plan printout.	• Copy the Fun file from the master disk onto the working disks.	• Schedule time on computer for student pairs. • Help students choose their projects. • Label disks so that each student pair knows which disk contains their Pre-defined Print Spec.	35 minutes
6.	• Analyze a printout of historical data. • Determine whether additional information is needed. • Print using Pre-defined Print Spec, and interpret printout.	• Give student pairs the Fun file disk that has their Pre-defined Print Spec. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students to interpret data and to decide what further information would help them answer their original questions. • Display students' printouts on the wall so students can learn from each other's work.	35 minutes
7.	• Update and validate data on file. • Collect data to be entered.	• Copy the Fun file from the master disk onto the working disks. • Set up the printer.	• Schedule time on the computer for student pairs. • Help students manage the data disks.	Depends on amount of data gathering and file updating to be done.
8.	• Determine a historical problem and data needed to solve it. • Organize and analyze data. • Synthesize information and draw conclusions. • Plan, print, and interpret printout.	• Copy the Fun file from the master disk onto the working disks. • Set up the printer.	• Help students choose their projects. • Help students debug their printouts.	45 minutes

INTRODUCTION

The Fun with American History unit of activities will help you learn the following:

- How to create and use computer data files.
- Some "fun facts" and trivia about American history in the years 1920 – 1983.

The skills you develop in creating and using data files will be useful to you not only in your schoolwork, but in organizing information on any subject that is important to you, such as your record album collection, your personal address book, club members and club activity schedules, or paper route customers.

The Fun file will amuse you and stump you and your classmates. Here are some examples of the kinds of questions you can get answers to with the Fun file:

- Where do most tornadoes occur in the United States? Where have most of the hurricanes been? What is the most common type of disaster (flood, hurricane, earthquake, etc.)?
- Who has been the NSTA tennis champion most often?
- In what years does the title of the year's most popular song tell you something about the important news stories of that year?
- What movie production company has produced the most Academy Award-winning movies?
- In what years were the U.S. Marines mentioned in the top news stories?
- In what years have kidnappings been in the top news stories? Who are some of the most famous kidnap victims?
- When were labor strikes in the news?
- How many hit songs have the word "star" in the title? What about the word "dream" or the word "you"?
- Which team has most often won the World Series?
- How many times, if ever, has your favorite team won the World Series?
- On April 12, 1980, the United States did something that affected many sports fans. What was it?
- Each year one song wins the Grammy Award or is voted the most popular. What was the hit song of 1940? of 1969? How about 1932?
- What composer or group had the most "Song of the Year" hits? Most hit songs in one year?
- What were the top news stories about World War II? What event ended the war? What event impelled the United States to enter it?
- The year 1932 was hard for Americans — why? Does the hit song of the year give you any clue?
- In which year was the first United States earth satellite put into orbit?
- In what year was President John Kennedy assassinated?

The Activities in this Unit

This unit of eight activities shows you how to create and use a file of data on American facts. Complete the activities in order.

Here is a list of the activities:

- Activity 1. Preparing to Gather Data
- Activity 2. Gathering Data on Printed Forms
- Activity 3. Checking Accuracy of Data
- Activity 4. Adding New Forms to the Fun File
- Activity 5. Planning Printouts of the Fun File
- Activity 6. Making the Printout
- Activity 7. Updating the Fun File
- Activity 8. Using the Fun File

ACTIVITY 1: PREPARING TO GATHER DATA

What You'll Do

First, you and a partner will use the *PFS: File* program on your computer to print out blank data forms for the Fun file. The form is shown on the next page. Then, you'll prepare to gather data from reference books about facts and events that made American history.

What You'll Need

1. A *File* data disk called "Fun," which contains the form design for the file
2. A *File* program disk
3. An Apple® *IIe* or IIc computer
4. A printer connected to the computer

Getting Organized

Since building the Fun file is a class project, you need to decide who is building what parts of the file. There are two ways to divide the work: by year, or by topic.

Dividing Work by Years

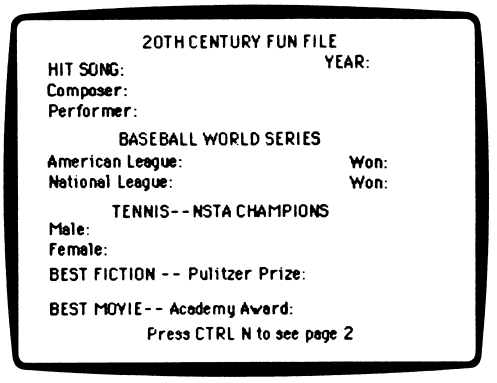
This file is arranged by year and contains records on each year between 1920 – 1983, which means there are 64 years in this file. So, for example, if there are eight pairs of students creating the file, then each pair of students would gather data on eight years. You and your partner need to know the years for which you're going to gather data. Your teacher may assign you certain years to work on.

How many "years" will you and your partner work on? _____

What years are they? _____

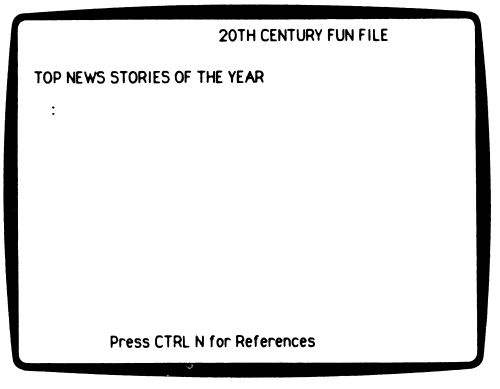
Dividing by Topic

There are ten topics in the Fun file (and, of course, you could add more). If ten pairs of students are creating the file, each pair could gather data for one topic for all of the years. For example, one pair of students might gather all the data on hit songs, including name of song, composer, and performer. Another pair of students could gather all the data on baseball World Series, and so forth. This method of gathering data—dividing up the work by topic—is much easier, because you only have to find one kind of data for all the years, rather than having to look for all the data for a few years.

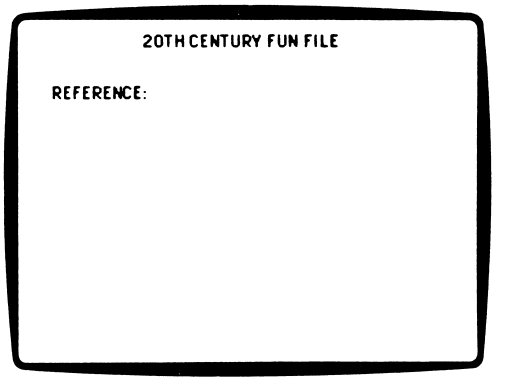


Page 1

Page 2



Page 3



Page 4

Figure 1

Printing Out Your Blank Data Forms

If you will be gathering all the data for a certain set of years, you'll need the complete forms. If you're only collecting data on one topic for all the years, then you'll need forms that have just the year and the data item name for that topic.

How many copies will you need? If you'll be gathering data on all topics for a few years, make twice as many blank forms as you have years to work on (some will get messy, and you'll have to copy the data over again on a clean form).

If you're going to gather data on just one topic for all the years, print out just one copy of the complete blank form. You'll use that copy to see how much space there is for your data item. Then you'll make up a special data collection form for your data. A data collection form is a printed form you use to write your data on.

How many forms will you print out? _____

Next, follow the procedure below to make copies of the blank data forms.

How to Print Complete Blank Data Forms

1. Start the *File* program. Then place the Fun data disk in Drive 1.
2. Turn the printer on and adjust the paper so that the top of a page of paper is under the printer head.
3. Select the ADD function by typing 2, and then pressing **CTRL-C**. The Fun file form appears.
4. Press **CTRL-O** (the letter O, which stands for "output"). The PRINT Options Menu appears.
5. Press **TAB** to move the cursor to Print Item Names and type Y (for "yes").
6. Press **TAB** to move the cursor to Add Linefeed Characters and type Y (for "yes").
7. Press **TAB** to move the cursor to Lines Per Page and type 22.
8. Press **TAB** to move the cursor to Number of Copies. Type the number of copies you need.
9. Press **CTRL-C**. Your printer should begin printing out your blank data forms.
10. When printing is complete, press **ESC** to return to the PFS: File Function Menu.

Follow the standard procedure for ending the session on the computer. If necessary, refer to the Quick Guide.

Making up a Special Data Collection Form

If you're gathering data on just one topic for all the years, you'll need to make a special form for gathering and recording your data. The sample form (see Figure 2) is a form for gathering data on hit songs. Design the form for the particular topic you are working on in a similar way.

Look at the data items on the blank form that you are going to gather information on. Make a chart, similar to Figure 2, that you can use to gather your information for each year. Figure 2 also shows some of the data filled in on the form.

YEAR:	HIT SONG:	COMPOSER:	PERFORMER:
1963	The Days of Wine and Roses	Henry Mancini	Henry Mancini
1982	Rosanna	Toto	Toto

Figure 2

If the data item on the form has space for more than one line, you need to know how many lines to allow for the data item. Remember that only 40 characters fit on a line. Figure 1 shows the number of lines available for each data item. Leave enough space on your form for the number of lines you'll need.

Finding and Listing Your References

Figure 3 shows a sample filled-in form for the year 1936.

Fill in the YEAR data item on your blank forms, one form for each year you will be working on.

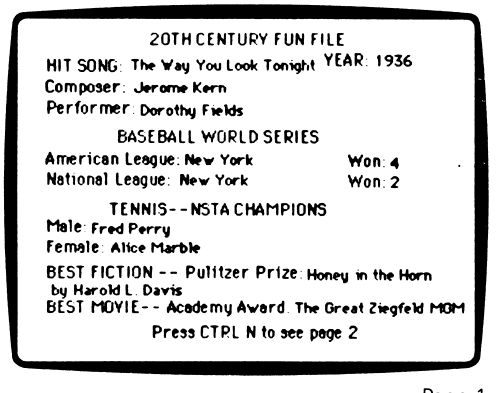
Where will you get the data for your Fun file? You'll need almanacs and similar books of facts. A book on trivia might help. Look at the list of references used to build part of this file, and check in your school library for these and similar books. There may also be other places to find information such as county libraries, local museums, or college libraries.

Go with your partner to the library. Take your blank data forms with you. Look at various reference materials and talk to the librarian about any other reference materials you could use.

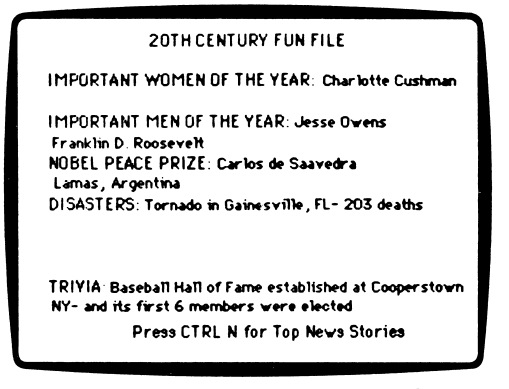
On one of your blank data forms, write the names of the references you intend to use to gather your data. Now, try filling out a form for one of the years. You'll probably need to use more than one reference to get all the data for one year. Take notes on which reference books have which data items in them.

Finishing Up

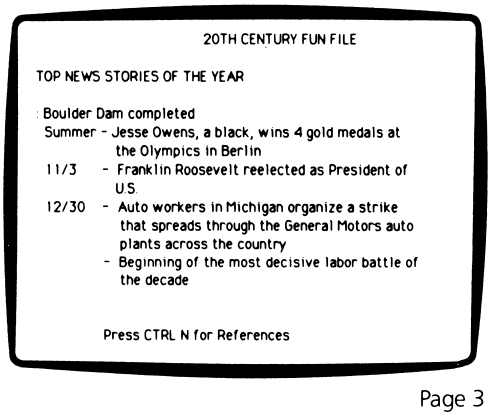
Discuss with your partner how you'll divide up the work of gathering data and writing it on your blank data forms. If you have time now, go on to Activity 2.



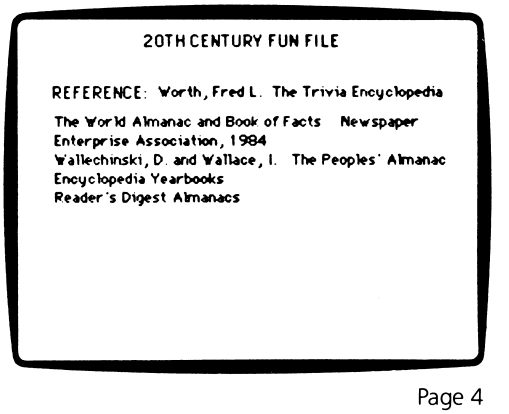
Page 1



Page 2



Page 3



Page 4

Figure 3

ACTIVITY 2: GATHERING DATA ON PRINTED FORMS

Now that you have your data collection forms and know what sources to use to find your data, you're ready to gather the data.

What You'll Do

You and your partner will fill in the data on your paper forms (blank data forms), for all the years or topics you're working on.

What You'll Need

1. Printed data collection forms
2. Pencils
3. Reference materials (books)

Gathering Data on Printed Forms

Take your printed forms to the library. Use the reference materials you've already found, to look up information on each year. Use a pencil to fill in the data. On each form, be sure to write down the references you used and include page numbers.

The format (the arrangement of words, dates, titles, authors, etc.) for each data item on your forms is important. Here are some things to pay attention to in filling out the forms:

- The format for filling in the YEAR data item is: YEAR: 1980. Do not use '80 or any other abbreviation. Fill in all dates the same way.
- The format for the BEST FICTION—PULITZER PRIZE data item is: (name of book), by (name of author). (For example: *The Great Gatsby*, by F. Scott Fitzgerald)
- The format for the TOP NEWS STORIES OF THE YEAR data item is:
  11/3-Franklin Roosevelt reelected President of the United States.
  12/30-Auto workers in Michigan organize strike against General Motors.

There are many news stories each year. Decide which are most important to include in your file.

If you can't find data for every data item on the form, just fill in what you can.

Write your name on the bottom of the References part of each form.

Finishing Up

When you have filled in the data on your forms, turn them in to your teacher. Your teacher will give the forms to another student to use in the next activity.

ACTIVITY 3: CHECKING ACCURACY OF DATA

If you have used computerized data files to retrieve information, you know how important it is for the data to be accurate. It's impossible to retrieve information if it's not all in the right format and spelled correctly. For example, suppose a classmate had entered the form for 1934, but had accidentally written 1943 instead. You'd have a terrible time finding the form for 1934.

What You'll Do

You and a partner will check the data forms prepared by your classmates, and correct any mistakes or misspellings.

What You'll Need

Printed data forms for the Fun file, filled in by your classmates.

Checking the Accuracy of the Data

Here are some guidelines for checking the data forms:

- First, make sure each form has the REFERENCES data item filled in. If it doesn't, you won't know where your classmates got their data. REFERENCES should include both a book title and a page number. If REFERENCES haven't been included, give them back to your teacher to return to the students who filled them in.
- Next, check the format of the data. Are the YEAR data items written in the correct format (XXXX, such as 1950)? If not, rewrite them in the proper format. An example of a *wrong* format is "50."
- Now look up the information in the books listed under REFERENCE on each form. Check to make sure the information is accurate. Make corrections as needed.
- Look at the TOP NEWS STORIES data items on page 3 of the form. Do you think these stories are the important ones to put in the computerized file? Are all the words spelled correctly? Make any changes you think are needed. You may want to discuss some of your changes with the classmate who wrote the data on the form.

Finishing Up

When you finish checking and correcting each form, write your name on the bottom of the page.

When you finish checking and correcting all the forms, turn them in to your teacher.

ACTIVITY 4: ADDING NEW FORMS TO THE FUN FILE

Now that you have a collection of YEARS data on printed forms, corrected and ready to use, it's time to store the data on the file disk.

What You'll Do

You and your partner will work together to type data into the Fun file.

What You'll Need

1. A set of printed forms filled in by classmates (not you and your partner), and checked by another pair of classmates (not you and your partner).
2. A *File* program disk
3. A Fun file data disk
4. An Apple *IIe* or IIc computer, with disk drive and monitor

Entering Data

How you enter the data will depend on how the data were collected in the first place. If you collected data on all topics for particular years, you'll use method 1: adding forms. If you collected data for one topic for all years, you'll use method 2: updating forms. Both methods are explained in this activity.

Decide with your partner how you'll work together to enter the data. One person should work on the keyboard while the other reads the instructions and data. You can take turns doing this.

Method 1: Adding Forms

If you and your partner collected all or most of the data items for certain years, use this method to enter your data into the Fun file.

Start up *File* in the usual manner. Put the Fun data disk in Drive 1. The PFS: File Function Menu is on the screen.

1. Select ADD by typing 2.
2. Press **TAB** to move the cursor to Filename.
3. Type FUN, and then press **CTRL-C**.
4. Now type the data for your first year. Partner 1 reads the data from the printed form out loud, while Partner 2 types the data.
5. Both partners should proofread the data on the screen. If you see a mistake, use **TAB** and **APPLE-TAB** to move the cursor back and forth between the data items. Use the arrow keys to move the cursor within a data item. Correct mistakes by typing over them.
6. If you make a lot of mistakes and want to start all over again, just press **ESC**. This takes you back to the PFS: File Function Menu without storing the form that has mistakes.
7. When you and your partner agree that the data is accurate, press **CTRL-C** to store the form. Make a pencil mark on the data collection form to show that the data has been entered into the computer.
8. Repeat the procedure until you've entered the data for all years.
9. When a blank form appears and you don't have any more years to add, press **ESC**. The PFS: File Function Menu appears.

When you're finished entering your data, go to the section in this activity called Testing the File, on page 20.

Method 2: Updating Forms

If the data were collected on just one topic for all the years, use this method to enter your data into the Fun file.

Make sure that someone has already added a form to the file for each year, and typed the YEAR data item for each year from 1920 to 1984.

If this hasn't been done, someone must prepare the file for the class by using the ADD function of the *File* program to create a form for each year.

Start up the *File* program in the usual manner. The PFS: File Function Menu is on your screen and the Fun data disk is in Drive 1.

1. Select SEARCH/UPDATE by typing 4. Press **CTRL-C**. The blank Retrieve Spec form for Fun appears on the screen.
2. Leave the Retrieve Spec blank. Press **CTRL-C**.
3. When a data form appears, look at the YEAR data item. This is the year you'll start updating.
4. Press **TAB** until the cursor is on the data item you want to enter. If your data item is on page 2 of the form, press **CTRL-N** to get page 2.
5. Type your data. If you make a typing mistake, use the **DELETE** key to erase backwards. Then type the correct data. If you make a lot of mistakes, just press **ESC** and start over.
6. Make sure the information you have typed is correct, and that the year is the correct year.
7. When the data are correct, make a pencil mark next to that year on your data collection sheet. Press **CTRL-C**. The program stores the data on the Fun data disk. The form for the next YEAR appears on the screen.
8. Continue updating forms until you have entered all your data. When you press **CTRL-C** for the last time, a message appears telling how many forms have been found.
9. Press **CTRL-C**. The PFS: File Function Menu appears.

Testing the File

Now that you've entered your data into the file, do a little test to make sure your data are stored the way you intended.

The PFS: File Function Menu is on your screen and the Fun data disk is in Drive 1.

1. Look on your data collection sheets and choose one of the years.
2. Select the SEARCH/UPDATE function by typing 4.
3. Press **CTRL-C**. The blank Retrieve Spec form appears.
4. Type the year you chose in Step 1 above.
5. Press **CTRL-C**. The form for that year appears on your screen.
6. Look at the data you entered for that year. Is it all correct? Check it against your paper form. Correct any mistakes.
7. When you're finished checking, press **CTRL-C**.

Check a few more of your years. When you're sure the data have been entered correctly, end the activity.

Finishing Up

The PFS: File Function Menu is on your screen. Remove the Fun data disk from the disk drive and put the disk in its protective jacket.

REMINDER: The PFS: File Function Menu must *be on the screen when you remove any data disk.*

Turn the computer off, unless someone else is waiting to use the same program. Put the program disk and Fun data disk where your teacher has instructed you to keep them.

ACTIVITY 5: PLANNING PRINTOUTS OF THE FUN FILE

Now that you and your classmates have stored data for all of the years into the Fun file disk, you can use the file to get information in all kinds of interesting ways.

What You'll Do

You and your partner will plan a printout from the file and define a Print Spec.

Your creative challenge is to define a question or problem that is interesting to you, and produce a printout that is useful in answering that question or problem. Try to create a printout that is different from anyone else's.

Use the worksheet on page 24 to help plan your printout.

What You'll Need

Before you continue, make sure that someone has made a backup copy of the Fun data disk containing the data forms for all the years.

You will need:

1. A worksheet for planning printouts
2. A printed copy of the Fun file data form (either blank or with data written on it)
3. A *File* program disk
4. A Fun file data disk
5. An Apple *IIe* or IIc computer

Defining Your Problem

Look at the list of questions in the Introduction to this unit on page 9. What questions do you find interesting? Discuss with your partner what question or problem you want to work on. You don't have to use exactly the same problem or question from the list, but the list may suggest some ideas to you.

What questions will you and your partner try to answer? Write your question on the planning worksheet.

Planning Your Printout

What information from the Fun file will be useful to you in answering your question?

You and your partner should have in front of you a paper copy of the Fun file data form. Discuss with your partner what you want your printout to look like. Here are some questions to discuss:

- Which data items do you want on the printout? For example, you might print just the YEAR and U.S. DISASTERS. Or you might want all the data items for certain years, such as the years from the year you were born until your tenth birthday.
- Write on your planning worksheet the data items you want to include in your printout. If you're going to print all the data times, write "all."
- In what order do you want the forms to be printed? Because of the way the Fun file is organized, the most useful order is often by *year*. But think carefully. For example, if you are looking at the baseball World Series, you might want to sort the forms in order

by either the American League teams or the National League teams. This would put the World Series teams in groups so that you can easily see how many years Milwaukee was in the World Series, for example. Or, if you are interested in composers of hit songs, you could sort by composer. This would put, for example, all of Irving Berlin's hit songs together in one group on the printout.

- Write on your planning worksheet the data item names you will use for sorting forms for the printout.
- Which forms do you want included in your printout? For example, you might want data only for the years 1940 to 1950. Or you might want just the forms that have flood disasters. Or you might want just the forms that mention Watergate in the news stories. The possibilities are practically endless. You can include all the data forms if you want.
- Write on your planning worksheet the Retrieve Specs you'll use to select the forms for printing. For example, if you want to select all the forms that mention a flood as a disaster, use U.S. DISASTERS: . . flood. As another example, if you want just the years from 1950 to 1960, use YEAR: = 1950 . . 1960
- You'll need to use a special procedure to set up your printout with the right spacing. There are two major considerations:

Each form in the file has four pages of data. Will your printout include data items from just one page? Two pages? More?

How many lines will be printed from each of the three pages of the form (depending on which data items you'll be printing)? For example, YEAR takes only one line, while U.S. DISASTERS can take up to six lines.

Here's a formula for setting up your printout with the correct spacing:

1. Write the number of lines you think will be printed from each page of the data form:

Number of lines from page 1 of the form: _____

Number of lines from page 2 of the form: _____

Number of lines from page 3 of the form: _____

Number of lines from page 4 of the form: _____

2. Add 3 to the largest number above: _____

3. Does this number divide equally into 66? _____

If yes, then this is the number of Lines Per Page you will put in your Print Options Menu.

Number for Lines Per Page: _____

If not, then pick the *next larger number that divides equally into 66.* For example, if the number in Step 2 is 9, the next larger number that divides equally into 66 is 11.

Number for Lines Per Page: _____

What will you name your Pre-defined Print Spec? Remember, the name must be eight characters or less and should be one that you can identify easily. You might use your own last name. Better yet, give the Pre-defined Print Spec a name that has something to do with your printout. For example, a printout of important women might have a Pre-defined Print Spec called Women.

Write on your planning worksheet the name you will give to your Pre-defined Print Spec.

Defining Your Print Spec

Now you and your partner are ready to take your planning worksheet to the computer and define your Print Spec. Here's the procedure:

Start up the *File* program as usual. Put the Fun file data in Drive 1. The PFS: File Function Menu is on the screen.

1. Select PRINT by typing 5, then pressing **CTRL-C**. The PRINT Menu appears.
2. Select Define Print Spec by typing 2, then pressing **CTRL-C**.
3. Respond to the PRINT SPEC NAME prompt by typing the name you've chosen for your Print Spec.
4. Press **CTRL-C**. The blank Print Spec form appears.
5. Look at your list of the data items you want printed.
6. On the Print Spec blank form, type an X in each data item you want to have printed on the printout. Press **TAB** to move the cursor from one data item to another. Press **CTRL-N** and **CTRL-P** to get back and forth between the pages of the form.
7. Type S in the data item you want to use for sorting. If you also want that data item to be printed, you also need an X in that data item. For example, YEAR: XS
8. When your Pre-defined Print Spec is filled out the way you want it, press **CTRL-C**. The *File* program automatically stores your Print Spec on the Fun file data disk.

*REMINDER: You can always press **ESC** and start over again if you make a lot of mistakes.*

Finishing Up

Please save your planning notes to use in the next activity! If possible, you should go directly to Activity 6 now. If you don't have time right now, then finish up the session on the computer in the usual manner. Put the program disk and the Fun data disk where they belong. If your class has more than one copy of the Fun file data disk, be sure you have some way of knowing which Fun file data disk has *your* Print Spec stored on it.

WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

_____

_____

_____

_____

_____

_____

What data items will be included on the printout? _____

_____ _____ _____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1–8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

_____

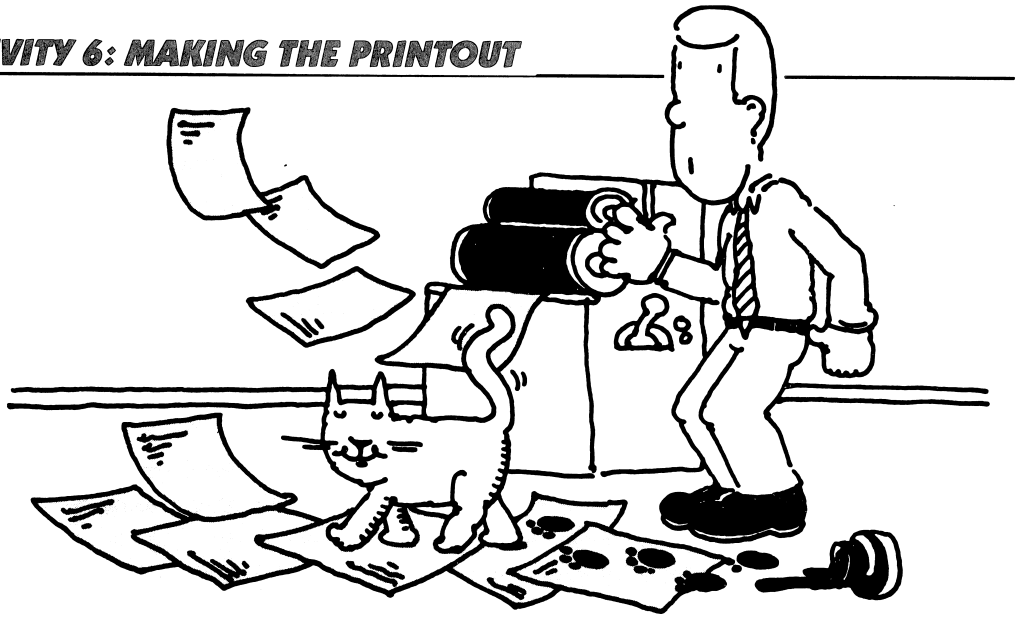
2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____

Use this number in the Lines Per Page option.

ACTIVITY 6: MAKING THE PRINTOUT



You've planned your printout and prepared a Pre-defined Print Spec. In this activity, you'll print out your data and use the data to answer the questions you originally posed.

What You'll Do

You'll print out the data, using your Pre-defined Print Spec. Then you'll analyze the printout and decide whether the information on it helps you answer your original question. Finally, you'll decide what additional information you need to answer your question.

What You'll Need

Before you continue, make sure that someone has made a backup copy of the Fun data disk containing the data forms for all the years.

You also need:

1. Your worksheet for planning your printout
2. A *File* program disk
3. A Fun file data disk
4. An Apple *II*e or IIc computer
5. A printer connected to the computer

Printing Your Data

Now you're ready to print the data from your Fun file. Start up the *File* program in the usual manner.

The PFS: File Function Menu is on the screen and Fun file data disk is in Drive 1.

1. Turn the printer on and adjust the paper.
2. Select PRINT by typing 5 and then pressing **CTRL-C**. The PRINT Menu appears.
3. Select Print Forms by typing the number 1 and then pressing **CTRL-C**. A Retrieve Spec appears. Look at your worksheet. Which data items were you planning to use to select forms for printing?
4. Press **TAB** to move the cursor to the data items you'll use to type your rules for selecting forms for printing.

5. Type your selection rules. Press **CTRL-C** to continue.
6. The Print Options Menu appears. Type the name of your Pre-defined Print Spec.
7. Press **TAB** to move the cursor to Lines Per Page. Refer to your worksheet. How many Lines Per Page did you need? Type in your number.
8. Press **TAB** to move the cursor to Number of Copies. Type 1.
9. Press **CTRL-C** to continue.

The printout begins! If it doesn't, check to make sure the printer is turned on and properly connected to your computer. Make sure there is paper in the printer.

Finish your session on the computer in the usual manner.

Using the Printout to Answer Your Question

Look over your printout. Does it look the way you expected it to look? Does it give you the information you want? Do you think the data are accurate? Why or why not?

Decide whether the information on your printout is enough to answer the question you had set up. Sometimes you may have too much information! If that happens, take a pencil and circle the information that is directly related to your question or problem.

Sometimes you have to study the data for a while, and make some judgments and interpretations. For example, if your question was about the most common type of disaster, it might take you a while to study your printout and look at all the disasters. Then make the judgment.

Sometimes you'll find that the data aren't exactly in the right order to be useful. For example, if your question is about the American League team that was most often in the World Series but you sorted the forms by YEAR, it would take you a long time to read through all the forms to find your answer. On the other hand, if you sorted by AMERICAN LEAGUE, you could quickly scan down the printout and see which team is listed most often.

Try to summarize your answers to your original question, based on the information in your printout. If this isn't possible, decide instead what additional information you need in order to answer the question.

Answer or additional information needed: _____

_____

_____

Finishing Up

It might be fun to tape everyone's printout on the wall for a couple of days, so everyone will have a chance to study the data.

As you are looking at your printout and your classmates' printouts, notice any data that you think are not accurate. Circle the data item on the printout with a pencil or pen. Is there some data missing that you know how to fill in? Write it on the printout.

Talk with your classmates about what you learned from their printouts.

ACTIVITY 7: UPDATING THE FUN FILE

By now you and your classmates have probably discovered some errors or missing data in the Fun file.

What You'll Do

You and your partner will work together to update the forms for certains years, correcting errors and filling in missing data.

Which years' forms are you and your partner responsible for updating?

_____ _____

_____ _____

_____ _____

What You'll Need

For this lesson you'll need:

1. An Apple *IIe* or IIc computer, with disk drive and monitor
2. A Fun file data disk
3. Printouts on which your classmates have circled errors

Printing Copies of the Data Forms

Make a printed copy of the data form for each of the years you are working on. Here's one way to make these forms:

Start up the *File* program in the usual manner. The PFS: File Function Menu is on the screen and the Fun data disk is in Drive 1.

1. Turn the printer on and adjust the paper.
2. Select SEARCH/UPDATE by typing 3. Press **CTRL-C**. A blank Retrieve Spec form appears.
3. Use the Retrieve Spec to search for the first year you'll be working with. When the year's data form comes on the screen, press **CTRL-O**. The Print Options Menu appears.
4. Press **TAB** to move the cursor to Lines Per Page and type 22.
5. Press **CTRL-C**. The form should begin printing.
6. Press **ESC** to return to the PFS: File Function Menu.
7. Repeat this procedure until you've printed a copy of the data form for each of your years.
8. End the session on the computer in the usual manner.

Handwriting Your Updates

Use your printed data forms to write down corrections and additions to the data. You may get some help from the notes your classmates have been making on everyone's printouts. You may have to go the library and look up some of the missing information.

When you have handwritten onto the paper forms all the corrections and additions you can, you're ready to update the Fun data file on disk.

Updating the Fun Data File

Here's the procedure:

1. Start up the *File* program as usual. The PFS: File Function Menu is on the screen and the Fun data disk is in Drive 1.
2. Select SEARCH/UPDATE by typing 4. Press **CTRL-C**. A Retrieve Spec appears.
3. On the Retrieve Spec, type the name of the first year you want to update.
4. When the data form for that year appears on the screen, type in your additions and corrections. Refer to your paper update forms for the new or changed data.
5. After you update a form, press **CTRL-C**.
6. Press **ESC** or **CTRL-C** to return to the PFS: File Function Menu.
7. Continue updating forms until you have finished all your years.

Finishing Up

The PFS: File Function Menu is on your screen. Remove the Fun data disk from the disk drive and put the disk in its protective jacket.

REMINDER: The PFS: File Function Menu must *be on the screen when you remove any data disk.*

Turn the computer off, unless someone else is waiting to use the same program. Put the program disk and Fun data disk where your teacher has instructed you to keep them.

ACTIVITY 8: USING THE FUN FILE

Now you and your classmates have a tested and updated file of facts and trivia about twentieth-century America. You've already learned a lot about creating data files, and you can learn even more by using the Fun file to amuse or stump your classmates.

Look at the Introduction to these activities for a list of suggested projects you can do with your files. In many cases you'll need to get several different printouts in order to answer the questions completely. Use the worksheet for planning printouts. Have fun!

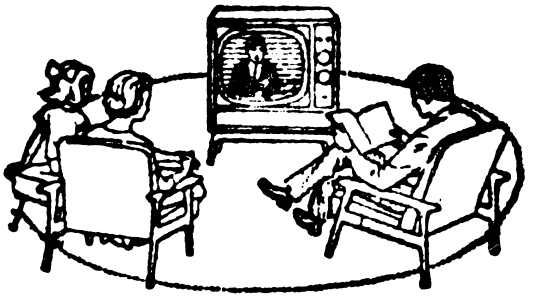
Figure 4 shows a sample printout listing songs with the word "star" in the title.

```
1977
Love Theme from "A Star Is
Born"
Barbra Streisand

1944
Swimming on a Star
Johnny Burke
Jimmy Van Hensen

1940
When You Wish Upon A Star
Leigh Harlin
```

Figure 4



WORKSHEET FOR PLANNING PRINTOUTS

Use this worksheet to plan printouts of data from a *PFS* file. After you have answered the questions on this worksheet, take the worksheet with you to the computer to guide you as you set up the Pre-defined Print Spec and then print the data.

Project or Student Name: _____

Name of File: _____

Defining Information Needs

What is the question or problem? _____

_____

_____

What data items will be included on the printout? _____

_____

_____

_____

Which data item will be used for sorting the printout? _____

Setting Up a Pre-defined Print Spec

What name will you give to the Pre-defined Print Spec? (1– 8 characters) _____

Printing the Data

1. Setting up the Retrieve Spec. Which forms will be selected for printing? _____

_____

_____

2. Setting up the Print Options. Will you print the item names (Y or N)? _____

Do you need to add linefeed characters for your printer (Y or N)? _____

How many lines do you need to print from each form page? _____
Use this number in the Lines Per Page option.

Scholastic pfs: U.S. History Data Bases

Quick Guide

QUICK GUIDE

This Quick Guide contains useful procedures, hints, and facts about *PFS: File*. Refer to this handout when you need some quick information about *File*. You'll find information on:

- How to load *File* into the computer
- How to use the functions on the *File* menu
- How to use various keys
- How to search for information

Starting Up File

1. Remove the *File* program disk from its protective jacket and insert it into Drive 1. (Drive 1 is the built-in drive in the Apple IIc.) Close the disk drive door.
2. If the computer is off, turn it on. Then turn on the monitor. If the computer is already on, press the **CTRL**, **OPEN APPLE**, and **RESET** keys together. The PFS: File Function Menu will appear.
3. Now that *File* is in the computer's memory, you don't need it anymore. Remove it from the drive and return it to its protective jacket.
4. Insert the data disk you want to use into Drive 1 and close the disk drive door.

CAUTION: Never remove a data disk from the drive, or turn off the computer, unless the PFS: File Function Menu is on the screen. Doing so at any other time could lead to the loss of data.

Ending a Session With File

When you want to stop working, make sure the PFS: File Function Menu is on the screen. If it's not, press **ESC**. Then remove the data disk from the drive and return it to its protective jacket. If no one else wants to use the computer, turn it off. Store the data disk in a safe place.

File Functions

The six functions on the PFS: File Function Menu are briefly explained below. The explanations use as an example a simple file named Friends, which contains only the name, address, and phone number of people you know.

DESIGN FILE

DESIGN FILE allows you to set up a new file on a disk. You do this by naming categories of information you want in the file and the amount of space to allot for each category. In the Friends file, these categories are named Name, Address, and Phone Number.

ADD

You use ADD to place new forms in a file. In the Friends file, you would add a new form whenever you want to add a new person to the file. However, if you just want to change information already in the file, you would use the SEARCH/UPDATE function.

COPY

COPY allows you to copy forms from one disk to another. For example, you might want to create a new file of information about relatives only. Use Copy Design Only to copy the Friends file design onto the new disk, then Copy Selected Forms to copy forms with information about Relatives.

SEARCH/UPDATE

SEARCH and UPDATE are two functions rolled into one. SEARCH helps you find specific information. For example, you might want a friend's phone number. UPDATE helps you change data. For example, you might want to change the address of a friend who's moved.

PRINT

PRINT lets you print out information. You tell the computer what information you want, and how much of each form you want printed. You also specify the order in which forms should appear.

REMOVE

REMOVE lets you erase forms from the file that you no longer need. For example, you might want to remove all forms containing information about Relatives after you've copied those forms on to another disk.

Browsing Through a File and Looking for Data

Use SEARCH/UPDATE to look at the contents of a file or locate specific information. The PFS: File Function Menu should be on the screen. Then follow this procedure:

1. Select SEARCH/UPDATE by typing 4.
2. If File Name is blank or shows the name of the file in Drive 1, proceed to Step 3. Otherwise, press **TAB** and type the file name.
3. Press **CTRL-C**. (In *File*, the **CTRL-C** keys, not **RETURN**, signal the computer to begin a function. Hold down **CTRL** and press **C** anytime you want *File* to begin or continue a particular function.)
4. A Retrieve Spec will appear on the screen. (Retrieve Spec is short for Information Retrieval Specifications.)
5. You can search for specific forms by filling in the data items on the Retrieve Spec form, or you can browse by leaving it blank.
6. Whether you're browsing or searching, press **CTRL-C** to see each form.

Format for Retrieve Specs

You can search for information in many different ways. The information the computer finds can be displayed one form at a time on the screen, or together in a printout. In either case, the Retrieve Spec is the same. An example of each type of Retrieve Spec is given below.

Find exactly Garfield	Garfield
Ignore anything before Garfield	**..**Garfield
Ignore anything after Garfield	Garfield**..**
Ignore anything before or after Garfield	**..**Garfield**..**
Find anything except blank items	**..**
Find Garfiel followed by any character	Garfiel@
Find exactly the number 15	= 15
Find any number greater than 15	> 15
Find any number less than 15	< 15
Find any number between 15 and 17	= 15**..** 17
Find anything except for Garfield	/Garfield
Find blank items	/**..**

Moving Around and Adding or Changing Information in a Form

Function	Keys
Continue to the next form	**CTRL-C**
Return to PFS: File Function Menu	**ESC**
Move left, right, up, or down	**Cursor keys** ← → ↑ ↓
Next data item	**TAB**
Previous data item	**APPLE-TAB**
Next page	**CTRL-N**
Previous Page	**CTRL-P**
Start of next line	**RETURN**
Erase a page	**CTRL-E**
Remove entire form	**CTRL-R**
Delete to left of cursor	**DELETE**

Print Specs

When you want to print out information, you need to tell the computer which data items on each form to print, and how it should look. This is easily done with only three symbols, x, +, and S:

Print this data item	**X**
Print this item and the next one on the same line	**+**
Sort by this item	**S**
Print as 80-column text	**T**
Print the displayed form	**CTRL-0**

Scholastic pfs: U.S. History Data Bases

Mini-Reference Guide for *PFS: File*

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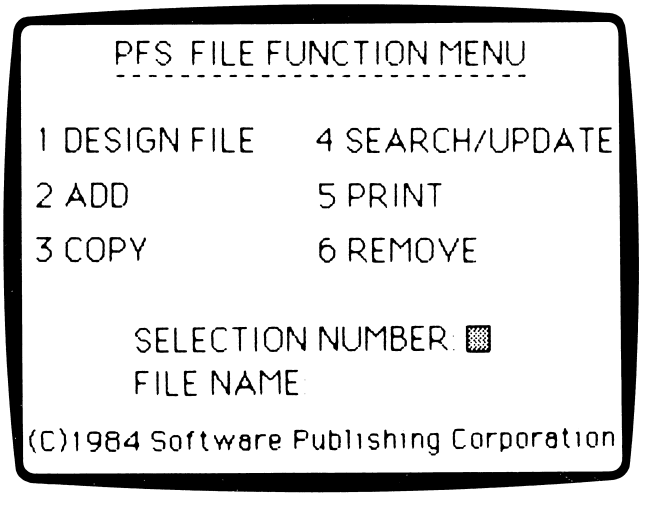
INTRODUCTION

The *Scholastic PFS: File* Mini-Reference Guide is for people who have experience with data-management programs or have completed the *Scholastic PFS: File* Learning Activities and just want a quick reference while working with *File*.

There are certain terms you need to know as you work with *File*. Three of the most important are *file, form,* and *data item.*

- A *file* is a collection of related information organized on forms and stored on a disk. Each *File* data disk can hold one file.
- A file contains *forms*. These forms are numbered consecutively. There is a separate form for each entry in your file.
- A form contains *data items.* The data item names are identical on each of the forms. You type the information that you want to store at these data items.



File has six functions that appear on the PFS: File Function Menu. The name of each function describes what it does. The six *File* functions are:

1. DESIGN FILE
2. ADD
3. COPY
4. SEARCH/UPDATE
5. PRINT
6. REMOVE

This *File* Mini-Reference Guide contains an introduction to each of these functions and a series of one-page procedures for accomplishing their particular tasks.

1. DESIGN FILE is the function you use to design a new file or redesign an existing file.
2. ADD is the function you use to put your data into the forms of your file.
3. COPY is the function you use to copy the file design to a new disk; to copy selected forms from one disk to another; or to copy your entire file to another disk.
4. SEARCH/UPDATE is the function you use most often. You use it to get information out of the file and onto your screen. It allows you to update your data. Also, you can remove certain forms or blank forms from your file.
5. PRINT is the function you use with your printer in a great variety of ways. You can print a blank form, which is helpful as you collect data for your file. You can select which data items and forms will be used in your printout. If you plan to use the same print design for several printouts, you can define a Print Spec that can be used over and over.
6. REMOVE is a function that permanently erases any forms that you no longer want in your file.

What You'll Need

- An Apple *II*e or IIc computer with at least 64K memory.
- A monitor connected to the computer.
- One disk drive.
- A *File* program disk.

For some procedures you will need additional materials. These include a second disk drive, data disks, a printer, and paper for your printer.

To Start the File Program

1. Remove the *File* program disk from its protective jacket. With the label of the disk facing up, insert the disk in Drive 1. On the IIc, Drive 1 is the built-in drive. Close the door on the disk drive.
2. If the computer is off, turn it on. If the computer is already on, press three keys all at once: **CTRL**, **OPEN-APPLE**, and **RESET**. The red light on the disk drive comes on. In a few seconds the PFS: File Function Menu appears on the screen.
3. Remove the program disk from the disk drive. Put it back in its protective jacket. You won't need it again during this session at the computer.

The PFS: File Function Menu is on the screen. Most of the procedures in this Mini-Reference Guide start at this point. For further information on starting the *File* program, see page 5 in the *Scholastic PFS: File* Reference Guide.

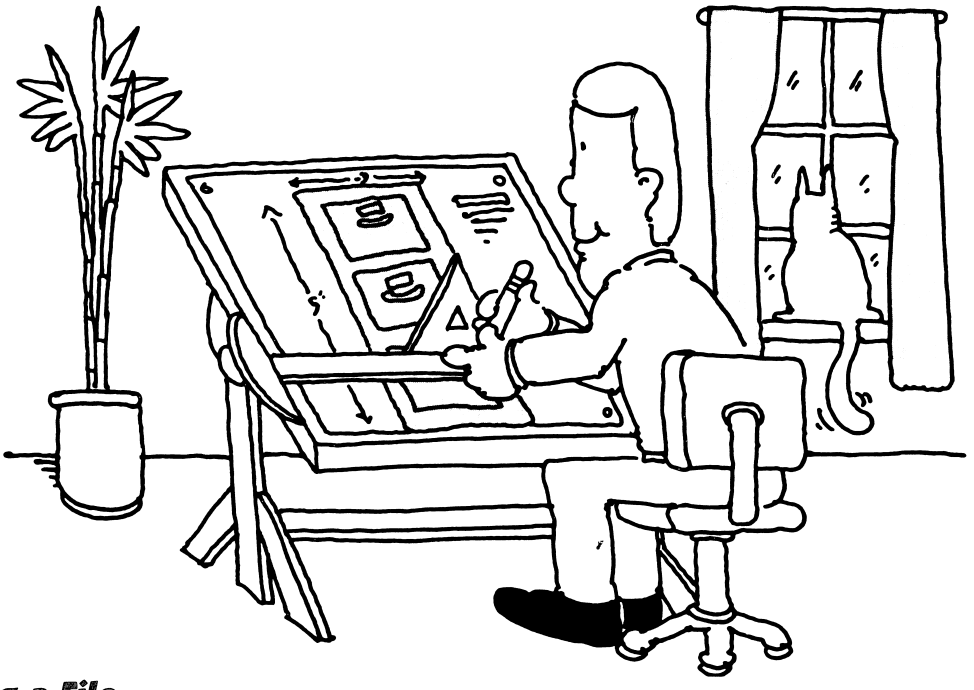
A Note About CTRL-C

You may be used to using the **RETURN** key on the Apple to signal a program that you want to continue an operation. The *File* program is different. Instead of **RETURN**, you use **CTRL-C**. That means, hold down the **CONTROL** key (or **CTRL**) and press the letter **C** at the same time.

A Note About CAPS LOCK

You may be used to pressing the **CAPS LOCK** key when you use the Apple. The *File* program is different. You can use either capital or lowercase letters.

DESIGN FILE



Creating a File

Use the Create File option when you want to create a *File* data disk.

To get ready to create a file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed, you will also need a blank disk or one that can be overwritten.

Begin with the PFS: File Function Menu on your screen. The blank disk or one that can be overwritten is in Drive 1.

1. Type the number 1 to select DESIGN FILE.
2. Press **TAB**.
3. Type a file name (one to eight characters).
4. Press **CTRL-C**. The Design File Menu appears.
5. Type the number 1 to select Create File.
6. Press **CTRL-C**. A warning appears.
7. Open the door of Drive 1 and look at the disk label. Make sure it is a blank disk or one containing information that you no longer need.
8. Press **CTRL-C**. The blank Design screen appears.
9. Type your data item names. Follow each data item name by a colon (:). Decide which data item will be used most often for retrieval, and make that the first data item on the form. Use the cursor movement keys to position the data items in the order that you want them printed out. Use **CTRL-N** to make a new page in the form. Use **CTRL-P** to see a previous page.
10. When the form is complete, press **CTRL-C**. The program stores the form. The PFS: File Function Menu appears.

For further information on creating a file, see page 15 in the *Scholastic PFS: File* Reference Guide.

Redesigning a File

Use the Change Design option to redesign a form that has already been created.

NOTE: Before you do this procedure, make a backup copy of your data disk. *(See page 14.)*

To get ready to redesign a file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- A *File* data disk.
- A blank disk or one that can be overwritten.
- A second disk drive.

Begin with the PFS: File Function Menu on your screen. The data disk containing the file to be changed is in Drive 1 and a blank disk (or one with data that you no longer need) is in Drive 2. The disk in Drive 2 will be used for temporary storage while the disk in Drive 1 is redesigned.

1. Type the number 1 to select DESIGN FILE.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Design File Menu appears.
5. Type 2 to select the Change Design option.
6. Press **CTRL-C**. A warning message appears.
7. Press **CTRL-C**. The form appears.
8. Type the desired changes on the page(s) of the form.

- Data item location may be changed by erasing and retyping.
- If you change a data item name, all of the data for the old name will be lost. Try to avoid these changes.
- Data items may be deleted.
- New data items may be added.

9. When the changes are complete, press **CTRL-C**.

This procedure can take a long time depending on the size of your file and the complexity of your changes. The PFS: File Function Menu appears when your file is redesigned.

For further information on redesigning a file, see page 19 in the *Scholastic PFS: File* Reference Guide.

Adding Data to a File

Use ADD to type data into a form that has already been designed. The form is automatically stored in your *File* data disk.

To get ready to add data to your file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed you will also need a *File* data disk.

Begin with the PFS: File Function Menu on your screen and your data disk in Drive 1.

1. Type 2 to select ADD.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. A blank form appears.
5. Type your data into the data items. Use **TAB** or **APPLE-TAB** to get from one data item to another. If you make a mistake, just type over the error.

If you are using a frequently-used-phrase, follow the procedure on page 10 of this guide. To erase a page of your form, follow the procedure on page 11 of this guide.

6. Press **CTRL-N** to get the next page of the form on your screen (if the form has more than one page). Type the data.
7. Press **CTRL-C** to store the completed form.
8. Repeat Steps 5–7 for as many forms as needed.
9. Press **CTRL-C** to store the last form you completed.
10. With the next blank form on your screen, press **ESC**. The PFS: File Function Menu appears.

For further information on adding data to a form, see page 21 in the *Scholastic PFS: File* Reference Guide.

Using the Frequently-Used-Phrase Option

You can store a frequently-used-phrase that might be repeated on several or all forms. *File* will automatically type the stored phrase where you want it. Only one phrase (containing 1–40 characters) may be stored at a time. Use this option when you are adding forms to a file (page 9) or updating a file (page 18).

Begin with a form on the screen.

To store a frequently-used-phrase:

1. Press **APPLE-S** (use either **APPLE** key). A prompt appears at the bottom of the screen.
2. Type the phrase you want to store.
3. Press **CTRL-C** to store the phrase or press **APPLE-ESC** to cancel whatever you just typed.

To use a stored phrase:

1. Move the cursor to the data item where you want the stored phrase to be inserted.
2. Press **APPLE-T**. *File* will type the stored phrase.

To change a stored phrase:

1. Press **APPLE-S**. A prompt appears at the bottom of the screen.
2. Type the new phrase over the old one. Use **SPACE BAR** to delete unwanted text.
3. Press **CTRL-C** to store the new phrase.

For more information on using a frequently-used-phrase, see page 24 in the *Scholastic PFS: File* Reference Guide.

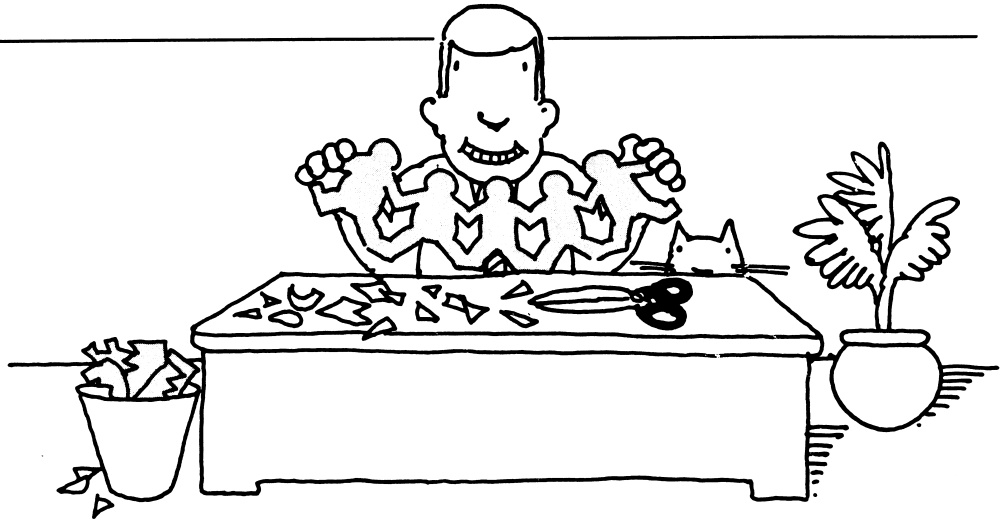
Erasing a Page of a Form

While you are working on a form, you may make some mistakes and decide you want to erase the whole page and then start over again. However, you don't want to erase the data on the other pages of the form. You can erase a page when you add data to a file (page 9) or update a file (page 18).

Begin with the page you wish to erase on the screen.

1. Press **CTRL-E**. The information will be erased, but not the data items.
2. Retype the present page with your corrections.
3. Press **CTRL-C** to store the corrected form.
4. Continue with your ADD or UPDATE procedure.

For further information on erasing a page of a form, see page 24 in the *Scholastic PFS: File* Reference Guide.



Copying the Design of Your File

Use the Copy Design Only option when you want to copy the design of a file onto another disk.

To get ready to copy the design of your file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- A *File* data disk and a blank disk or one that can be overwritten.
- A second disk drive.

Begin with the PFS: File Function Menu on the screen. The disk to copy *from* is in Drive 1. The disk you are copying *to* is in Drive 2.

1. Type 3 to select COPY.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Copy Function Menu appears.
5. Type 1 to select Copy Design Only.
6. Press **TAB** and type a name for the file that is in Drive 2. It can be the same name as the one in Drive 1, or you can choose a different name.
7. Press **CTRL-C**. A warning message appears. Make sure that the disk in Drive 2 is a blank disk or one that can be overwritten.
8. Press **CTRL-C**. After the design of the file that is in Drive 1 is copied onto the disk in Drive 2, the PFS: File Function Menu appears.
9. Remove the disk from Drive 2 and use a felt tip pen to label it with the name you gave it in Step 6.

For further information on copying the design of your file, see page 29 of the *Scholastic PFS: File* Reference Guide.

Copying Selected Forms From Your File

Use the Copy Selected Forms option when you want to copy some data forms from your file to another disk.

To get ready to copy selected forms, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- A *File* data disk and a data disk with a copy of the design of your file on it (page 12).
- A second disk drive.

Begin with the PFS: File Function Menu on the screen. The data disk you are copying *from* is in Drive 1. The disk that has a copy of the design of your file is in Drive 2.

1. Type 3 to select COPY.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Copy Function Menu appears.
5. Type 2 to select the Copy Selected Forms option.
6. Press **TAB** and type a name for the disk that is in Drive 2. It can be the same name as the one in Drive 1 or it can be a different name.
7. Press **CTRL-C**. A warning message appears. Make sure that the disk in Drive 2 is a blank disk or one that can be overwritten.
8. Press **CTRL-C**. A Retrieve Spec screen appears.
9. Fill in the Retrieve Spec to select desired forms for copying (page 16).
10. Press **CTRL-C**. The forms specified for printing are selected and copied onto the disk in Drive 2. Then a message appears, indicating the number of forms copied.
11. Press **CTRL-C**. The PFS: File Function Menu appears on the screen.
12. Remove the disk from Drive 2 and use a felt tip pen to label it with the name that you gave it in Step 6.

For further information on copying selected forms, see page 30 in the *Scholastic PFS: File* Reference Guide.

Copying a Whole Disk

Use the Copy Whole Diskette (called disk in this guide) option when you want to make a backup copy of your file. It is recommended that you make a backup of your *File* data disk at the end of every session.

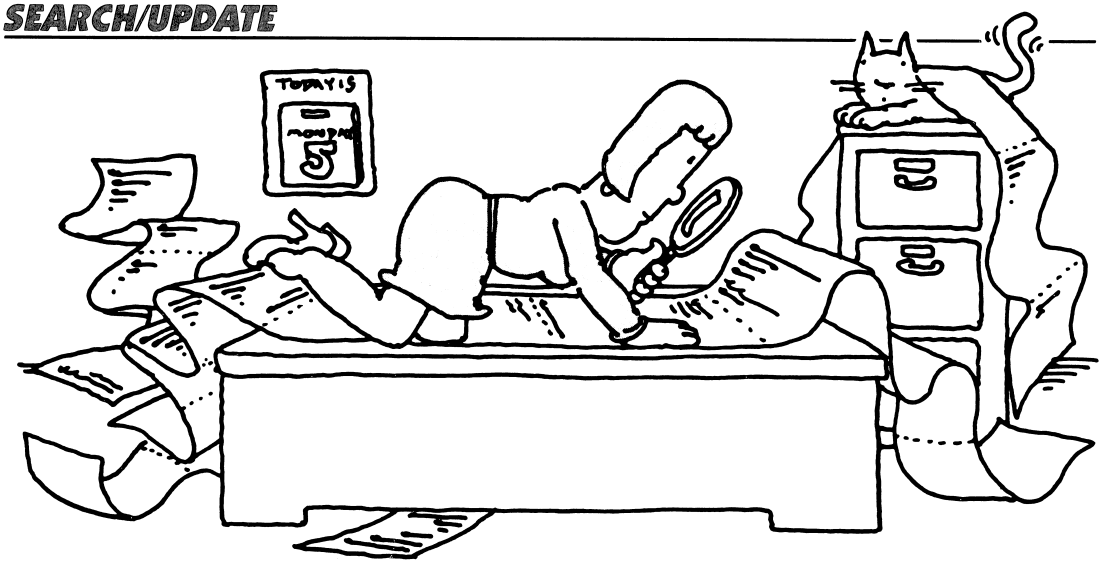
To get ready to copy a whole disk, see Getting Started With *File,* page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- A *File* data disk and a blank disk or one that can be overwritten.
- A second disk drive.

Begin with the PFS: File Function Menu on the screen. The disk you are copying *from* is in Drive 1. The disk that you are copying *to* is in Drive 2.

1. Type 3 to select COPY.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Copy Function Menu appears.
5. Type 3 to select Copy Whole Diskette.
6. Press **TAB.** Type a name for the disk that is in Drive 2. It can be the same name as the one in Drive 1 or it can be a different name.
7. Press **CTRL-C**. A warning message appears. Check to make sure that you have a blank disk or one that can be overwritten in Drive 2.
8. Press **CTRL-C**. The copying operation takes varying amounts of time depending on the amount of data to be copied. Then a message indicating the number of forms copied will appear.
9. Press **CTRL-C**. The PFS: File Function Menu appears.
10. Take the disk out of Drive 2 and use a felt tip pen to label it with the name you gave it in Step 6.

For further information on copying a whole disk, see page 31 in the *Scholastic PFS: File* Reference Guide.



Browsing Through Your File

You can review the information in a file without making any changes.

To get ready to browse through a file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed you will also need a *File* data disk.

Begin with the PFS: File Function Menu on the screen and your data disk in Drive 1.

1. Type 4 to select SEARCH/UPDATE.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. A Retrieve Spec form appears.
5. Press **CTRL-C**. The last form in the file appears.
6. Review the form, taking notes as needed.
7. Press **CTRL-C** to see the next form.
8. Repeat Steps 6 and 7 until you want to quit or you have seen all the forms. Then press **ESC** to return to the PFS: File Function Menu.

For further information on browsing through a file, see page 33 in the *Scholastic PFS: File* Reference Guide.

Designing a Retrieve Spec

You can use the Retrieve Spec form to tell *File* which forms you want selected from your data disk. On the Retrieve Spec form, you type the rules for selecting forms. You can select forms by using codes that specify an exact match, partial match, a range of numbers, greater than a number, and less than a number. Also, you can make specifications for as many data items as you wish.

You use a Retrieve Spec when you use the COPY, SEARCH/UPDATE, PRINT, and REMOVE functions.

Begin with a Retrieve Spec form on the screen.

1. Use the **TAB** key to get the cursor to the data item(s) to be used for your selection rules.
2. Type your rules according to the codes below:

Exactly this	Garfield
Ignore anything in front	. . Garfield
Ignore anything after	Garfield . .
Ignore anything before/after	. . Garfield . .
Anything except a blank item	. .
A blank item	/ . .
Anything in the @ position	Garfiel@
Anything that is not this	/Garfield
	/15
Exactly this number	= 15
Any number greater than this	> 15
Any number less than this	< 15
Any number between these two	= 15 . . 17

3. Press **CTRL-C**. Continue with your ADD, SEARCH/UPDATE, PRINT, or REMOVE procedure.

For further information on setting up a Retrieve Spec, see page 34 in the *Scholastic PFS: File* Reference Guide.

Searching Through Your File

You can use *File* to search for certain forms in your data disk.

To get ready to search through your file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed, you will also need a *File* data disk.

Begin with the PFS: File Function Menu on the screen and your data disk in Drive 1.

1. Type 4 to select SEARCH/UPDATE.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. A Retrieve Spec form appears.
5. Use the **TAB** key to get the cursor on the data item(s) to be used for your selection rules.
6. Type your selection rules for the forms you want to review. (For guidelines, see page 16.)
7. Press **CTRL-C**. The first form that matches your selection rules appears.

To print this form exactly as it appears on the screen, follow the procedure on page 22.

8. Press **CTRL-C** when you want to see the next form that matches your selection rules.
9. Repeat Step 8 until a message indicating the number of forms found appears.
10. Press **CTRL-C**. The PFS: File Function Menu appears.

For further information on searching for certain forms in your file, see page 32 in the *Scholastic PFS: File* Reference Guide.

Updating Your File

You can change or add to the data items of your forms.

To get ready to update your file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed, you will also need a *File* data disk.

Begin with the PFS: File Function Menu on the screen and your data disk in Drive 1.

1. Type 4 to select SEARCH/UPDATE.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. A Retrieve Spec form appears.
5. Type the selection rules for the files you want to update. (For guidelines, see page16.)
6. Press **CTRL-C**. The first form that matches your selection rules appears.
7. Use the **TAB** key to get the cursor on the data item that you want to update. Type the information.

To erase a page of the form, follow the procedure on page 11 of this guide.

8. Repeat Step 7 for all the data items you want to change on that form.
9. Press **CTRL-C** to save the updated form. The next form you selected will appear on the screen.
10. Repeat Steps 7 – 9 until the message "Forms found: #" appears.
11. Press **CTRL-C.** The PFS: File Function Menu appears.

For more information on updating your file, see page 39 in the *Scholastic PFS: File* Reference Guide.

Removing Forms From Your File

You can remove unwanted forms from your file. The safest way is to use the SEARCH/ UPDATE function to look at the form and then remove it.

To get ready to remove a form from a file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed, you will also need a *File* data disk.

Begin with the PFS: File Function Menu on your screen. Your data disk is in Drive 1.

1. Type 4 to select SEARCH/UPDATE.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Retrieve Spec form appears.
5. Type the selection rules for the form(s) you want to remove. (For guidelines, see page 16.)
6. Press **CTRL-C**. The first form that matches your Retrieve Spec appears on the screen.
7. Read over the form and decide whether or not you want to remove it permanently from the file.
8. Press **CTRL-R**. A warning message appears.
9. To remove the form, press **CTRL-C**. To avoid removing the form, press **RETURN**.

The next form that matches your Retrieve Spec appears.

10. Press **CTRL-C**. The PFS: File Function Menu appears on the screen.

For more information on removing forms from your file, see page 40 in the *Scholastic PFS: File* Reference Guide.

Removing Blank Forms From Your File

You can accidentally save a blank form in your file. This can alter your printouts. Follow this procedure to remove any unwanted blank forms.

To get ready to remove blank forms from your file, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed you will also need a *File* data disk.

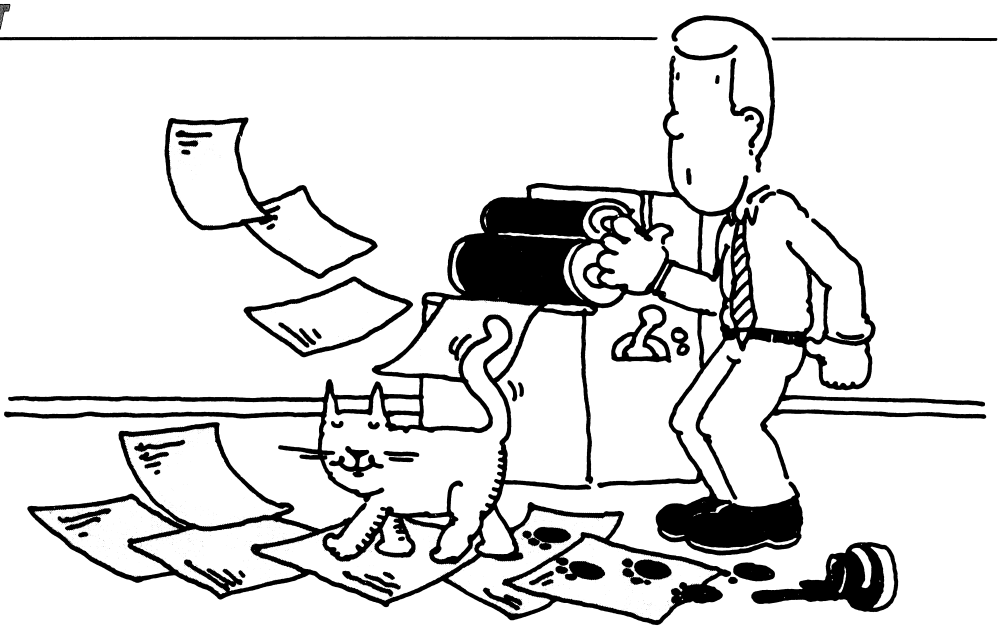
Begin with the PFS: File Function Menu on the screen. Your data disk is in Drive 1.

1. Type 4 to select SEARCH/UPDATE.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Retrieve Spec form appears.
5. Move the cursor to the first and/or main data item. (Each form should have data entered for this item.)
6. Type / . . after this data item.
7. Press **CTRL-C**. *File* will search for any forms that are blank for this item.
8. Read over the form and make sure that it is blank and that you want to remove it permanently from your file.
9. Press **CTRL-R**. A warning message appears.
10. To remove the form, press **CTRL-C**. To avoid removing the form, press **RETURN**.

The next form that is blank for the selected data item appears.

11. Repeat Steps 8 – 10 until the message "Forms found: #" appears.
12. Press **CTRL-C.** The PFS: File Function Menu will appear on your screen.

For more information on removing blank forms from your file, see page 40 in the *Scholastic PFS: File* Reference Guide.



Printing a Blank Form

You can print blank forms that list your data items. You can use these forms to collect the data that you want to add to your file.

To get ready to print a blank form, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- A *File* data disk.
- A printer with paper.

Begin with the PFS: File Function Menu on the screen. Your data disk is in Drive 1 and a printer is properly connected to the computer.

1. Type 2 to select ADD.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. A blank form appears.
5. Press **CTRL** and the letter **O** at the same time. The Print Options Menu appears. (For guidelines, see page 26.)
6. The Pre-defined Print Spec should be blank.
7. Type Y for Print Item Names.
8. Type Y or N for Add Linefeed Characters.
9. Type 22 for the Lines Per Page option.
10. Type the number of blank forms you want for the Number of Copies option.
11. Type Y or N for the Pause Between Pages option.
12. If you have printer control codes, type them. Otherwise, leave this option blank.
13. Check to see that paper is positioned in the printer and that it is turned on.
14. Press **CTRL-C**. The printing begins.
15. Press **ESC** when the printing is complete. The PFS: File Function Menu will appear on the screen.

For further information on printing a blank form, see page 25 in the *Scholastic PFS: File* Reference Guide.

Printing a Single Form

You can print a single form in your file exactly as it appears on your screen. You can use these forms to collect data that you are missing for forms already in your file.

To get ready to print a single form, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- A *File* data disk.
- A printer with paper.

Begin with the form you want to print on the screen.

(To do this, follow Steps 1 – 7 in the Searching Through Your File procedure on page 17 of this guide.) Your data disk is in Drive 1 and a printer is properly connected to the computer.

1. Press **CTRL** and the letter **O**. The Print Options Menu appears. (For guidelines, see page 26.)
2. The Pre-defined Print Spec should be blank.
3. Type Y for Print Item Names.
4. Type Y or N for Add Linefeed Characters.
5. Type 22 for the Lines Per Page option.
6. Type the number 1 for Number of Copies option.
7. Type Y or N for Pause Between Pages option.
8. If you have printer control codes, type them. Otherwise leave this option blank.
9. Check to see that paper is positioned in the printer and that it is turned on.
10. Press **CTRL-C**. The printing of your form begins.
11. Press **ESC** when the printing is complete. The PFS: File Function Menu will appear.

For further information on printing a single form, see page 25 in the *Scholastic PFS: File* Reference Guide.

Printing Without a Pre-defined Print Spec

You can design a printout of your file data. This procedure lets you specify your print design for one printout only. (To define a Print Spec that you can use and save, see page 24 in this guide.)

To get ready to print without a Pre-defined Print Spec, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- *File* data disk.
- A printer with paper.

Begin with the PFS: File Function Menu on the screen. Your data disk is in Drive 1 and a printer is properly connected to the computer.

1. Type 5 to select PRINT.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Print Menu appears.
5. Type the number 1 to select Print Forms.
6. Press **CTRL-C**. A Retrieve Spec appears.
7. Type your selection rules. (For guidelines, see page 16.)
8. Press **CTRL-C**. The Print Options Menu appears.
9. The Pre-defined Print Spec should be blank. If not, use the **SPACE BAR** to clear it.
10. Check to make sure the other Print Options are set the way you want them. (For guidelines, see page 26.)
11. Press **CTRL-C**. A Print Spec screen appears.
12. Press **TAB** to move the cursor to the data items to be printed. Type your Print Spec codes. (For guidelines, see page 24.)
13. Press **CTRL-C** and the printing begins.
14. Press **ESC** to stop the printing or to return to the PFS: File Function Menu when the printing is complete.

For more information on printing without a Pre-defined Print Spec, see page 49 in the *Scholastic PFS: File* Reference Guide.

Defining a Pre-defined Print Spec

A Print Spec is a blank form on which you type special codes that tell the program how to design a printout. *File* will store these printouts on your data disk.

To get ready to define a Pre-defined Print Spec, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed, you will also need a *File* data disk.

Begin with the PFS: File Function Menu on the screen and your data disk in Drive 1.

1. Type 5 to select PRINT.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Print Menu appears.
5. Type 2 to select Define Print Spec.
6. Press **CTRL-C**. The Current Pre-defined Print Spec Menu appears.
7. Type a Print Spec name.
8. Press **CTRL-C**. The Print Spec form appears.
9. Use **TAB** to move the cursor to the data items to be printed. Type the Print Spec codes (x, +, s, or t) in the data item names.

Print Spec Selection Rules

x .....print the data then advance to the next line
+ .....print the data and move over two spaces
s .....sort the forms based on this item
t .....treat this data as text

10. When finished, press **CTRL-C** to store the Print Spec. The PFS: File Function Menu appears.

NOTE: Each File *data disk can hold up to eight Pre-defined Print Specs. To remove an unwanted Print Spec, press* ***CTRL-R*** *while the unwanted Print Spec is on the screen.*

For more information on defining a Pre-defined Print Spec, see page 44 in the *Scholastic PFS: File* Reference Guide.

Printing With a Pre-defined Print Spec

You can print selected data from your file by using a Pre-defined Print Spec.

To get ready to print with a Pre-defined Print Spec, see Getting Started With *File,* page 6. This tells you the materials you need and how to start the *File* program. Additional materials you need:

- A *File* data disk.
- A printer with paper.

Begin with the PFS: File Function Menu on the screen. Your data disk is in Drive 1 and a printer is properly connected to the computer.

1. Type 5 to select PRINT.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Print Menu appears.
5. Type the number 1 to select Print Forms.
6. Press **CTRL-C**. A Retrieve Spec appears.
7. Type your selection rules for the files you want to print. (For guidelines, see page 16.)
8. Press **CTRL-C**. The Print Options Menu appears.
9. Type the name of your Pre-defined Print Spec. Press **TAB**. Make any needed changes in the Print Options Menu. (For guidelines, see page 26.)
10. Check to see that paper is positioned in the printer and that it is turned on.
11. Press **CTRL-C** to start the printing.
12. Press **ESC** to stop the printing or to return to the PFS: File Function Menu when the printing is complete.

For more information on printing forms with a Pre-defined Print Spec, see page 42 in the *Scholastic PFS: File* Reference Guide.

Setting the Print Options

The Print Options Menu is used to tell *File* how to print your data. Some of the options are automatically filled into the program as defaults. In some cases you can simply accept the defaults; in other cases you need to change them. Use this procedure when you are getting ready to print (pages 23 and 25).

Begin with the Print Options Menu on the screen.

1. Use the **TAB** key to move the cursor to each option you want to change. Type the change.

The Print Options

Pre-defined Print Spec: Type the name of your Pre-defined Print Spec to be used in this printout. If you leave this option blank, the program will give you a chance later to fill in a Print Spec form.

Print Item Names: Type Y if you want to print each item name along with the data. Type N to print the data only.

Add Linefeed Characters: Type Y to add a linefeed character to the end of each line of data printed, causing the printer to advance to the next line. Type N if your printer skips to the next line automatically.

Lines Per Page: This option specifies the number of lines you want between the first line of one form and the first line of the next form. Generally, the number 22 works well. If there are too many spaces between your forms, try 11 or 6. If you want a separate form on each printed page, use 66.

Number of Copies: Specify how many times you want the data items from each form to be printed.

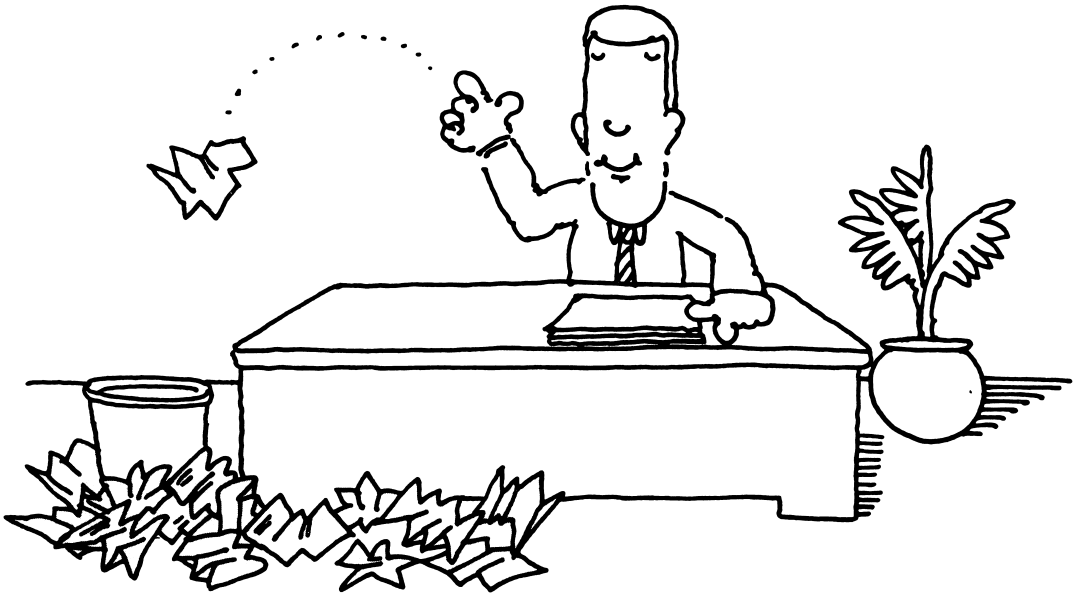
Pause Between Pages: Type Y if you are using single sheet paper. If you are using continuous–form paper, type N.

Printer Control Codes: This option allows you to specify decimal codes to be sent to the printer to change the type style. See your printer manual for these codes.

2. Press **CTRL-C**. Continue with your printing procedure.

For further information on setting the Print options, see page 47 in the *Scholastic PFS: File* Reference Guide.

REMOVE



Removing Files

You can use the REMOVE function to permanently erase forms from your file that you no longer need.

CAUTION: REMOVE may permanently erase forms that you do not want to lose because you cannot review a form before it is deleted. It's safer instead to use the procedures to remove forms in the SEARCH/UPDATE function (pages 19 and 20).

To get ready to use the REMOVE function, see Getting Started With *File*, page 6. This tells you the materials you need and how to start the *File* program. Along with the materials listed you will also need a *File* data disk.

Begin with the PFS: File Function Menu on the screen and your data disk in Drive 1.

1. Type 6 to select REMOVE.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Retrieve Spec form appears.
5. Type the selection rules for the forms you want to remove. (For guidelines, see page 16.)
6. Press **CTRL-C**. A warning message appears telling you that selected forms are about to be removed.
7. Press **CTRL-C**. A message appears that the forms have been removed.
8. Press **CTRL-C**. The PFS: File Function Menu appears.

For further information on removing forms, see page 50 in the *Scholastic PFS: File* Reference Guide.

Scholastic pfs: U.S. History Data Bases

Mini-Reference Guide for *PFS: Report*

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INTRODUCTION

Scholastic PFS: Report is a program that prepares printed reports in the form of columns. Use data files that you have previously created with *PFS:File*.

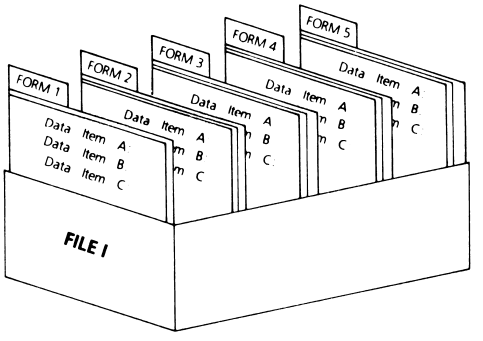
The *Scholastic PFS: Report* Mini-Reference Guide is for those who have experience with data management programs or have completed the *Report* Learning Activities and are looking for a quick way to work with *Report*.

There are certain terms you need to know as you work with *Report*. Three of the most important are *file, form*, and *data item*.

A *file* is a collection of related information organized and stored on a disk. Each *File* data disk holds one file.

A file contains *forms*. These forms are numbered consecutively. There is a separate form for each entry in your file.

A form contains *data items*. Each data item name is identical on each of the forms. Type the information that you want to store next to each data item.



Report has three functions that appear on the PFS: Report Menu. The name of each function describes what it does. The three *Report* functions are:

1. PRINT A REPORT
2. PRE-DEFINE A REPORT
3. SET NEW HEADINGS

This *Report* Mini-Reference Guide contains an introduction to each of these functions and a series of one-page procedures for accomplishing their particular tasks.

1. PRINT A REPORT is the function you use to tell the program which forms to select for your report, the title of your report and how you want the report to be printed. PRINT A REPORT also lets you preview the report on the screen. It is best to use this function after you have pre-defined a report and set new headings.
2. PRE-DEFINE A REPORT is the function you use to design your report. With this function you can save eight different report designs in your file to use when a report is printed.
3. SET NEW HEADINGS is the function that allows you to set new column headings for reports.

What You'll Need

- An Apple *IIe* or IIc computer with at least 64K memory.
- A monitor.
- Two disk drives.*
- A *Report* program disk.
- A Sortwork disk.
- Your *File* data disk(s).
- A printer connected to the computer.
- Paper for your printer.

*Using Report With One Disk Drive

You can define your report using a single disk drive, but you need two drives while printing to use all of *Report*'s features. If you do print a report using one drive, the limitations and remaining features are:

- The data cannot be sorted. Information in the rows can be reported only in the order in which the forms were stored in the file.
- Only seven vertical columns are available. Columns 1 and 2 (the sorted columns) cannot be used.
- The program will not perform most computations on the data.
- Totals, averages, counts, and some derived columns are still available.

To Load the Report Program

1. Remove the *Report* program disk from its protective jacket. With the label of the disk facing up, insert the disk in Drive 1. On the IIc, Drive 1 is the built-in drive. Close the door on the disk drive.
2. If the computer is off, turn it on. If the computer is already on, press three keys all at once: **CTRL**, **OPEN APPLE**, and **RESET**. The red light on the disk drive comes on. In a few seconds the PFS: Report Menu appears on the screen.
3. Remove the program disk from the disk drive. Put it back in its protective jacket. You won't need it again during this session at the computer.
4. Remove your *File* data disk from its protective jacket. Insert the disk in Drive 1. Close the door on the disk drive.
5. Remove the Sortwork disk from its protective jacket. Insert the disk in Drive 2. Close the door on the disk drive. The PFS: Report Menu is on the screen.

A Note About CTRL-C

You may be used to using the **RETURN** key on the Apple to indicate that you want to continue an operation. The *Report* program is different. Instead of pressing **RETURN**, you use **CTRL-C**. This means to hold down **CTRL (CONTROL)** and press the letter **C** at the same time.

A Note About CAPS LOCK

You may be used to pressing the **CAPS LOCK** key when you use the Apple. The *Report* program is different. You can use either capital or lowercase letters.

PRINT A REPORT

Printing a Pre-defined Report

You can use *Report* to produce a wide variety of lists that contain information for many different purposes. You can print selected data from your file by using a Pre-defined Report Spec. Once you have pre-defined a report, you can use it over and over by following this procedure.

To get ready to print with a Pre-defined Report Spec, see Getting Started With *Report*, page 6. This tells you the materials you need and how to load the *Report* program.

To begin, the PFS: Report Menu is on the screen. Your *File* data disk is in Drive 1 and the Sortwork disk is in Drive 2. If you want a printout of your report, you need a printer connected to your computer.

1. Pre-define your report (see page 12).
2. Set your headings (see page 20).
3. Type the number 1 to select PRINT A REPORT.
4. Press **TAB**.
5. Type the name of the file that is in Drive 1.
6. Press **CTRL-C**. A Retrieve Spec form appears.
7. Type your selection rules for the files you want to print. (For guidelines, see page 9.)
8. Press **CTRL-C**. The Report Options Menu appears.
9. Type the name of your Pre-defined Report. Press **TAB**. Make any needed changes on the Report Options Menu. (For guidelines, see page 10.)
10. If you want a printout of your report, check to see that paper is positioned in the printer and that it is turned on. If you are previewing your report on the screen, go on to the next step.
11. Press **CTRL-C**. *Report* begins selecting and sorting forms for printing. After this, the printing begins, either on the screen or the printer.

NOTE: You may get an error message telling you that your report is too wide. See Reports That Are Too Wide on page 11.

12. When the printing is complete, the PFS: Report Menu appears.

For further information on printing a pre-defined report, see page 16 in the *Scholastic PFS: Report* Reference Guide.

Printing Without a Pre-defined Report Design

You can design a report without using a pre-defined report design. This procedure lets you specify your report design for the current printout only. (To design a report that you can use over and over, follow the procedure on page 7.)

To get ready to print without a pre-defined report design, see Getting Started With *Report*, page 6. This tells you the materials you need and how to load the *Report* program.

To begin, the PFS: Report Menu is on the screen. Your *File* data disk is in Drive 1 and your Sortwork disk is in Drive 2. If you want a printout of your report, you need a printer connected to your computer.

1. Set your headings (see page 20).
2. Type the number 1 to select PRINT A REPORT.
3. Press **TAB**.
4. Type the name of the file that is in Drive 1.
5. Press **CTRL-C**. A Retrieve Spec form appears.
6. Type your selection rules for the files you want to print. (For guidelines, see page 9.)
7. Press **CTRL-C**. The Report Options Menu appears.
8. The Pre-defined Report option should be blank. Press **TAB**. Make any needed changes on the Report Options Menu. (For guidelines, see page 10.)
9. Press **CTRL-C**. A blank Report Spec appears.
10. Press **TAB** to move the cursor to the data items to be printed. Type your formatting codes. (For guidelines, see page 12.)
11. If you want a printout of your report, check to see that paper is positioned in the printer and that it is turned on. If you are previewing your report on the screen, go on to the next step.
12. Press **CTRL-C**. *Report* begins selecting and sorting forms for printing. After this, the printing begins, either on the screen or the printer.

NOTE: You may get an error message telling you that your report is too wide. See Reports That Are Too Wide on page 11.

13. When the printing is complete, the PFS: Report Menu appears.

For further information on printing without a pre-defined report design, see page 29 in the *Scholastic PFS: Report* Reference Guide.

Designing a Retrieve Spec

You can use the Retrieve Spec form to tell *Report* which forms you want selected from your data disk. You can use all the forms from your file in your report, or you can select certain ones. On the Retrieve Spec form, you type the rules for selecting forms. You can select forms with an exact match, partial match, an anything except match, a range of numbers, greater than a number, and less than a number. Also, you can make specifications for as many data items as you wish.

To begin, a Retrieve Spec form is on the screen.

1. Use the **TAB** key to get the cursor to the data item(s) to be used for your selection rules. If you want to use all the forms in your report, go to Step 3.
2. Type your rules according to the guidelines below:

Exactly this	Garfield
Ignore anything in front	. . Garfield
Ignore anything after	Garfield . .
Ignore anything before/after	. . Garfield . .
Anything except a blank item	. .
A blank item	/ . .
Anything in the @ position	Garfiel@
Anything that is not this	/Garfield
	/15
Exactly this number	= 15
Any number greater than this	>15
Any number less than this	<15
Any number between these two	= 15 . . 17

3. Press **CTRL-C**. Continue with your *Report* procedure.

For further information on setting up a Retrieve Spec, see page 18 in the *Scholastic PFS: Report* Reference Guide.

Setting the Report Options

The Report Options Menu is used to type a title for the report and specify how you want the report printed. Some of the options are automatically filled in, placed in the program as *defaults*. The default values are the ones most commonly used. In some cases you can simply accept the defaults. In other cases you need to change them. Use this procedure when you are getting ready to print a report.

To begin, the Report Options Menu is on the screen.

1. Use the **TAB** key to move the cursor to each option you want to change. (Use **APPLE-TAB** to move backward.) Type the change according to the guidelines below.

Title: Type the report title. The title will be centered at the top of every printed page.

Pre-defined Report Names: Type the name of the pre-defined report to be used in this printout. If you leave this option blank, the program will give you a chance later to fill in a Report Spec form.

Lines Per Page: *Report* assumes you are using 11-inch long paper, which has 66 lines per page. Unless you are using nonstandard paper, leave this default alone.

Page Width: *Report* assumes your pages are 8½ inches wide. Unless you are using nonstandard paper, leave this default alone.

Printer Device: You can preview what your report will look like by viewing it on the screen before printing it on paper. Typing the letter D (for Display) lets you preview the report on the screen. If you have already previewed the report, type P (for Printer).

Add Linefeed Characters: Typing Y to this option adds a linefeed character to the end of each line of data printed, causing the printer to advance to the next line. Type N if your printer does this automatically.

Pause Between Pages: Type Y if you are using single-sheet paper. If you are using continuous-form paper, type N.

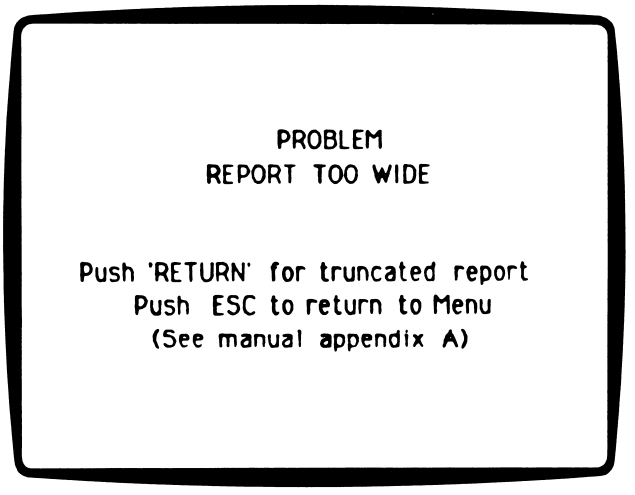
Printer Control Codes: This option allows you to specify decimal codes to be sent to the printer to change the type style. For example, you may want to use boldface characters. See your printer manual for these codes.

2. Press **CTRL-C**. Continue with your printing procedure.

For further information on setting the report options, see page 27 in the *Scholastic PFS: Report* Reference Guide.

Reports That Are Too Wide

Most standard printers will print up to 80 characters on a line. You may design a report that is wider than 80 columns. If you do so, you will get the following error message on your screen:



Report gives you a choice. You can press **RETURN** for a truncated report. This means that only the first 80 characters of each line will be printed.

If you prefer to redesign your report so that all your data will be printed, press **ESC**. You can do the following:

- Use the PRINT A REPORT option and display your report on the screen. Follow the procedure on page 7 or 8. See how much of your report will fit. Check to see if any of your headings can be shortened.
- To shorten your headings, see page 20.
- If there is simply too much data for the report, you may want to divide the data into two separate reports. To design these new reports, see page 12.

PRE-DEFINE A REPORT

Designing a Report Spec

Use the PRE-DEFINE A REPORT function to create and save a Report Spec. You can create and save up to eight different designs for each file.

To get ready to design a Report Spec, see Getting Started With *Report*, page 6. This tells you the materials you need and how to load the *Report* program.

To begin, the PFS: Report Menu is on the screen. Your *File* data disk is in Drive 1 and the Sortwork disk is in Drive 2.

1. Type 2 to select PRE-DEFINE A REPORT.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. A list of pre-defined reports for that file appears on the screen.
5. Type a name for the new pre-defined report (one–eight characters). Select a name that describes what will be in the report.
6. Press **CTRL-C**. A blank Report Spec form appears.
7. Press **TAB** to get the cursor to the data item you want to be printed in column 1. Type the number 1.
8. Press **TAB** or **APPLE-TAB** to get the cursor to the data item you want to be printed in column 2. Type 2.
9. Continue filling in column numbers on the form, for as many data items as you plan to include in the report (up to 9). You can further format your report by doing the following:

- To have alphabetical or numeric sorting in your report, see Setting Up Columns for Sorting on page 13.
- To use totals, averages, and subaverages in your report, see Reports With Column Calculations on page 14.
- You can use derived columns in your report by following the procedure on page 15.
- If you want a quick way to use the same phrase while designing your report, see Using the Frequently-Used-Phrase Option on page 16.
- To use key words in your report, follow the procedure on page 17.

10. When the Report Spec is the way you want it, press **CTRL-C**. *Report* saves the spec on the data disk. The PFS: Report Menu appears.

For further information on designing a Report Spec, see page 32 in the *Scholastic PFS: Report* Reference Guide.

Setting Up Columns for Sorting

Each report can have up to nine columns. You can specify what information will appear in a column by giving each data item a number from 1 to 9. The columns appear in the order you give them, from left to right. When the Report Spec is on the screen, place the desired number next to the data item names that you want to appear in your report.

Report has sorting features for the first two columns. First, it puts the data items in column 1 in alphabetical or numeric order. To sort a data item this way, be sure you place it in the first column. If there are identical data items in column 1, *Report* then sorts the data according to the information in column 2.

Numeric Sorts

If you want *Report* to treat a data item numerically, type **N** beside the column number. *Report* considers the numeric data in the following way:

- Numbers are sorted from highest to lowest.
- Numerical characters are +, −, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0. All other characters, including spaces, are ignored.
- A minus (−) sign gives the number a negative value.
- All but the first decimal points (.) are ignored.
- Commas are inserted.
- If any one of the data items in the column has decimal places, all data items in the column are adjusted to have the same number of decimal places.

Additional Sorting Considerations

- It is important to place the letter **N** next to your numeric data items. If you don't, *Report* will treat the number as a character string. For example, just as *Report* will sort the following words alphabetically, a character sort of numbers would use the same system.

Character Sorts		Numeric Sort
a	1	1
at	17	17
bat	209	25
be	25	47
card	3463	209
do	47	3463

- If dates are to be sorted, they are best entered in the following format: YY/MM/DD.

Nonsorted Reports

If you don't want your report sorted, then do not use columns 1 and 2 in your report. Instead, only use columns 3 to 9 and *Report* will print your information in the order that it appears in your file.

Page-Break Sorts

If you want to specify a page-break, type P beside column 1 on the Report Spec. *Report* will start a new page every time the data in column 1 changes.

For further information on setting up columns for sorting, see page 34 in the *Scholastic PFS: Report* Reference Guide.

Reports With Column Calculations

Report can total, count, or average numbers in a column. Subtotals, subcounts, and subaverages can be printed every time the data item in column 1 changes. You can specify these calculations by typing the following characters in the selected columns:

T *Report* adds all the numbers in the column, and prints the **total** at the end of the report.

ST This will print a **subtotal** every time the data item in column 1 changes, and a total at the end of the report.

A *Report* prints the **average** of all the numbers in the column at the end of the report.

SA This will print a **subaverage** every time the data item in column 1 changes, and an overall average at the end of the report.

C *Report* will **count** all individual data items printed in a column and print the result at the end of the report.

SC This will print a **subcount** every time the data item in column 1 changes, and a complete count at the end of the report.

Report can perform more than one calculation in a column. For example, it can both total and average the data items in a column.

Blanks and Zeros

If you plan to perform mathematical calculations with data items, you must consider the difference between a blank and a zero. A blank has no mathematical value and cannot be counted as an item in a column. This is important if you are averaging numbers. So, if you want to average a column, be sure you have zeros, not blanks, where you want them counted.

For further information on reports with column calculations, see page 37 in the *Scholastic PFS: Report* Reference Guide.

Reports With Derived Columns

A *derived column* is a column that gets its data by calculating information in other columns of a report rather than directly from the data file. Up to three columns can be derived for one report.

To begin, the Report Spec form is on your screen.

1. Press **CTRL-D**. The Derived Columns screen appears.
2. Type the heading you want for this column. If you leave this heading blank, *Report* will print the formula as the column heading.
3. Press **TAB** to move the cursor to FORMULA. Type the formula you wish to use to derive the column.

- Columns in the formula are identified by # followed by the column number.
- To tell *Report* what calculations to perform, use a combination of the numbers and the following mathematical operators:

  + add
  – subtract
  * multiply
  / divide
  ( ) indicates that the calculation within the parentheses should be done before others in the formula.
- *Report* evaluates the formula from left to right, evaluating the expressions within parentheses first.

4. Press **TAB** to move the cursor to REPORT SPEC. Type the column number for this derived column. Also, type the codes you want to use if you want totals or averages for this column.
5. When your Derived Column is complete, press **CTRL-D**. The Report Spec form appears.
6. Continue filling in your Report Spec. When the Report Spec form is complete, press **CTRL-C**. The Report Spec is saved and the PFS: Report Menu appears.

For further information on reports with derived columns, see page 40 in the *Scholastic PFS: Report* Reference Guide.

Using the Frequently-Used-Phrase Option

While you are defining Report Specs, you can store a frequently-used-phrase that might be repeated in several locations of your report. The stored phrase can then be typed by *Report* when needed. For example, you might want to use the same formula for a derived column in several different reports. You would store the formula only once, and then have *Report* type it on each Derived Column Spec.

Begin with a Retrieve Spec, a Report Spec, or Derived Columns screen.

To store a frequently-used-phrase:

1. Press **APPLE-S** (use either Apple key). A prompt appears at the bottom of the screen.
2. Type the phrase you want to store.
3. Press **CTRL-C** to store the phrase, or press **APPLE-ESC** to cancel whatever you just typed.

NOTE: You can only store one phrase at a time.

To use a stored phrase:

1. Move the cursor to the data item where you want the stored phrase to be inserted.
2. Press **APPLE-T**. *Report* will insert the stored phrase.

To change a stored phrase:

1. Press **APPLE-S**. A prompt appears at the bottom of the screen.
2. Type the new phrase over the old one. Use the **SPACE BAR** to delete any unwanted text.
3. Press **CTRL-C** to store the new phrase.

For further information on using the Frequently-Used-Phrase option, see page 44 in the *Scholastic PFS: Report* Reference Guide.

Reports Using Key Words

When you store information in the form of text in your file, you may want to identify such information by means of subject key words. You can identify the same form by several different key words if it is of interest for several different reasons.

To identify text using key words, create an item on your file form to contain your key words. When you enter more than one key word into an item, separate each with a space. If you have a key word that is really more than one word, either do not space between the words (PersonalComputers) or use a hyphen (Personal-Computers).

To print a report using key words, make the item containing your key words column 1 of the report and enter K as part of the report specifications for the item. (The K specification only works for column 1.) *Report* then prints the report, sorted alphabetically by key word, with each form appearing once for every key word listed.

Note that processing a key word report can be a fairly time-consuming task, depending on the complexity of your file and the number of key words entered for each form.

To use key words in your report, begin with the Report Spec on the screen.

1. Use **TAB** to move the cursor to the data item name containing your key words. Type the number 1 and the letter K (1K) to sort the column of your report by key words.
2. Continue filling in your Report Spec. When the Report Spec form is complete, press **CTRL-C**. The Report Spec is saved and the PFS: Report Function Menu appears.

For further information on reports using key words, see page 45 in the *Scholastic PFS: Report* Reference Guide.

Modifying a Pre-defined Report

You can modify the design of a pre-defined report. Then you can save the change in your file.

To get ready to modify a pre-defined report, see Getting Started With *Report,* page 6. This tells you the materials you need and how to load the *Report* program.

To begin, the PFS: Report Menu is on the screen. Your *File* data disk is in Drive 1 and your Sortwork disk is in Drive 2.

1. Type 2 to select PRE-DEFINE A REPORT.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. The Pre-defined Reports screen appears.
5. Type the name of the report to be modified.
6. Type **CTRL-C**. The Report Spec form with the present Report Spec names appears.
7. Modify (add, delete, change) the Report Spec form. Use **TAB** and **APPLE-TAB** to move the cursor from one data item to another.
8. Press **CTRL-C**. The modifed report design is saved on the *File* disk. The PFS: Report Menu appears.

For further information on modifying a Report Spec, see page 47 in the *Scholastic PFS: Report* Reference Guide.

Removing a Report Spec

Each *File* data disk can hold up to eight Pre-defined Report Specs. As you finish using a Report Spec, it is a good idea to remove it to make room in your file for new Pre-defined Report Specs.

To get ready to remove a Pre-defined Report Spec, see Getting Started With *Report*, page 6. This tells you the materials you need and how to load the *Report* program.

To begin, the PFS: Report Menu is on the screen. Your *File* data disk is in Drive 1 and your Sortwork disk is in Drive 2.

1. Type 2 to select PRE-DEFINE A REPORT.
2. Press **TAB**.
3. Type the file name of the data disk that is in Drive 1.
4. Press **CTRL-C**. The Pre-defined Reports screen appears.
5. Type the report name to be removed.
6. Press **CTRL-C**. The Report Spec form appears.
7. Press **CTRL-R**. A warning message appears. Read the form carefully to make sure you want to remove it.
8. Press **CTRL-C** to remove the Report Spec or press **RETURN** to keep the Report Spec.
9. The PFS: Report Menu appears.

For further information on removing a Report Spec, see page 47 in the *Scholastic PFS: Report* Reference Guide.

SET NEW HEADINGS

Setting New Headings

Use the SET NEW HEADINGS function to set the column headings for reports. With this function you can save the new headings on your file data disk to use when a report is printed.

If you print without setting new headings, *Report* uses the first line of each data item name as a column heading. Since *Report* determines the width of a column by the widest entry in that column (either the heading or the column entry), changing a heading can sometimes save space on the report.

For example, your data form may include a YEAR BORN: item. That's nine characters. The actual years will be only four characters long (for example, 1969). To save space on the printout, you may want to change YEAR BORN: on the form to simply BORN: on the column heading of the report. The SET NEW HEADINGS function lets you do that. Use this procedure to modify your headings as well.

To get ready to set new headings, see Getting Started With *Report*, page 6. This tells you the materials you need and how to load the *Report* program.

To begin, the PFS: Report Menu is on the screen. Your *File* data disk is in Drive 1 and your Sortwork disk is in Drive 2.

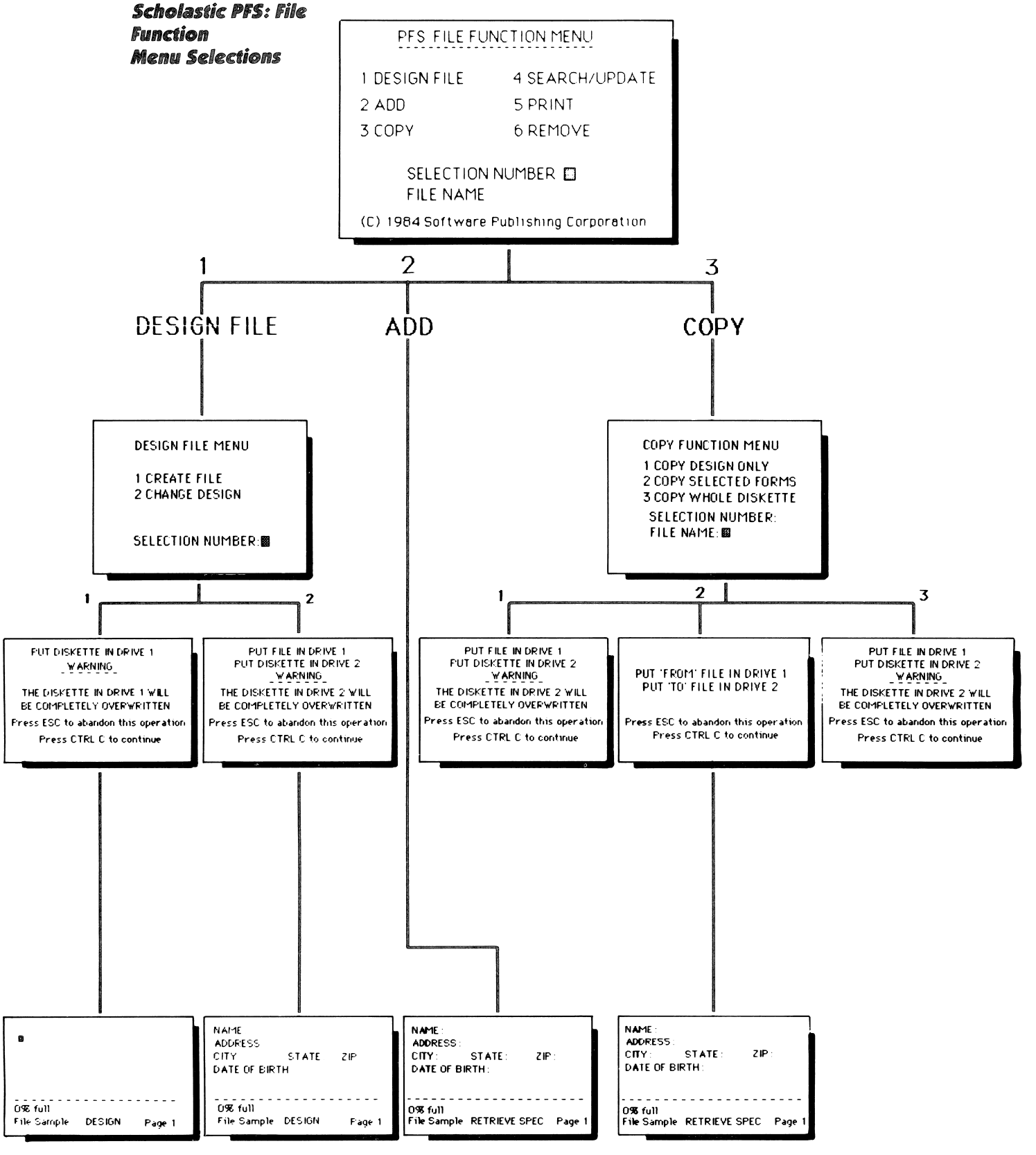
1. Type 3 to select SET NEW HEADINGS.
2. Press **TAB**.
3. Type the name of the file that is in Drive 1.
4. Press **CTRL-C**. A Headings form for that file appears.
5. Press **TAB** and **APPLE-TAB** to move to the data items whose headings you want to change. Use **CTRL-N** and **CTRL-P** to get to data items on the next or previous pages.
6. Next to the data item name, type the heading the way you want it to appear in your report. Use the **DELETE** key to remove any characters you don't want in your report.
7. Press **CTRL-C** when all your headings are the way you want them to be. The PFS: Report Menu will appear on the screen.

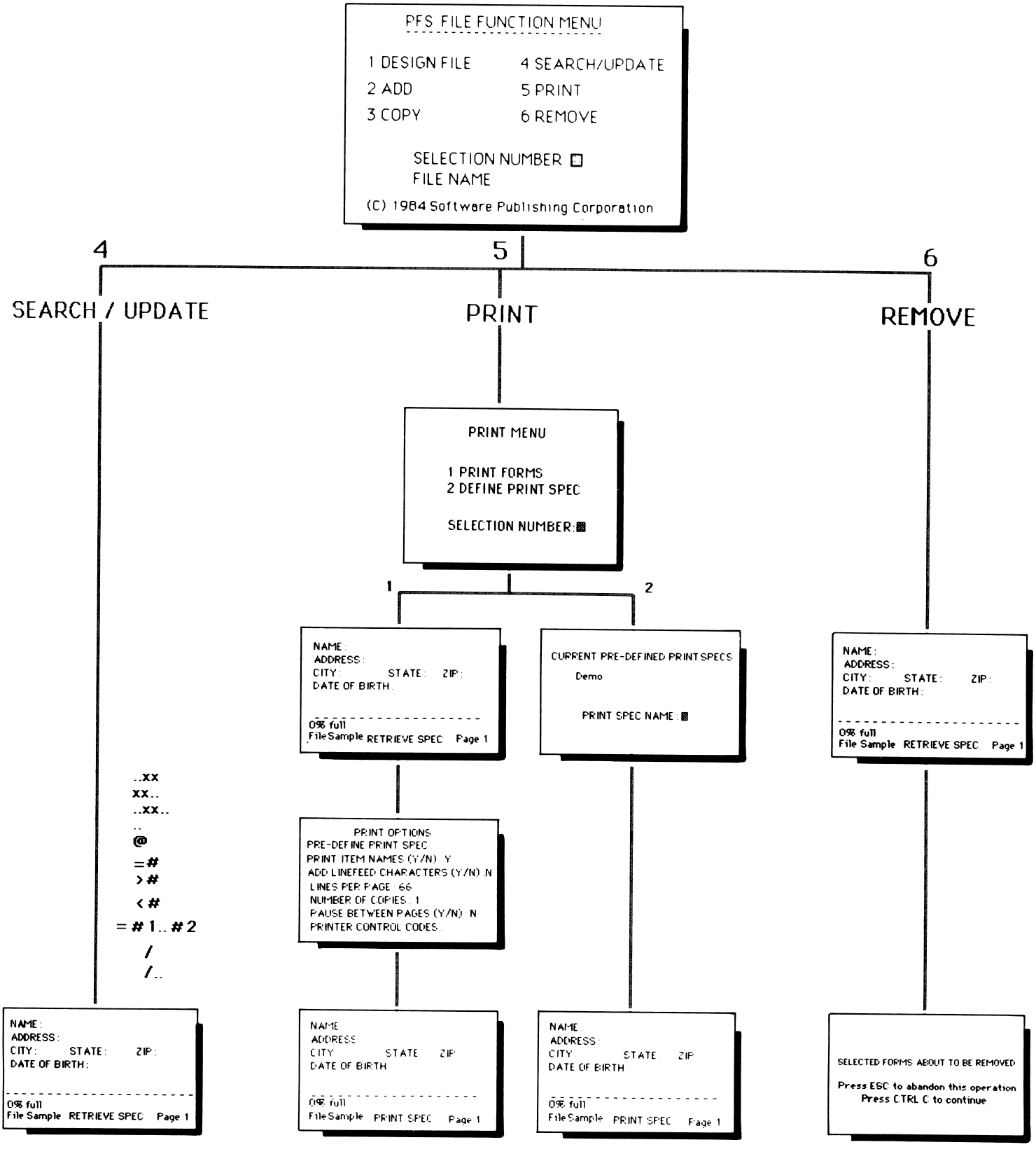
For further information on setting new headings, see page 48 in the *Scholastic PFS: Report* Reference Guide.

Scholastic pfs: U.S. History Data Bases

Glossary
Appendices

Scholastic PFS: File Function Menu Selections




PFS: FILE FUNCTION MENU
1 DESIGN FILE
2 ADD
3 COPY
4 SEARCH/UPDATE
5 PRINT
6 REMOVE
SELECTION NUMBER
FILE NAME
(C) 1984 Software Publishing Corporation
4
5
6
SEARCH / UPDATE
PRINT
REMOVE
PRINT MENU
1 PRINT FORMS
2 DEFINE PRINT SPEC
SELECTION NUMBER:
1
2
NAME:
ADDRESS:
CITY: STATE: ZIP:
DATE OF BIRTH:
0% full
File Sample RETRIEVE SPEC Page 1
CURRENT PRE-DEFINED PRINT SPECS:
Demo
PRINT SPEC NAME:
NAME:
ADDRESS:
CITY: STATE: ZIP:
DATE OF BIRTH:
0% full
File Sample RETRIEVE SPEC Page 1
..xx
xx..
..xx..
..
@
=#
>#
<#
=#1..#2
/
/..
PRINT OPTIONS
PRE-DEFINE PRINT SPEC:
PRINT ITEM NAMES (Y/N): Y
ADD LINEFEED CHARACTERS (Y/N): N
LINES PER PAGE: 66
NUMBER OF COPIES: 1
PAUSE BETWEEN PAGES (Y/N): N
PRINTER CONTROL CODES:
NAME:
ADDRESS:
CITY: STATE: ZIP:
DATE OF BIRTH:
0% full
File Sample RETRIEVE SPEC Page 1
NAME
ADDRESS
CITY STATE ZIP
DATE OF BIRTH
0% full
File Sample PRINT SPEC Page 1
NAME:
ADDRESS:
CITY: STATE: ZIP
DATE OF BIRTH
0% full
File Sample PRINT SPEC Page 1
SELECTED FORMS ABOUT TO BE REMOVED
Press ESC to abandon this operation
Press CTRL C to continue

GLOSSARY

BACKUP COPY A disk containing information that is a duplicate of the information on another disk. A backup copy can be made using *File*.

BYTE The space taken up by one character in a computer's memory or in a disk storage area.

CHARACTER A letter, number, or symbol (such as @ or $).

CONTINUOUS-FORM PAPER A continuous length of fanfolded paper with both edges punched for tractor-feeding, and with perforation between pages. There are various sizes and weights.

CONTROL KEY A keyboard key that has been designated to perform a particular function in a computer program. For example, in *File*, **CTRL-C** tells the program to continue. To press **CTRL-C**, hold down the **CTRL** key and press **C** at the same time.

CURSOR The white rectangle displayed on the screen. It indicates where the next keyboard action will occur — typing, deleting, etc.

DATA DISK The disk that stores information. In *File* and *Report,* the data disk contains a data file prepared by the *File* program. Another word for disk is *diskette*.

DATA ITEM The basic element of a form. A data item consists of the item name and a colon, highlighted on the screen in inverse video and followed by an area where the data is to be entered.

DEFAULT VALUE A value that is automatically assigned by the program. This default value is the one that is most commonly used for *File* and *Report*.

DERIVED COLUMN In *Report*, a column that the program calculates based on a formula that is designed by the user.

DISK A removable magnetic recording medium used to store information. Disks can contain programs such as the *File* program or data. Disks should be treated with care. Another word for disk is *diskette*.

DISK DRIVE The part of a computer that "writes" and "reads" data on a magnetic disk.

DISPLAY SCREEN The screen of your monitor. You can preview a report on your display screen to be sure it is the way you want it to be printed.

80-COLUMN On the Apple *IIe* or IIc, a mode of operating in which 80 characters appear across one line of the screen. 80-column data files can contain twice as much information on each page or form as in the 40-column mode.

ESCAPE KEY In *File* and *Report,* this key causes the program to abandon the current operation and return to the main function menu.

FILE A collection of data forms, stored on a disk. Each form in a file has the same design. In *File,* each disk contains one file.

FORM Any combination of data items arranged in a chosen order and created to store information about one particular thing, person, or subject area. You can create many forms in each file. Each of these forms has the same design. You can store, retrieve, update, and print out these forms.

FORMAT The general layout or arrangement of something, such as the design of a file form, or the specific design of a data item.

FORMAT DISK To prepare a disk to receive data.

FUNCTION In *File,* one of the six choices on the PFS: File Function Menu — DESIGN FILE, ADD, COPY, SEARCH/UPDATE, PRINT, or REMOVE. In *Report,* one of the three choices on the PFS: Report Menu — PRINT A REPORT, PRE-DEFINE A REPORT, or SET NEW HEADINGS.

40-COLUMN On the Apple *IIe* or IIc, a mode of operating in which 40 characters appear across one line of the screen. Data files are easier to read on the screen if they are created in 40-column mode.

INTERMEDIATE STORAGE The disks on which computer programs are saved.

INVERSE VIDEO The reverse of the normal display of characters on the computer video monitor. Usually, characters are light on a dark background. In inverse video, the characters are dark on a light background.

KEY WORDS Words that you designate to initiate a search. In *Report*, you can use key words to print a report, sorted alphabetically by key words, with each form appearing once for every key word listed.

LINEFEED CHARACTER A code that tells a printer to advance the paper one line. It is like a carriage return on a typewriter. Some printers insert their own linefeed characters automatically; others need to receive the linefeed character from the computer program.

LOAD The process of transferring a program from a disk into the computer's memory.

MENU The list of functions, or operations, that you can choose at a given time. The PFS: File Function Menu or the PFS: Report Menu appears when you start up one of the programs, or when you press the **ESC** key at any time while using the programs.

MONITOR A device that displays information and instructions to the person using a computer program. Most monitors look like a television set, but do not receive broadcast signals. Monitors can have color or monochrome displays.

MONOCHROME Having a single color (usually black and white, but can be some other color). Usually refers to the monitor screen. A monochrome display device does not display other colors. Data files are easier to read on the screen with a monochrome monitor.

NUMERIC DATA In *Report,* data to be treated as numeric is specified in the Report Spec with the code N. In numeric data, *Report* ignores all characters except −, +, 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. *Report* treats numeric data items differently from nonnumeric data. *File* does not distinguish between numeric and nonnumeric data items.

OVERWRITTEN When you make a computer disk ready for storing data, if there is data already stored on the disk, it will be erased, or overwritten.

PAGE In *File,* a form can contain up to 31 pages of data. A page is equivalent to one screen and contains 22 lines. In *Report,* a page is equivalent to a printed piece of paper, usually 66 lines long.

PAGE BREAK In *Report,* use page break to start a new page each time the entry in column 1 changes.

PAGE WIDTH The number of characters that can be printed across a page of paper. In *Report,* the default is 80 characters.

PARTIAL ITEM MATCH On a Retrieve Spec, the use of .. (dot dot) or @ (wild card) to tell the *File* or *Report* program to ignore the specified characters in the data when selecting forms for retrieval.

PFS: FILE A program that is used to store and retrieve information.

PFS: REPORT A program that is used to print reports from information found in a *File* data file.

PHOTOCOPY A paper copy made from an original using a photocopying machine.

PRINT SPEC In *File,* a filled-in form that contains codes that specify the data items to print. In addition, *Report* allows you to arrange the data items on the printout.

PRINT SPEC CODE A character signifying a specific manner of printing a form. In *File,* these codes include ×, +, S, and T. In *Report,* numbers and derived columns are used as well.

PRINTER DEVICE In *Report,* an option that tells the program where to display a report on the display screen (D) or on the printer (P).

PRINTER CONTROL CODES Decimal codes that give instructions to the printer, to control such things as vertical spacing or type style. The codes are different for different makes and models of printers. Information about these codes should be in your printer manual. You can insert the codes in the Print Options Menu of *File* or the Report Options Menu of *Report.*

PRINTOUT A list of data printed out on paper. You can design your printouts with *File* and *Report.*

PROGRAM DISK A disk that contains a program that puts the resources of the computer to use for some specific purpose or task, such as word processing, data base management, etc. The disks that hold *File* and *Report* are program disks.

PROMPT A computer message that appears on the display screen to tell the user what to do.

REFORMAT To prepare a used disk for reuse.

RETRIEVE SPEC A form used to specify which data you want to retrieve from the file.

SCREEN The face of a monitor on which visual or graphic material is displayed.

SINGLE SHEET PAPER Single sheets of paper that are individually fed into a printer.

SORT To put data in alphabetical or numeric order.

SORTWORK FILE *Report* needs to use a file called Sortwork for temporary storage while it sorts information from a file and prepares a report.

SPEC The *PFS* abbreviation for "specification."

TRUNCATE In *Report,* if you attempt to print a line of data that is too wide for your printer, you might truncate your report. This means that any characters that do not fit on the line will be left out of your report.

WRITE-PROTECT TAB A small strip of tape that covers the notch on the side of a disk. No information can be written on the disk as long as the write-protect tab covers the notch.

APPENDIX A: ERROR MESSAGES AND TROUBLESHOOTING

Error Messages

An error message appears on your screen if you make a mistake using the program or if there are problems with parts of your computer system or disks.

The messages are usually displayed at the bottom of the screen, but sometimes they take up the whole screen.

When you get an error message, look it up in the list below and follow the instructions for corrective action. To go on with your work, press **ESC** to get the PFS: File Function Menu on the screen.

Following is a list of FILE messages, arranged in alphabetical order:

Message	Description	Corrective Action
CAN'T FIND FILE	*File* cannot find the PFS file specified in the File Name item of the PFS: File Function Menu in either Drive 1 or Drive 2.	Check to make sure you typed the name of the file correctly in the File Name item and that the corresponding disk is properly inserted in Drive 1 or Drive 2. (Pull disk out and reinsert.)
CAN'T FIND PRINT SPEC	*File* cannot find a pre-defined print spec with the name entered in the Print Spec Name item.	Check to make sure you have typed the print spec name correctly. Check to make sure the print spec name is listed on the pre-defined print specs form.
DISKETTE FULL	*File* attempted to write some information on a disk and found that there was no room left.	If you have some unnecessary forms in the file, you can create some space by removing them (see Chapter 6). You can also use the COPY function to copy the form design from the current file to a second file, then continue adding information to that new file.
DISKETTE IS WRITE-PROTECTED	*File* cannot use disks that are write-protected. *File* uses certain areas of the disks to store temporary information, even when you select a retrieve function.	If you are working with a disk that is write-protected (the Books data disk that is included in *Scholastic PFS · File* is write-protected), use the COPY function to make a copy of the whole disk. You can use this copy for your *File* activities. Remove the write-protect tab. To protect the information that could now be overwritten, use the COPY function to make a backup copy of your file.

FILE NAMES CAN HAVE ONLY 8 CHARACTERS	You entered a name with too many characters in either the File Name item of the PFS: File Function Menu or the New File Name item of the Copy Menu.	Retype a file name with eight or fewer characters.

Message	**Description**	**Corrective Action**
FILE REQUIRES 80-COLUMN TEXT CARD	The file you have specified in the File Name item is in 80-column format and your Apple *IIe* computer does not have an 80-column text card installed.	If you have an 80-column text card, install it in your Apple *IIe* computer. Otherwise, you cannot use this file.
'FROM' FILE MUST BE IN DRIVE 1	*File* always copies from the disk in Drive 1 to the disk in Drive 2. *File* checked and found the wrong disk in Drive 1.	Check to make sure that you typed the name of the file you want to copy in the File Name item and that the corresponding disk is properly inserted in Drive 1. (Pull disk out and reinsert.)
INVALID SELECTION NUMBER, RE-ENTER	You typed a number for the Selection Number item of a menu that is invalid.	Retype a number that is shown on the menu.
I/O ERROR	There is a physical problem with either the disk drive, the disk controller, or the disk. Some possible causes are:	
	Dirty head.	If the disk drive has been in use for some time, the head may need cleaning. See your disk drive manual.
	Disk drive door open.	Close the door.
	Disk inserted incorrectly.	Remove the disk, then reinsert it properly.
	Malfunction.	DO NOT USE THIS DISK AGAIN. First, make a copy of your back-up disk, then use that and re-enter any necessary information. If I/O ERROR persists, take the disk drive to your dealer for testing.
	Worn out disk.	After 40-50 hours of use, the disk may need replacing. Try using a different disk.
MUST GIVE A FILE NAME	You did not type a name in the File Name item of the PFS: File Function Menu.	Type the name of the file you want to use.
	You did not type a name in the New File Name item of the Copy Function Menu.	

Message	Description	Corrective Action
MUST GIVE A PRINT SPEC NAME	You have tried to define a print spec without giving it a name.	Type a name from one to eight characters. When defining a print spec, you must give it a name.
ONLY 4 PAGES CAN BE CHANGED	You have tried to change the form design on more than four pages of the form at one time.	Complete the Change Design process for no more than four pages of a form design at one time. Repeat the process for each additional four pages.
ONLY 8 PRINT SPECS ARE ALLOWED	You have already defined eight print specifications for the file.	Remove an existing print spec using CTRL-R, then define the new one.
PRINT SPECS CAN HAVE ONLY 8 CHARACTERS	Your print spec name is too long.	Retype a print spec name with eight or fewer characters.
SEARCH LIST TOO LONG	The retrieve specifications will not fit in *File*'s internal storage space.	Specify fewer requests in the retrieve specifications.
'TO' FILE MUST BE IN DRIVE 2	*File* always copies from the disk in Drive 1 to the disk in Drive 2. In the Copy Selected Forms option of COPY, *File* checked and found the wrong disk in Drive 2.	Check to make sure that you typed the correct name in the New File Name of the Copy Function Menu, and that the corresponding disk is inserted in Drive 2.
TOO MANY CHARACTERS	All information is over-printed on the same line.	Type Y over the N in the Add Linefeed Characters item on the Print Options screen.

Troubleshooting

There may be a time when you run into a problem and there is no error message to help. Here is a list of common problems and corrective actions that might help.

Problem: The screen is blank when you start up the *File* program.

Possible solution: Turn on the monitor.

Problem: The *File* program won't start up.

Possible solution: Open the door to Drive 1. Take the disk out. Look at the label to make sure it's the *File* program disk. Put the disk back in. Close the door. Try again.

If that doesn't work, try starting the program on another computer to see if the problem is with the program disk or the computer system. If you find the program will start up on another computer, then your problem is with the original computer.

Problem: One or more blank forms has accidentally been stored in a file.

Solution: Use the SEARCH/UPDATE function to get the blank form on your screen. When the blank form is on your screen, press **CTRL-R** to remove it from the file.

Problem: Can't retrieve forms from a file, except with an exact match in the first data item.

This problem can arise if someone has previously removed the data disk from the disk drive in the middle of an ADD operation. The preferred solution to this problem is to find your backup copy of the file disk and use it instead of the damaged copy. If no backup exists, the following procedure can be used to recover the file (*NOTE: This procedure requires two disk drives.*):

1. To copy the design of the file onto a new blank disk, use the Copy Design Only option of the COPY function.
2. Use the Copy Selected Forms option to copy each form, one by one, from the original file to the new file. You must select the forms one by one, with an exact match retrieve spec in the first data item. This can take an hour or more, depending on how many forms are in the file.

Problem: On a printout, only a few lines of data are printing on each separate page of paper.

Solution: See the PRINT function for instructions on how to set up the Print Options Menu, Lines Per Page: option.

Disk Storage Capacity

Each *File* data disk can hold one file that contains a certain number of forms. The total number of forms that can be stored on one disk is determined by the amount of data to be stored on each form and the number of data item names. This total is the disk storage capacity. For example, an average mailing label would allow about 500 forms per file.

To determine disk storage capacity, you need to know how many blocks (a unit of space on a disk) each form in your file uses. There are 128 bytes (characters or spaces) per block. Some of these are used to store the blank form, directory information, and other internal *File* data structures. One thousand of these 128-byte blocks can be used to store data.

In planning a file, you may want to know the number of forms that will fit into it. This can be helpful if you plan to make a data base that requires several volumes of a file.

For example, suppose a school librarian wanted to catalog all of the books using *File*. She has 4,000 books that she would like to organize by the authors' last names. Before she starts, she would like to know how many book forms will fit into each file, and thus, how many files she will need in all.

The librarian can follow the formula for disk storage capacity described in this appendix. See the example below.

The 10-Step Formula

This 10-step formula will tell you how many forms will fit into one of your files. To do this, you will determine how many blocks your form uses.

Each page of every form stored in a file uses at least one block. If each form stored in a file is only one page and that page does not total more than 128 bytes, a file holds approximately 1,000 forms. The actual number of forms that you can fit into one of your files is determined by the amount of data actually written in each individual form.

Steps 1 through 8 help you estimate how many blocks are used by a page of a form. Step 9 tells you what to do if your form is more than one page long. Then, Step 10 tells you the approximate number of forms that can fit into your file.

Begin with a written draft of a sample form or a form on the screen. Be sure this sample form has at least the average amount of data in it.

1. *File* uses the first 14 bytes of every page. So far, 14 is your total.

2. Each data item name on a page uses five bytes. Multiply the number of data items on a page by five. Add this product to your total.

3. Each character in a data item takes one byte. Count all the characters on the page and add this sum to your total.

4. Each single blank space in a filled-in data item takes one byte, but no blank is counted at the beginning or end of an item. Count the spaces on your page and add this sum to your total.

5. A string of three or more blank spaces inside a filled-in item takes three bytes. If you have data with these multiple spaces, add this sum to your total.

6. A blank data item takes one byte (in addition to the five bytes described in Step 2). If you have any blank data items, add this sum to your total.

7. Divide the total number of bytes for a page by 128.

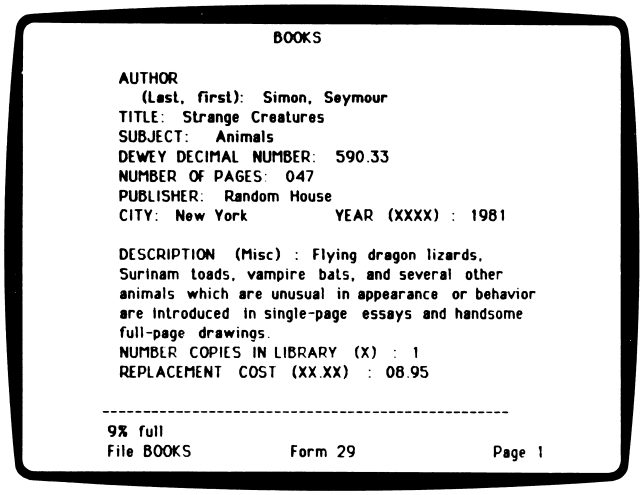
8. This quotient will probably be a decimal number. Round it up to the next largest integer. This number tells you the amount of blocks used by that page of your form.

9. If your form is only one page long, go to Step 10. Otherwise, repeat Steps 1 through 8 for each additional page in your form. Add the number of blocks determined in Step 8 together to give you the total number of blocks required for an average form.

10. Divide 1,000 by the total number of blocks required by one form (the sum of Step 9) to arrive at the approximate number of forms you can fit into your file.

Example

The school librarian described above will follow the 10-step formula. She will use the sample form below to estimate the number of similar forms she can fit into her books file. This is a one-page form.



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                    BOOKS

AUTHOR
  (Last, first): Simon, Seymour
TITLE: Strange Creatures
SUBJECT:  Animals
DEWEY DECIMAL NUMBER:  590.33
NUMBER OF PAGES:  047
PUBLISHER:  Random House
CITY: New York          YEAR (XXXX) : 1981

DESCRIPTION  (Misc) : Flying dragon lizards,
Surinam toads, vampire bats, and several other
animals which are unusual in appearance or behavior
are introduced in single-page essays and handsome
full-page drawings.
NUMBER COPIES IN LIBRARY (X) : 1
REPLACEMENT COST (XX.XX) : 08.95

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9% full
File BOOKS          Form 29              Page 1
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1. *File* uses the first 14 bytes on a page. 14

2. Eleven data items using five bytes each. 55

3–4. Additional bytes used by this form.

Data Item	Characters + Spaces
Simon, Seymour	13 + 1 = 14
Strange Creatures	16 + 1 = 17
Animals	7 + 0 = 7
590.33	6 + 0 = 6
047	3 + 0 = 3
Random House	11 + 1 = 12
New York	7 + 1 = 8
1981	4 + 0 = 4

Flying dragon lizards, Surinam toads, vampire bats, and several other animals which are unusual in appearance or behavior are introduced in single-page essays and handsome full-page drawings. 165 + 26 = 191
1 1 + 0 = 1
08.95 4 + 0 = 4

5. There are no multiple blank spaces in this form. 0

6. There are no blank data items in this form. 0
Total number of bytes used by this completed form. 336

7. The total number of bytes for the page divided by 128. 336 ÷ 128 = 2.625

8. Round 2.625 up to the next largest integer. This page requires three storage blocks. 3

9. Since this form requires only one page, there is nothing to add to the three.
This form requires three storage blocks. 3

10. Since one form requires three storage blocks, you can fit approximately 333 forms in one file. 1000 ÷ 3 = 333

So, since the librarian has 4,000 books, she will divide 4,000 by 333, the number of forms that will fit into each file. This quotient is approximately 12. Since she will need 12 files for the 26 letters of the alphabet, the librarian now knows to divide the books into 12 approximately equal sections.