

Parents' Video Guide™
Included on CD-ROM Disc

Ages 6-12

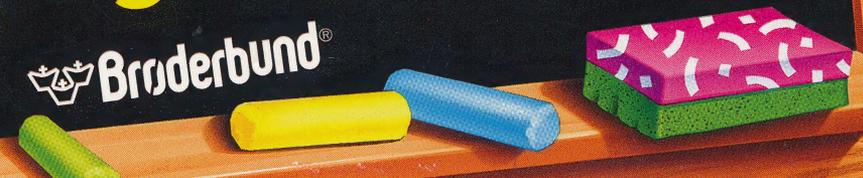
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MATH WORKSHOP™ USER'S GUIDE

Brderbund®



MATH WORKSHOP™

USER'S MANUAL



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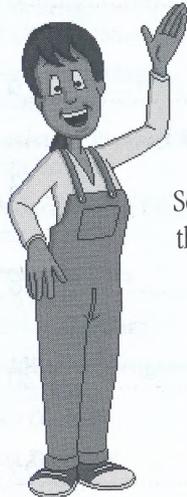
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Welcome to Math Workshop

Welcome to Brøderbund's *Math Workshop*! Step inside to meet Poly Gonzales. She runs the place. In Poly's Control Room, choose from a number of fun games and activities: you can launch rockets through the roof, build three types of puzzles that leap to life, make fractions into funky music with Algebird, go bowling for numbers with Gus the Gorilla, and paint beautiful patterns in Pattern Windows!



While playing these great games and activities, you'll also be learning important math skills like problem solving, basic operations, computation, fractions, pattern recognition, estimation, spatial thinking, and logical reasoning.

So, come play inside *Math Workshop* and let the fun begin!



PARENTS' CORNER

Welcome, Parents! In most chapters of this manual, you will find a section called Parents' Corner. This section will explain the educational benefits of each *Math Workshop* activity, suggest ways to help your child play and learn within the program, or describe special game features designed with you in mind. For more information like this, please make sure to take a look at the *Parents' Video Guide* program, included on the *Math Workshop* disc.

Getting Started

MPC (WINDOWS)

System Requirements:

- IBM/Tandy or 100% compatible
- 33 MHz 386DX or faster (Enhanced mode only)
- 4 MB RAM with 2.5 MB free
- Hard disk with 950 KB free space
- Windows 3.1
- MS/PC DOS 5.0 or higher
- SuperVGA (640 x 480, 256 colors)
- MPC-compliant CD-ROM drive
- MPC-compliant sound device
- Mouse
- Works with most popular printers (monochrome and color)

Before playing *Math Workshop*, you must first install a small portion of the program onto your hard disk. The installation process requires approximately 950 KB of hard disk space. This operation makes it possible for you to establish a player roster, in order to both save games in progress and enter the Bowling For Numbers Hall of Fame.

To install *Math Workshop*, begin at the Windows Program Manager. If you are not familiar with the Program Manager, please consult your Windows manual. Insert the compact disc (located in the jewel case in your package) into your CD-ROM drive (using a disc caddy if appropriate). Select *Run* under the *File* menu. In the line labeled *Command Line* type:

```
D:\INSTALL
```

and click on the *OK* button (if your CD-ROM drive is not drive D, substitute the correct drive's letter).

The install program will create a default directory, C:\WKSHPMPC, and will then copy a number of files from the CD to this directory. If you wish, you may specify another directory during the install program. The install program will create a program item called *Math Workshop MPC* within a program group named *Broderbund Software*. To play, double-click on the *Math Workshop MPC* icon.

Getting Started

The installer will also run the *MIDI Driver Setup for Math Workshop*. Follow its directions to set up the best MIDI driver to run with *Math Workshop*. In the future, you can run this setup program again by double-clicking on its icon in the *Broderbund Software* program group. You can also run it by choosing *Run* from the *File* menu of either the Program Manager or the File Manager. In the line labeled *Command Line* type:

```
C:\WKSHPMPC\BROEMIDI.EXE
```

and click on the *OK* button. If you installed *Math Workshop* to another directory or drive, modify the path accordingly.

After installing, you may also run *Math Workshop* by choosing *Run* from the *File* menu of either the Program Manager or the File Manager. In the line labeled *Command Line* type:

```
C:\WKSHPMPC\MATH
```

and click on the *OK* button. If you installed *Math Workshop* to another directory or drive, modify the path accordingly.

Parents' Video Guide

When you install *Math Workshop*, an icon for *Parents' Video Guide* will also be created in the *Broderbund Software* program group. *Parents' Video Guide* runs from the CD. It does not require any hard disk space. To start the program, double-click on the *Parents' Video Guide* icon.

MACINTOSH

System Requirements:

- 8-bit video support (256 colors or shades of gray)
- Color or gray-scale monitor
- 4 MB RAM with 2.5 MB free
- Hard disk with 220 KB free space
- CD-ROM drive
- System 7.0.1 or higher
- Sound Manager 3.0 (uses 80 KB of free space on hard disk— version included on disc)
- Works with most popular printers (monochrome and color)

Getting Started

Before running the program, make sure that your monitor is set to display 256 colors. To do this, select *Control Panels* from your Apple menu, double-click on the *Monitors* icon and select 256 colors. If you do not see 256 colors as an option, you may need to install additional VRAM into your Macintosh.

In order for *Math Workshop* to work properly, VIRTUAL MEMORY MUST BE TURNED OFF. After turning off virtual memory in the Memory Control Panel, make sure you restart your computer before playing *Math Workshop*.

You also must install *Sound Manager 3.0*. To do this, insert the *Math Workshop* disc located in the jewel case in your package into your CD-ROM drive. If appropriate, use a disc caddy. A window will appear on your desktop. Drag *Sound Manager* onto the System Folder icon on your hard disk. Restart your computer.

To play the game, simply double-click on the *Math Workshop* icon that appears in the window on your desktop.

Parents' Video Guide

Before viewing *Parents' Video Guide* for the first time, you must have both *QuickTime 1.6.1* (or higher) and *Sound Manager 3.0* installed in your system. To install either of these extensions, insert the *Math Workshop* disc located in the jewel case in your package into your CD-ROM drive. If appropriate, use a disc caddy. A window will appear on your desktop. Drag *QuickTime* (which uses about 850 KB of hard disk space) and the *Sound Manager* (which uses about 80 KB of hard disk space) onto the System Folder icon on your hard disk. If you are using a Power Macintosh system, you must use the *QuickTime* extensions that came with it. Restart your computer.

In order for *Parents' Video Guide* to work properly, VIRTUAL MEMORY MUST BE TURNED OFF. After turning off virtual memory in the Memory Control Panel, make sure you restart your computer before starting *Parents' Video Guide*.

To view *Parents' Video Guide*, double-click on the *Parents' Video Guide* icon in the window on your desktop.

A Few Buttons You Should Know!

Before you start playing, here are a few buttons you'll probably be using a lot.

HELP



asks Poly to step out and help you. When Poly first comes out to help, she'll tell you how to play the game. After Poly finishes talking about the game, click on anything you want to know about, and she'll explain it. To stop her in the middle of an explanation, click on the screen. To exit Help at any time, just click on Poly.

SIGN IN



lets you sign in to play. Sign in so that *Math Workshop* can keep track of all the great things you do!

LEVEL BROTHERS



let you choose the level you want to play. You may want to start with Green and work your way up to Orange and Red.

RESET



allows you to start over.

ROTATE



turns puzzle pieces clockwise. Click on this button to turn the last piece you picked up. You can also use your keyboard's spacebar to turn a piece while holding it with your mouse.

REPLAY

In Hidden Picture Puzzles, Puzzle Patterns, and Super Sticklers, click on the finished puzzle picture to see it animate again.

EXIT



lets you exit a game and get back into the middle of the Control Room.

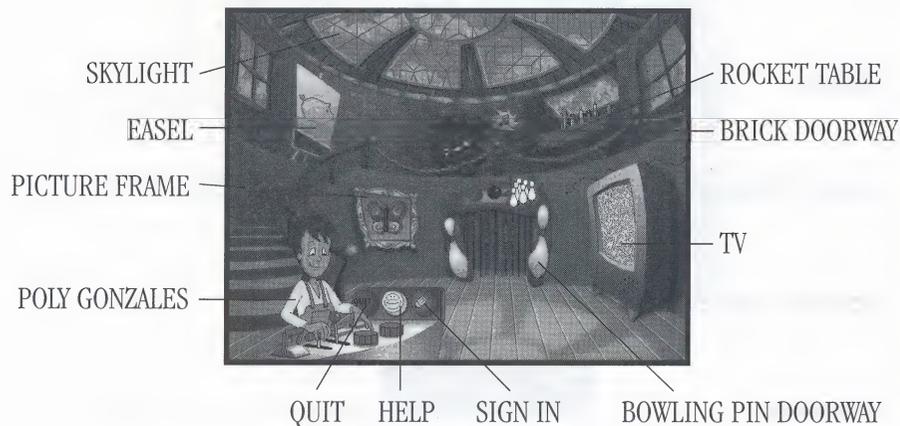
QUIT



lets you quit *Math Workshop*. Just click on this button and the Quitting Time Whistle will appear. If you want to quit, click on it and let it blow! You can also quit by pressing Ctrl-Q in Windows systems, and ⌘ -Q in Macintosh systems.

Control Room

When you click on the front door of *Math Workshop*, you will enter the Control Room and see this:



POLY GONZALES



is the only child of a rocket scientist and a calculus professor. She teathed on an abacus and spent hours watching the Fractal Mobile above her crib. By kindergarten Poly knew she loved math. As she grew, her love for math multiplied. She's the youngest person ever to manage the *Math Workshop*! When she's not working, she's hanging out with her parents, her dog Vector, and her hamster Trig in their A-frame home at .3333 Dodecahedron Street in Ratio County, USA. Poly attends Solving-For-X Middle School where she recently won Student Council President on the slogan, "No one is greater than or less than...everyone is equal to...one another." Click on Poly and she'll tell you a little something about math. Click on Help to hear Poly talk about the Control Room.

BOWLING PIN DOORWAY



puts you in Bowling for Numbers.

TV



puts you in Hidden Picture Puzzles.



Control Room

PICTURE FRAME



puts you in Puzzle Patterns.

EASEL



puts you in Super Sticklers.

BRICK DOORWAY



puts you in the Rhythm Shop.

ROCKET TABLE



puts you in Rockets.

SKYLIGHT



puts you in Pattern Windows.

Signing In

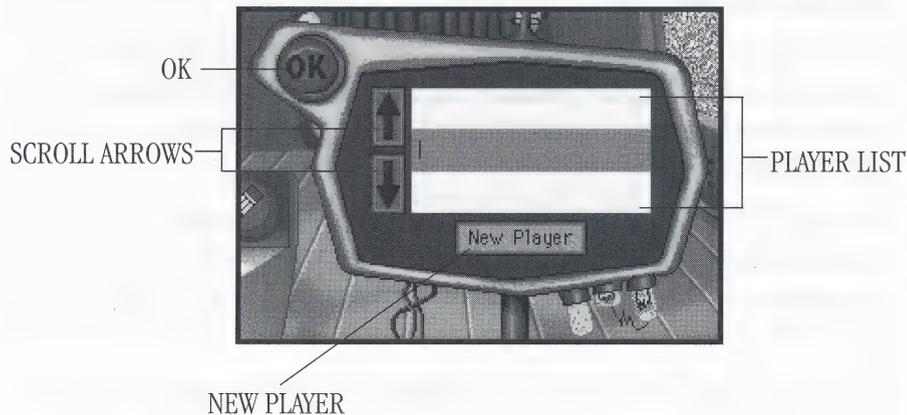
When you start *Math Workshop*, the Sign-In Monitor will rise in front of you. You will also hear Poly Gonzales asking you to sign in. If you are a new player, click on the New Player button. A green space will appear. Type your name into the open space. If you would like to add more players' names, click on New Player again. If not, click on the OK button to enter the Control Room.

When you come back and play again later, use the arrows to look through the Player List and find your name. Double-click on your name to sign in.

If you would like to sign in someone else after you have started playing, click on either the Sign-In button on Poly's control panel or the Name Tags in Bowling for Numbers or Pattern Windows. If you accidentally click on either the Sign-In button or a Name Tag, but don't want to sign in again, click on the OK button to get back to the fun.

Control Room

The Sign-In Monitor looks like this:



PLAYER LIST



lists everyone who has played with *Math Workshop* on this computer. If you are a new player, click on the New Player button, then type your name in here, and click on OK. If your name is already listed, double-click on it.

NEW PLAYER



tells *Math Workshop* that you would like to sign a player into the Player List.

SCROLL ARROWS

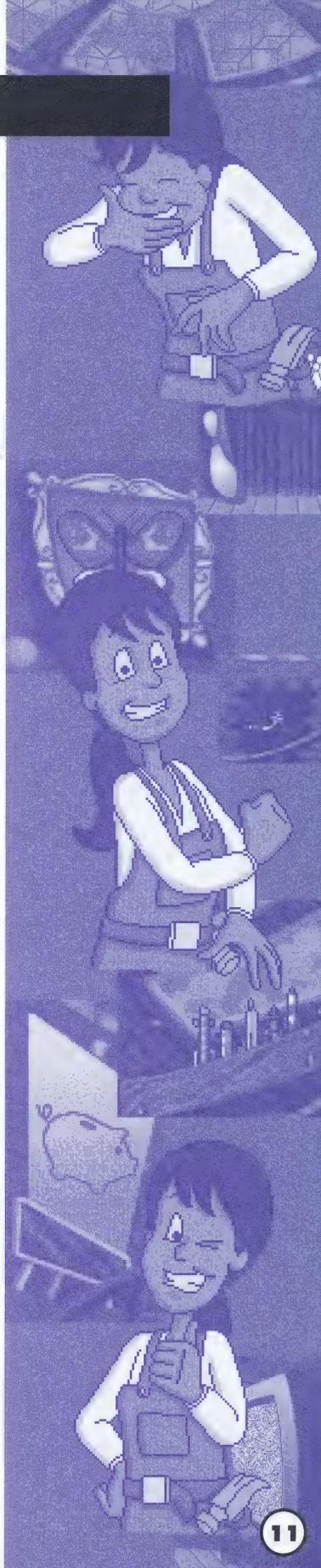


allow you to look through the Player List to find your name.

OK



puts away the Sign-In Monitor, and lets you enter the Control Room. You can also use either the Return key on a Macintosh keyboard or Enter on the keyboard of a Windows-based computer.



Control Room

PARENTS' CORNER

Preferences Monitor

The Preferences Monitor is accessed by pressing Control or Ctrl on your keyboard while clicking on the Sign-In button on Poly's control panel. The Preferences Monitor allows you to access the audio control, mouse control, bowling timer control, and roster control.

The audio control option allows you to turn on and off *Math Workshop's* ambient music. All other sounds are controlled by your system. The Help function and some of the gameplay are dependent on all the other sounds, so we do not recommend that you turn them off.

The mouse control option defaults to a click-and-stick mode, so your child can move things more easily.

You can also set the timer for drill-and-practice questions in Bowling for Numbers. The time limit can be adjusted between 1 and 999 seconds.

The Roster button on the Preferences Monitor accesses the Roster File edit function. This function allows you to either add or delete players from the Roster File. To return to the Preferences Monitor from within the edit function, select the Preferences button.

Roster File

The Roster File is a file *Math Workshop* creates on your hard drive. It is called *MWRoster* and is located in the Preferences folder on the Macintosh and in C:\WKSHPMPC on the MPC. The file maintains the Player List and information about each player. Each Roster File can maintain information about 40 players.

The Roster File can be modified with the Roster button. With this in mind, we suggest you make a backup of this file on a regular basis. You can create new Roster Files and freely interchange them. They only need to be named "MWRoster" for *Math Workshop* to access them. Only one Roster File can be accessed at a time, however, so make sure to store others in a separate folder.

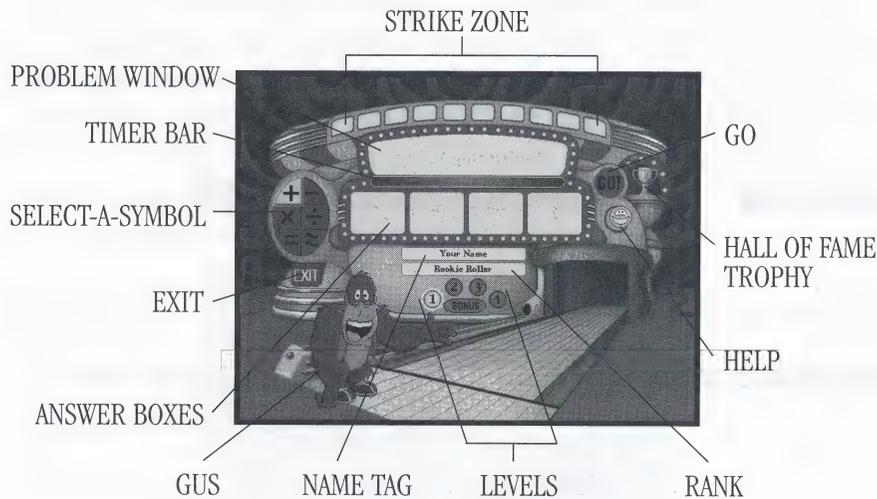
Bowling For Numbers

In *Math Workshop's* bowling alley, you answer math questions so Gus the Gorilla can bowl his pin-plowing strikes! To play, first use the Select-A-Symbol to pick the type of math questions you want, then click on Go!

Answer each question rolled in your direction by clicking on the Answer Boxes. If the questions are too easy, try a higher level by clicking on one of the Level Buttons. As you make your way through the twenty-five ranks from Rookie Roller to Strike Master, be sure to print your Certificates of Achievement from the Hall of Fame Trophy!

To enter Bowling for Numbers, click on the Bowling Pin Doorway in the Control Room.

When you enter Bowling for Numbers, you will see:



GUS



is the world's only bowling gorilla. A Foreign Exchange Gorilla, Gus attends Googol High where his favorite subject is Basic Math. Gus loves his hosts, the Gonzales family. Before meeting Poly Gonzales, Gus studied with Bowling Champion Sammy Subtraction, whose motto was, "One pin standing is one pin too many." The probability of Gus returning to the U.S. after graduation is high. He has the right angle on a career as a pro bowler! Gus bowls a strike each time you give him ten right answers.

Bowling For Numbers

GO!



starts the game. This button will then become



, which you can click on to stop a game.

PROBLEM WINDOW



shows the question.

ANSWER BOXES



show answers. Click on the right one. You can also answer questions by using the numbers 1, 2, 3, and 4 on your keyboard. Number 1 selects the answer in the box on the far left, number 4 selects the answer in the box on the far right, and 2 and 3 select the two boxes in the middle.

TIMER BAR



shows approximately how much time you have left to give ten correct answers.

SELECT-A-SYMBOL



let you play with addition, subtraction, multiplication, or division questions.



lets you play with fraction equivalency questions.



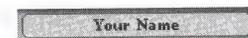
lets you play with estimation questions.

LEVELS



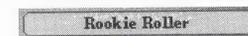
lets you pick the difficulty level you want to play. You can play the Bonus Round only after you finish all four levels.

NAME TAG



shows your name. Click here to change players.

RANK



shows your rank. Your rank increases each time you complete a level.

Bowling For Numbers



STRIKE ZONE



shows how many strikes you've made. You need 10 to finish each level.

HALL OF FAME TROPHY

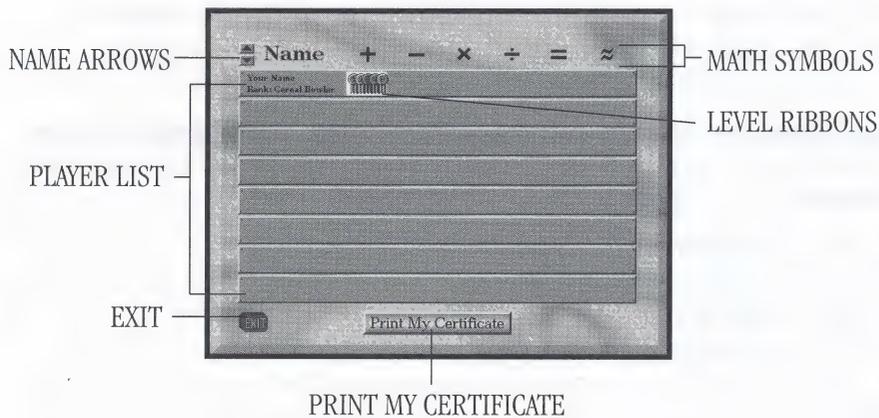


shows you the Hall of Fame, which keeps track of the levels you finish and the rank you earn. You can also print your Certificates of Achievement from the Hall of Fame.

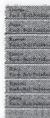
HALL OF FAME

The Hall of Fame keeps track of the levels you finish. Each time you finish a level, you earn a Certificate of Achievement. Ribbons on the certificate show you which levels you have passed. To print your certificates, find your name with the Name Arrows, click on the Level Ribbons of the certificate you want to print, then click on Print My Certificate.

When you click on the Hall of Fame Trophy you will see:



PLAYER LIST



shows you players' names and ranks.

NAME ARROWS

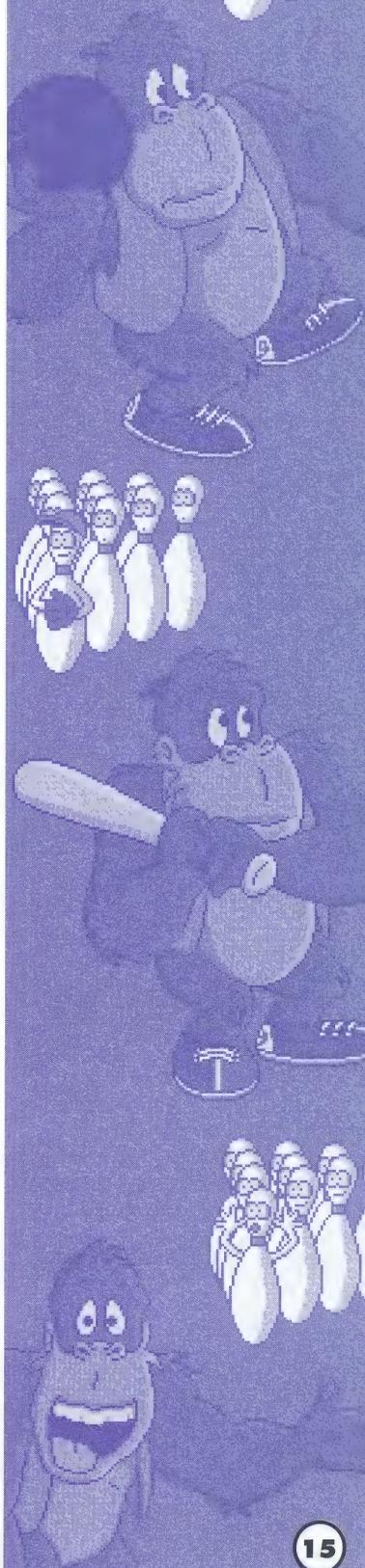


let you find your name on the Player List.

MATH SYMBOLS



mark the columns that show you the levels you've finished.



Bowling For Numbers

LEVEL RIBBONS



tell you how many levels each player has finished and how many certificate ribbons they earned for each of the 6 types of math questions.

PRINT MY CERTIFICATE



prints the Certificates of Achievement. Before you print, be sure to select horizontal/landscape orientation, color/grayscale mode, and no font substitution in the print dialog boxes.

BOWLING RANKS

1	Rookie Roller	10	Pin Pal	18	Alley Rapper
2	Ball Polisher	11	Spare Splitter	19	King Pin
3	Twinkle Toes	12	Alley Cat	20	Strikenator
4	Gutter Nut	13	Bowl Fighter	21	Super Bowler
5	Cereal Bowler	14	Slammin' Slider	22	Pin Crusher
6	Lane Brain	15	Bowlmeister	23	Star Shooter
7	Alley Duster	16	Side Splitter	24	Pin Wizard
8	Toe Jammer	17	Steam Roller	25	Strike Master
9	Spare Ribber				

EQUIVALENT UNITS OF MEASUREMENT FOR ESTIMATION

Length

1 inch = 2.54 centimeters

1 foot = 12 inches = 30.48 centimeters

1 yard = 3 feet = 0.9144 meter

1 meter = 100 centimeters = 1.0936 yards

Time

1 minute = 60 seconds

1 hour = 60 minutes = 3600 seconds

1 day = 24 hours = 86400 seconds

1 month = about 30.42 days, on average = 2628000 seconds

1 year = about 365.25 days = 31557600 seconds

Weight

1 ounce = 28.35 grams

1 gram = 0.035 ounce

1 pound = 16 ounces

1 kilogram = 1000 grams = 35 ounces = 2.2046 pounds

Bowling For Numbers

PARENTS' CORNER

Bowling for Numbers seeks to develop the following math skills:

- ❑ Whole Number Operations: The drilling of math facts in addition, subtraction, multiplication, and division strengthens your child's ability to perform these operations.
- ❑ Whole Number Computation: Performing mental math computations and estimations in order to answer these questions strengthens your child's computational skills.
- ❑ Estimation: Estimation questions develop your child's skills for making reasonable estimations with quantities, measurement, and computation. Answering multiple-choice questions also encourages your child to recognize an appropriate estimate.
- ❑ Fractions: The equivalency questions develop your child's understanding of the concept of fractions, and they familiarize your child with using models to find equivalent fractions.
- ❑ Number Sense and Numeration: The drilling of these math operations strengthens your child's number sense for both whole numbers and fractions, and it improves your child's ability to recognize fraction notation.

Observing your child playing this game will bring you insight into her level of skill with basic math facts. Note your child's comfort level as she works toward harder levels of play. Talk with your child about how she chooses the answers to the arithmetic questions. Provide coins, chips, or beans that your child can use as counters, or allow your child to count using her fingers. If your child seems to feel intimidated by a difficult-looking question, ask her to try one of the following strategies: approximation (e.g., for $8+29$, she can approximate 29 as 30, then add 8, and subtract 1), equivalent expressions (e.g., for $7+25$, she can break 7 into $2+5$, add the 5 to 25, then add the 2), and reordering (e.g., for $26+8+2$, first add $8+2$, then add 26).

Ask your child how she chooses answers to the equivalency and estimation questions, and discuss what makes these answers reasonable. Ask her to describe the equivalency models, both in terms of the pieces that have been removed and in terms of the pieces that remain. At more challenging levels of equivalencies, encourage your child to use estimation skills to choose the correct answer. Discuss whether this approach works in every instance or whether there are times when counting is more appropriate. With the estimation problems, make sure to encourage estimating rather than guessing.



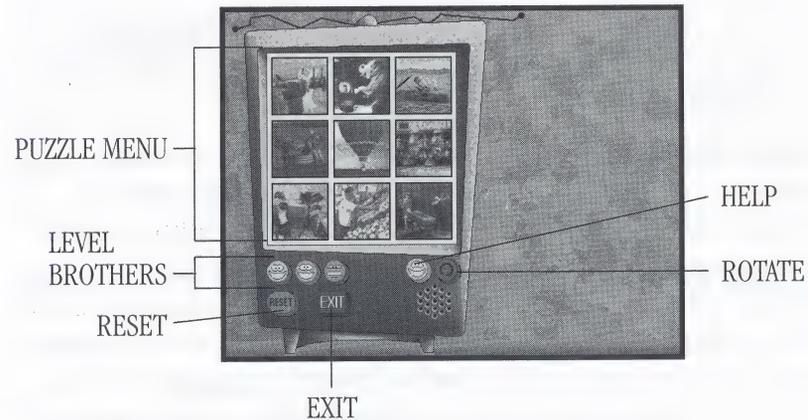
Hidden Picture Puzzles

This is no normal television set! *Math Workshop's* TV cuts its screen into puzzles. Put the screen together to tune in a picture and watch it come to life! To play, first click on one of the Level Brothers, then pick a picture from the Puzzle Menu. The TV will cut puzzle pieces and pile them next to the screen. Solve the puzzle by piecing the TV screen together.

To turn a piece, first click on the piece, then either use your keyboard's spacebar or drop the piece and click on the Rotate button. If you don't like the way you've placed a piece, pull it out and try again. As you place pieces, the hidden picture will be revealed. When you like a picture, pick it again as often as you want. The TV will make different puzzles for you every time!

To begin Hidden Picture Puzzles, click on the TV set in the Control Room.

When you start Hidden Picture Puzzles, you will see:



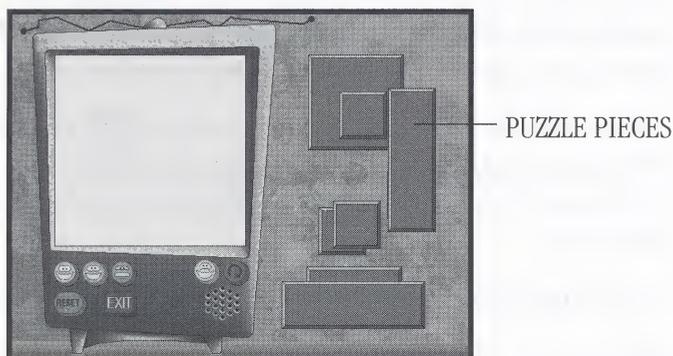
PUZZLE MENU



shows you the puzzles you can do. Click on a picture to pick it.

Hidden Picture Puzzles

After you choose a puzzle, you will see:



PUZZLE PIECES



are the pieces of the puzzle. To grab a piece, click on it.

PARENTS' CORNER

Hidden Picture Puzzles seeks to develop the following math skills:

- ❑ Geometry and Spatial Sense: Rotating these polyomino pieces strengthens your child's understanding of transformational geometry. Investigating the results of fitting together the puzzles helps your child develop spatial visualization skills and gain an understanding of spatial relationships.
- ❑ Problem Solving: Each of these puzzles has multiple solutions which encourage your child to use a variety of problem solving approaches to develop personal strategies for piecing them together.

Observing your child doing Hidden Picture Puzzles will give you insight into how comfortable she is with spatial activities. If your child finds that the last piece doesn't fit, she must rely on spatial-visualization skills to rearrange the puzzle pieces into a solution. Observe how she uses the Rotate function, and ask her whether she first rotates the pieces in her mind or on the screen. Reinforce the idea that she can focus on how the pieces fit together rather than on how the background picture appears.



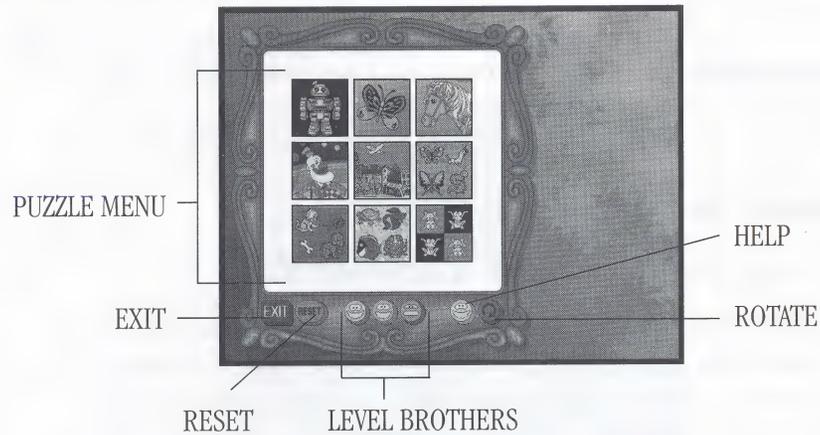
Puzzle Patterns

Master the pieces of these masterpieces! *Math Workshop's* strange and magical picture frame always slices paintings into eight rectangular pieces. To piece these puzzles together, first pick a puzzle from the Puzzle Menu. After the frame slices the puzzle apart, drag the pieces into place in the Puzzle Frame.

To turn a piece, first click on the piece, then either use your keyboard's spacebar or drop the piece and click on the Rotate button. If a piece doesn't fit where you placed it, click on it and pull it somewhere else. When you solve the puzzle, the painting will come to life!

To start Puzzle Patterns, click on the picture frame in the Control Room.

When you start Puzzle Patterns, you will see:

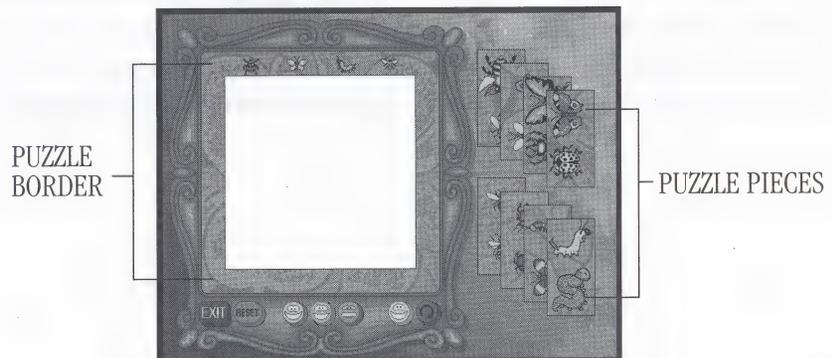


PUZZLE MENU



shows you the puzzles you can do. Click on a picture to select it.

When you pick a puzzle, you will see:



Puzzle Patterns

PUZZLE BORDER



is what you fill in with the puzzle pieces. The puzzle's border gives you clues to solving it.

PUZZLE PIECES



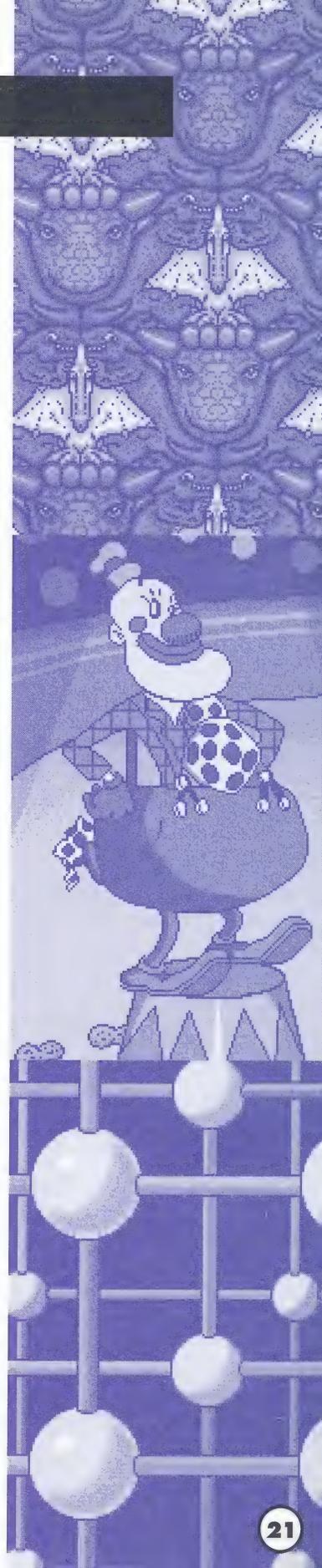
are what you place in the border to solve the puzzle. To grab a piece, click on it.

PARENTS' CORNER

Puzzle Patterns seeks to develop the following math skills:

- ❑ **Geometry and Spatial Sense:** Rotating these pieces strengthens your child's understanding of transformational geometry. Investigating the results of fitting together the puzzles helps your child develop spatial-visualization skills. Using the images on the pieces in order to find their proper positions strengthens your child's visual discrimination of three-dimensional orientation and perspective.
- ❑ **Patterns and Relationships:** Using the puzzle's border and its pieces to discover the overarching pattern of the puzzle before building it strengthens your child's ability to both recognize patterns and understand their relationships.
- ❑ **Logical Reasoning:** Determining the position of a piece based on its attributes develops your child's ability to use higher order thinking skills to discover patterns and relationships in mathematical situations.
- ❑ **Problem Solving:** The Puzzle Patterns gameplay encourages your child to take time to explore problem solving approaches in order to develop personal strategies for solving the puzzles.

Observing your child doing Puzzle Patterns will give you insight into her ability to do complex pattern matching and spatial-orientation activities. Talk to your child about what clues she uses to decide both where a piece goes and how to orient it. Work on puzzles together and share your strategies. Discuss the details that help you solve the puzzle. Show your child why it is helpful to sort the puzzle pieces before placing them.



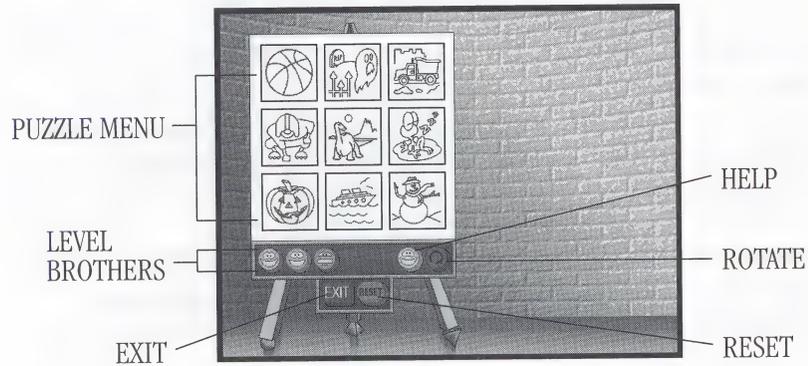
Super Sticklers

The Sticky Easel makes some wild art! It takes pictures, cuts them into Sticky Lines, and leaves them for you to piece together. When you do, the Super Stickler pictures come to life! To start, use the Puzzle Menu to pick a picture. Solve the puzzle by clicking on pieces and dragging them into place on the Sticky Easel.

If you need to turn a piece, first click on the piece, then either use your keyboard's spacebar or drop the piece and click on the Rotate button. If you don't like the way a piece fits, click on it and pull it to another spot. Whatever you do, you'll figure out each puzzle if you just stick to it!

To play with Super Sticklers, click on the easel upstairs in the Control Room.

When you begin to play with Super Sticklers, you will see:

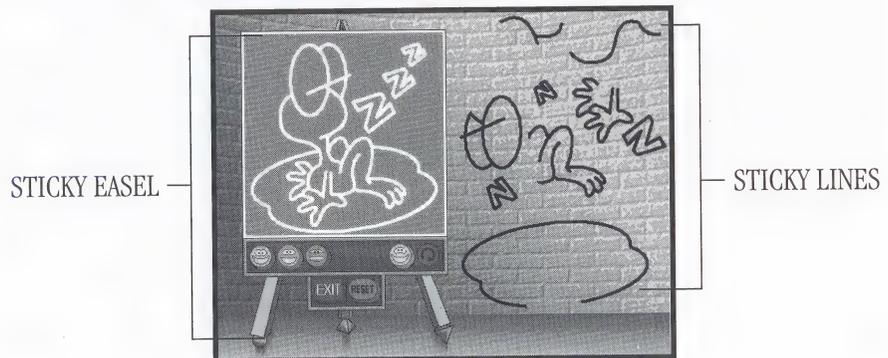


PUZZLE MENU



shows you the puzzles you can do. Click on a picture to select it.

After you choose a puzzle, you will see:



Super Sticklers

STICKY EASEL



is the part of the Sticky Easel where you place the puzzle pieces.

STICKY LINES



are pieces you use to rebuild the picture.

PARENTS' CORNER

Super Sticklers seeks to develop the following math skills:

- ❑ **Geometry and Spatial Sense:** Rotating these linear puzzle pieces strengthens your child's understanding of transformational geometry. Investigating the results of fitting them together helps your child develop spatial-visualization skills and gain an understanding of line and shape recognition.

Each level of Super Sticklers emphasizes a different facet of geometry and spatial sense. The Green level contains puzzles that develop your child's ability to recognize and match geometric shapes and line segments. In the Orange level, creating mirror images to solve puzzles develops your child's understanding of symmetry. In the Red level, replicating linear images based on miniature "hint" pictures deepens your child's understanding of scale and proportional representation.

- ❑ **Problem Solving:** As with Hidden Picture Puzzles and Puzzle Patterns, the Super Sticklers gameplay encourages your child to explore problem solving approaches in order to develop personal strategies for solving the puzzles.

Observing your child play with Super Sticklers can give you insight into her problem solving strategies. Note the order in which she places pieces in the puzzle. See how comfortable she is with the Rotate function. Ask her if she rotates a piece in her mind before she does it on the screen. Find out what other strategies she uses to solve the puzzle. Take turns placing pieces and stating why you think a particular piece will fit. Try these puzzles and be aware of the strategies you use to solve them. Discuss these strategies with your child.

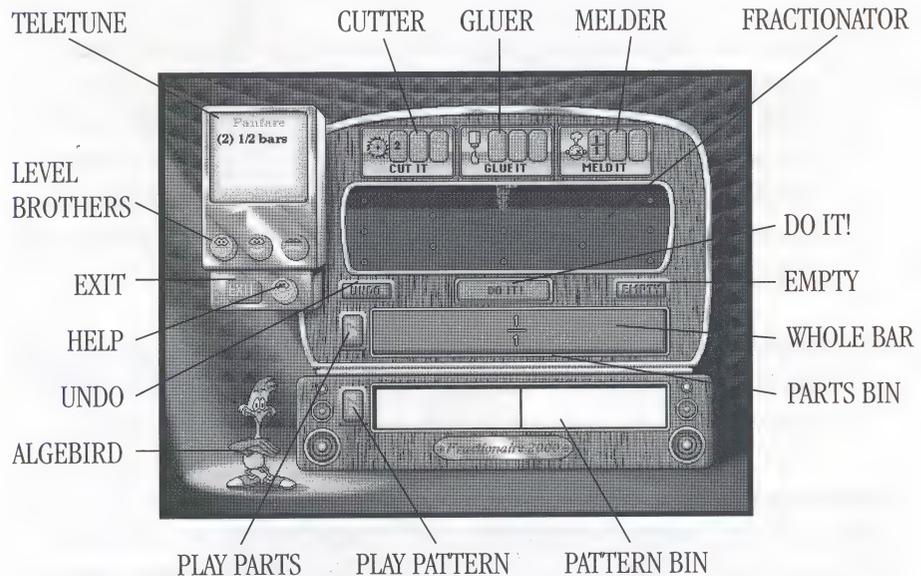
Rhythm Shop

Have you ever seen a bird boogie? Make rhythms with Poly's music machine, the Fractionaire 2000. When you use it to cut, glue, and meld beats, Algebird will boogie to the beat! First, use the Level Brothers and the arrows on the Teletune to pick a beat you want to build. The Teletune will list a rhythm recipe of fraction beats that make that tune. Take the Whole Bar out of the Parts Bin and put it into the open space known as the Fractionator. Above the Fractionator, you'll find the Cutter, Gluer, and Melder buttons. Use these buttons to pick a tool, then click on Do It! to cut, glue, and meld that Whole Bar into the different fraction pieces of the rhythm you picked.

In the Pattern Bin below the Parts Bin, you'll find a colored pattern for the rhythm you picked. This pattern is also where you place the fraction pieces as you build the beat. When you put the right pieces in the right order in the Pattern Bin, the Fractionaire 2000 will play the song and Algebird will shake, rattle, and roll!

To enter the Rhythm Shop, click on the brick doorway upstairs in the Control Room.

When you enter the Rhythm Shop, you will see:



Rhythm Shop

ALGEBIRD



does a crazy dance to the rhythms you make, and lets you know if the Fractionaire can't make something. While promoting her new Fractionaire 2000 machine on Math Tour USA, Poly discovered Algebird outside the Slide Rule Cafe in Protractor, West Virginia. He was dancing and singing before a crowd of people in town for the Arithmetic Convention. Mesmerized by his moves, Poly immediately hired him to work at *Math Workshop*.

TELETUNE



will tune you in to Algebird's favorite songs.

TUNING ARROWS



let you look for a song.

WHOLE BAR



is what you put into the Fractionator and then cut, glue, and meld into rhythms.

FRACTIONATOR



is where you put pieces to be cut, glued, or melded.

CUTTER

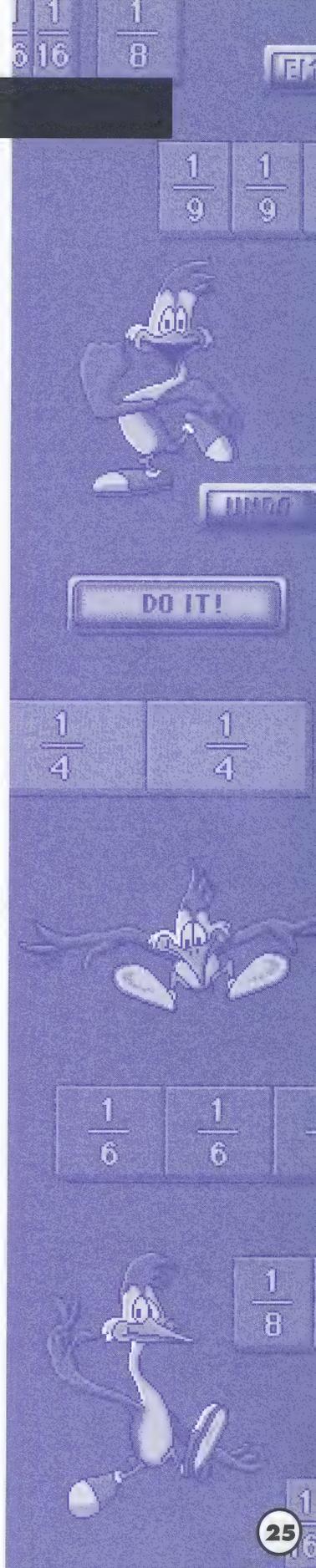


makes the Fractionaire 2000 cut stuff into equal pieces. For example, the "2" cutter cuts stuff into two equal pieces.

GLUER



makes the Fractionaire 2000 glue together pieces that are the same size. For example, if the Gluer were set to "1/12", then you could glue together only 1/12 pieces.



Rhythm Shop

MELDER



makes the Fractionaire 2000 meld together all kinds of pieces into a larger, set size. For example, if the melder were set to " $\frac{3}{8}$ " you could meld together a $\frac{1}{4}$ piece and a $\frac{1}{8}$ piece to create a $\frac{3}{8}$ piece.

DO IT!



starts the cutting, gluing, or melding. If the button is flashing, everything is ready to go. Algebird will let you know if the Fractionaire 2000 can't do something you want it to do.

UNDO



erases the last thing you did as long as your pieces are still in the Fractionator.

EMPTY



takes out all the pieces from the Fractionator and puts them in the Parts Bin. You can also use your mouse to pull out pieces one-by-one.

PARTS BIN



is where the Whole Bar and your rhythm pieces wait.

PLAY PARTS



plays the rhythm of any pieces in the Parts Bin.

PATTERN BIN



shows you the order and size of the pieces in the rhythm. Fit your pieces here.

PLAY PATTERN



plays the rhythm of any pieces in the Pattern Bin. If you have built a rhythm and want to see Algebird dance to it again, click on this.

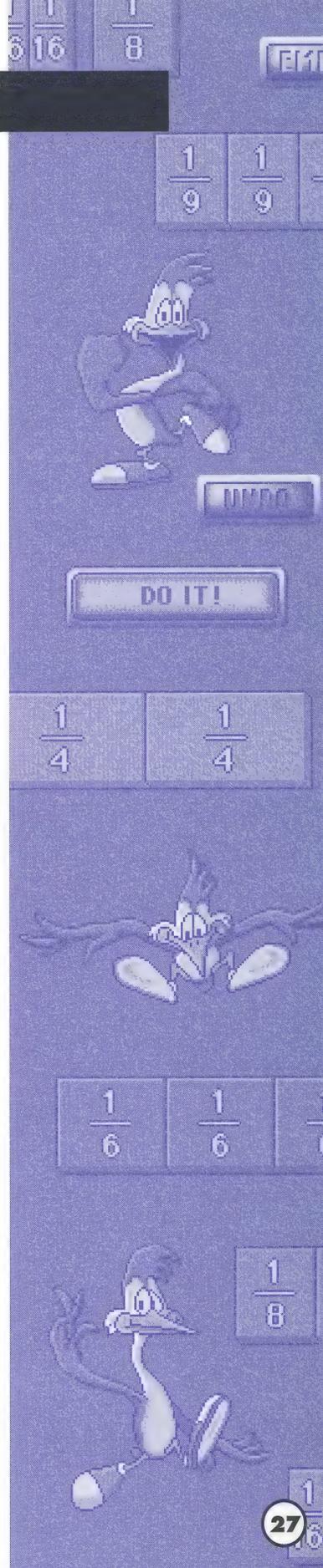
Rhythm Shop

PARENTS' CORNER

The Rhythm Shop seeks to develop the following math skills:

- Fractions: Building fractions with the Rhythm Shop's Fractionaire 2000 machine provides your child with models for exploring and understanding fractions.
- Patterns and Relationships: Building rhythms using both visual models and auditory clues develops your child's skills at recognizing and creating a wide variety of patterns.
- Number Sense and Numeration: Using the Fractionaire 2000 machine to explore fractions helps your child construct fractional number relationships through the use of visual models.
- Math Operations: The Fractionaire 2000's "Melder" mode provides a model for the addition of fractions, the "Cutter" mode provides a model for division of fractions, and the "Gluer" mode provides a model for both addition and multiplication concepts.
- Problem Solving: Your child can explore, develop, and apply many problem solving strategies to create selected rhythms.

Observing your child play with the Rhythm Shop will give you insight into her understanding of fractional numbers. A child who does not understand fractions can explore them with the Fractionaire 2000 machine and create a strategy for building rhythms. This exploration provides valuable experience for a child who is beginning to create a model for the meaning of fractions. Play with your child to create interesting patterns. See if you and your child can predict the rhythm pattern before you hear it.



Rockets

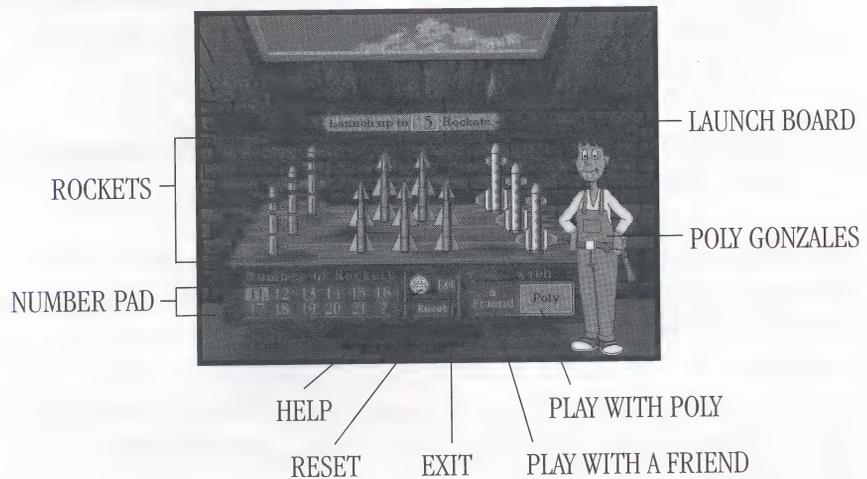
From *Math Workshop's* Nim Space Center, launch these model rockets straight through the roof! The object of this game is to launch the last rocket. Use the Number Pad to choose the number of rockets in the game. When you're playing with Poly, take turns launching. She will tell you the most number of rockets you can launch during each turn (2, 3, 4, or 5). If you finish your turn, and have not launched the most rockets allowed, click on Poly to tell her to take her turn.

To launch rockets, just click on them. If you want Poly to start, click on her first. You can also choose Play A Friend. When you do this, either use the rules you used against Poly or make your own: decide who goes first, how many rockets to use, how many you can launch at each turn (up to 10), and whether the person who launches the last rocket wins or loses.

See Poly's Tricks and Tips for some other fun rules.

To enter Rockets, click on the Rocket Table upstairs in the Control Room.

When you enter Rockets, you will see this:



Rockets

POLY GONZALES



will play against you. If you click on her first, she will start. If you launch the most rockets you can in a turn, Poly will automatically begin her turn. If you don't launch that many, click on Poly when you'd like her to take her turn.

PLAY WITH POLY



lets you play against Poly.

PLAY WITH A FRIEND



lets you play against a friend.

NUMBER PAD



lets you pick the number of rockets, 11 through 21. The "?" button will pick the number of rockets for you.

ROCKETS



launch when you click on them.

LAUNCH BOARD



tells you the most number of rockets that you can launch in each turn. Poly sets this number when you play with her. To change the number, just click on it. When playing with Poly, you can set the number from two to five. When playing with a friend, you can set the number from two to ten.

Rockets

PARENTS' CORNER

Rockets is based on the strategy game Nim, and seeks to develop the following math skills:

- ❑ **Problem Solving:** Nim games encourage your child to use problem solving approaches to investigate, develop, and apply strategies.
- ❑ **Logical Reasoning:** Nim strategies center around finding patterns and relationships within the gameplay. This process develops higher-order thinking skills.
- ❑ **Number Sense and Numeration:** Exploring the quantitative results of launching rockets one-by-one familiarizes your child with the characteristics of discrete numbers. Discrete numbers are finite units generally used to answer the question, "How many?"
- ❑ **Whole Number Operations:** Creating a strategy for gameplay develops your child's sense for using subtraction.
- ❑ **Whole Number Computation:** Playing Nim games strengthens your child's mental math computation and estimation skills.

Observing your child play Nim against the computer will give you insight into her approach to strategy games. Observe whether she changes her strategy each time she plays. Note whether she recognizes if she is going to win or lose prior to the game's completion. Talk to her about how she decides which rockets to launch. Encourage her to discuss possible winning strategies, and test them with her. Play a simple variation of the game with her (e.g., use 11 rockets and launch up to only two each time). By playing one simple version several times, your child will eventually recognize an overall strategy. Poly will adjust to your child's ability: she plays at six different internal levels of difficulty. She starts playing at level three, then drops a level for every two consecutive games she wins, and increases a level for every two games she loses.

Pattern Windows

Math Workshop has a skylight with ten jazzy geometric patterns. To paint, click on one of the Colors, then click where you want to paint. If you'd like to paint a different pattern, choose another one with the Select-A-Pattern arrows on the gold plate.

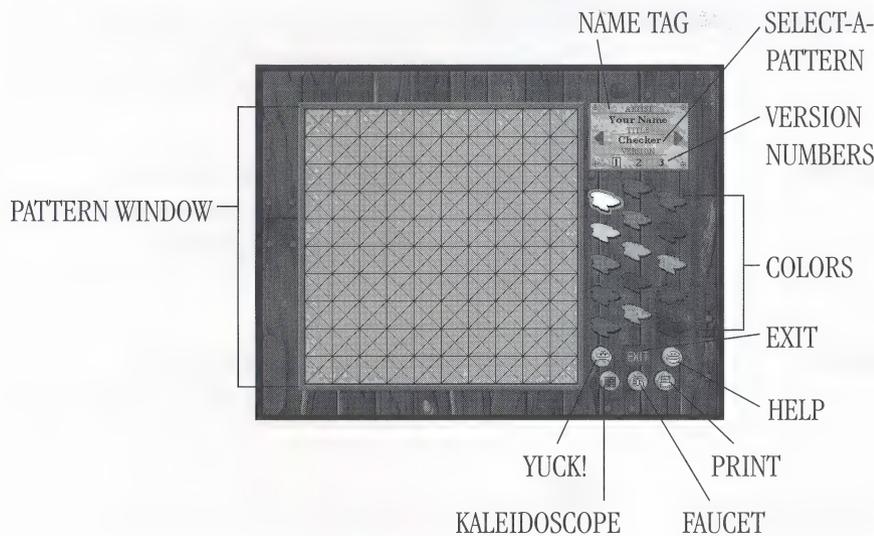
You can paint the skylight all one color, such as red. Just click on the red Color, then click on the Faucet button. If you want to undo what you just did, click on Yuck! If you paint a piece of the pattern and want to undo it, simply click on that piece again.

Use the Version Numbers to save up to 3 paintings of each pattern. They save themselves automatically. If you'd like to print your masterpiece, just click on the Print button.

Math Workshop's pattern windows can also do something REALLY cool. Click on the Kaleidoscope button and watch flashing colors spin through the skylight!

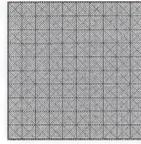
To go to Pattern Windows, click on the Skylight in the Control Room.

When you start playing with Pattern Windows, you will see:



Pattern Windows

PATTERN WINDOW



is where you color the pictures.

COLORS



gives you the color for painting.

SELECT-A-PATTERN



lets you choose from 10 patterns.

NAME TAG



is where you sign in, so you can save your paintings and make your own art gallery. Click here to enter a new name.

VERSION NUMBERS



let you choose to paint and save one of three windows with the same pattern.

FAUCET



paints the whole window with the Color you've picked. To erase a painting from a window, click on the white Color, then click on this button.

YUCK!



erases the last pieces you painted with a particular color. To un-erase them, click on YUCK! again.

KALEIDOSCOPE



lights up the picture with flashing colors.

PRINT



prints the pattern showing on the screen.

Pattern Windows

PARENTS' CORNER

Pattern Windows seeks to develop the following math skills:

- ❑ Patterns and Relationships: Painting tessellating patterns within the various windows strengthens your child's pattern recognition skills. It enhances your child's appreciation for the beauty of mathematical patterns and provides an environment in which to create personal, mathematical designs.
- ❑ Geometry and Spatial Sense: Painting the pattern windows encourages your child to both identify and draw two-dimensional shapes, to investigate the results of combining or subdividing these shapes, and to explore spatial relationships.

Observing your child create patterns and play in this environment will give you an understanding of her ability to create mathematical patterns and designs. Notice whether your child creates symmetrical or asymmetrical patterns and whether the patterns are simple or complex. Ask your child both to create specific shapes and to describe the patterns she creates. Discuss the geometric shapes that Poly mentions when you click on her in the Control Room. Ask your child to create these shapes in the Pattern Windows.

Poly's Tricks and Tips

Hidden Picture Puzzles

With a friend, take turns fitting puzzle pieces to solve a puzzle. Continue to take turns placing and removing pieces until all of them are in place. The person who fits the last piece wins!

Puzzle Patterns

General Clue: Always study the puzzle's border to find its pattern!

GREEN PUZZLE CLUES

Frogs

There is a checkerboard pattern of frogs on differently colored squares. Sort your puzzle pieces by color, then place them in the puzzle. Make sure you follow the checkerboard pattern. The frogs go rightside up, then upside down.

Butterflies

There are four butterflies, each of a different color. First make sure to separate the pieces by color.

Ponies

There are four ponies, two on the left and two on the right. One tan pony and one brown pony are on each side. Sort your pieces both by color and by the direction a pony is facing.

Clowns

There are two clowns facing each other. Each is drawn with a different set of colors. First decide which pieces belong to which clown.

Cityscape

This picture contains both a little city and its reflection in a park's pond. Sort your pieces so the city pieces are rightside up and the reflection pieces are upside down.

Bugs

There are four kinds of bugs: beetles, butterflies, caterpillars and bees. Sort your pieces by both the kind of bug and its size.

Poly's Tricks and Tips

Puppies and Kitties

Turn all your pieces so the puppies and kitties are rightside up. The puppies always have bones. The kitties always have balls of yarn. The way each animal is facing in the puzzle's border tells you how to make things fit.

Fish

Turn your puzzle pieces so that all the creatures are rightside up. The background at the top of the picture is light green. The bottom is dark green. Make sure the background color of your puzzle piece matches the puzzle's border.

Robot

Build the robot. Sort the pieces into those that go on its left and those that go on its right.

ORANGE PUZZLE CLUES

Dots

Match the dots on the puzzle pieces with the dots on the puzzle's border. Start with the corners.

Shadow People

These are little people and their shadows. First turn all the pieces so each character is rightside up, then match each of the characters with a shadow.

Tie Dye

Sort your pieces into yellow, orange, and neither-yellow-nor-orange groups. Match the edges of the yellow pieces to the yellow on the puzzle's border, then do the same with the orange ones.

Jungle

This puzzle contains monkeys and parrots. Match the line of the tree trunks in the puzzle's border with the trunks on the puzzle pieces. Notice the pattern of birds and monkeys across the rows.

Trucks and Signs

Turn the puzzle pieces so that all of the trucks and signs are rightside up. Fit the signs' pieces vertically and horizontally with the same signs in the puzzle's border.

Poly's Tricks and Tips

Dinosaurs

Rotate the pieces so that all the dinosaurs are rightside up. The key to this puzzle is properly arranging the big dinosaurs.

Pipes

Match the colored rings along the edges of the puzzle pieces. Start by matching the rings in the corners of the frame.

Freeway

There are four, curved, freeway sections in the picture. Separate the pieces with curved sections from the ones that don't have them. Put the curved pieces in first. Pay close attention to the shadows on both the freeway and the grass.

Diamond

Match the edges. Start in the upper-left corner of the frame. Find the piece with the dark purple corner. Turn it so it fits into the dark purple part of the frame.

RED PUZZLE CLUES

Field of Flowers

Match the flowers on one puzzle piece both to the flowers on other pieces and to those in the puzzle's border.

Flying Boxes

Notice which sides of the boxes are blue, orange, yellow, and green, and notice which direction they appear to be flying. Turn all your pieces so they have these colors on the same sides of the boxes. Working from the outside in, place your pieces so they seem to be flying in the same direction as the pieces in the puzzle's border.

Plaid

Notice the two, thin, light-blue stripes and the two, thin, orange stripes in the border. Pieces with only light-blue stripes fit where they won't cross orange ones. Pieces with only orange stripes fit where they won't cross light-blue ones. Pieces with stripes of both colors fit where the orange and blue stripes cross.

Poly's Tricks and Tips

Firemen

A fireman in red always faces a fireman in yellow. Each is attached to a hydrant of the other color.

Cards

Notice the pattern of colors in the border: yellow, green, white. Keep all the card suits rightside up. Each puzzle piece always has one red and one black suit. As you start placing pieces, you will notice a resulting diagonal pattern.

Tessellation

The key to this puzzle is matching colors. The background color changes from salmon to pink and the blocks' tops change from bright blue to light blue.

Bars and Balls

Look at the balls to find the spot from which the light is shining. Turn the pieces so that the light falls on the balls from the same direction as in the puzzle's border. Match the border's colored bars to those on your puzzle pieces.

Dominoes

Link all four dominoes on the puzzle's border. Match the number of dots in adjoining pieces. Start by finding the puzzle piece with only one domino on it.

Rings

There are green rings in the upper-left corner, orange rings in the upper-right, purple rings in the lower-left, and light-blue rings in the lower-right.

Rhythm Shop

Build your own rhythms! Pick a problem with a set of gluers, cutters, and melder and start building. In the Parts Bin, arrange your fractions in the order you want to hear them. Push the Play Parts button and see what you get.

Try moving around the pieces. How does the rhythm change?

Try clapping along. Can you follow the beat? Can you make the rhythm out loud without listening to it first?

Poly's Tricks and Tips

Rockets

When playing Poly:

To beat Poly, figure out how many rockets should remain for Poly's last turn.

Here are some other rules for playing with a friend:

Use the "?" button to let the computer choose a random number of rockets.

Flip a coin to see who goes first.

Each time you play, choose a different number for the most launches per turn.

What happens when you use a number larger than 5?

Decide that the player who launches the last rocket loses.

Decide that each player can launch only rockets that look the same.

Even better, make up your own set of rules!

Pattern Windows

How many different shapes can you find in each window? If you combine shapes, what other shapes can you make?

How few colors does it take to fill a Pattern Window without letting two spaces with the same color touch?

Paint a pattern that repeats over-and-over, and click on the Kaleidoscope Button - it'll make your pattern roll across the sky! The order of the changing colors is white, yellow, orange, red, purple, blue, green, light blue, black, gray, brown, dark red, pink, dark green, dark blue.

Fill a Pattern Window with white and print it out. Color it with crayons or ink pens. Better yet, share it with a friend!

Parents' Video Guide

Parents' Video Guide for Math Workshop consists of QuickTime movies that present you new teaching methods in primary-level math education, educational strategies of *Math Workshop*, and meaningful ways to get more involved in your child's math education.

In the Activities and Resources section of this program, you can print instructions for math-oriented games and activities to play with your child. You can also print lists of the National Council of Teachers of Mathematics's curriculum standards for grades K-4 and 5-8, suggested math-oriented literature, helpful national organizations, businesses that distribute math learning materials, and Internet sites related to children's math education.

To begin this program, please double-click on the *Parents' Video Guide* icon either in the *Math Workshop* folder on your Macintosh or in the *Broderbund Software* program group in the *Program Manager* on your MPC. To quit the program, press \mathcal{A} -Q on your Macintosh or Ctrl-Q on your MPC.



If You Can't Get Started

OK, so you've followed the instructions in Getting Started and you're still having problems installing or running *Math Workshop*. Don't despair. This chapter has additional advice on how to get the game up and running. Some of the sections refer to MPC (Windows), and others to Macintosh. If the information here doesn't solve your problem, see the last section of this chapter, "When All Else Fails," to learn how to contact the Brøderbund Technical Support Department.

MPC (WINDOWS)

Install Problems

If the install program is not functioning properly, you can manually install *Math Workshop*. First, make a new directory on your hard disk. At the DOS prompt, type:

```
md \wkshmpc
```

Next, copy files from the MPCRSRC directory on the CD into this directory. At the DOS prompt, type:

```
cd \wkshmpc  
copy d:\mpcrsrc\*.*
```

(if your CD-ROM drive is not drive D, substitute the correct drive's letter).

In the new *mpcrsrc* file, rename .BAK files as .EXE files. At the DOS prompt, type:

```
ren *.bak *.exe
```

Edit MATH.CFG to reflect the CD drive as the INSTALLFROMDIR. At the DOS prompt, type:

```
edit math.cfg
```

This will take you into an editor. Once inside the editor, use the mouse or arrow keys to place the cursor at the end of the line beginning with *INSTALLFROMDIR*. Use the backspace key to delete the old path name up to the equals (=) sign. Type the name of the root directory of your CD-ROM drive (for example, D:\). Select the *EXIT* command from the *FILE* menu using either the mouse or typing <ALT>-F followed by X. Use either the *ENTER* key or the mouse to select *YES* in the dialog box.

Return to the Windows Program Manager or File Manager. Select *Run* from the *File* menu, and in the line labeled *Command Line* type:

```
C:\WKSHPMPC\BROEMIDI.EXE
```

If You Can't Get Started

This will run the *MIDI Driver Setup for Math Workshop*. Follow its directions to set up the best MIDI driver to run with *Math Workshop*. If you installed *Math Workshop* to another directory or drive, modify the path accordingly.

Math Workshop can now be executed from the *RUN* command in the *FILE* menu of the Program Manager or the File Manager, as described in Getting Started.

Multiple Programs Running

Other programs running on your system might affect *Math Workshop*'s performance. We recommend that you exit all other applications before running *Math Workshop*. To verify that you have first exited all other applications, begin at the Program Manager. Press and hold down the "CTRL" key, then press the "ESC" key.

When the Task List window appears, release both keys. Make sure that *Program Manager* is the only item listed here before starting *Math Workshop*. If there is another item listed here, use the up and down arrow keys on your keyboard to highlight the name of the program, then click on the *End Task* button. The Task List window will then disappear.

If necessary, open the Task List again and continue to exit programs until only the Program Manager is listed.

NOTE: Some programs will not quit this way and may not even show up on the Task List. If you know that a program, such as a screen saver, continues to run without appearing on the Task List, please check the instructions that came with the program for assistance in shutting down the program.

Not Enough Memory

Math Workshop requires that Windows has a total of 2.5MB of free memory. This amount may be a combination of physical and virtual memory. To check the amount of free memory currently available to Windows, begin at the Windows Program Manager. Select *About Program Manager* from the Help menu. At the bottom of the information box will be a line titled *Memory* which will show the amount of free memory (in KB) available to Windows.

If the total memory available to Windows is less than 2,560KB, try either shutting down other applications that may be running or increasing the size of your Windows Swap File (virtual memory). For additional information on these procedures, please refer to your Windows manual.

If You Can't Get Started

Sound Problems

If you are unable to hear music or sound effects from the game, check to see if you have Windows sound drivers installed. To do this, begin at the Windows Program Manager. Open the Accessories group and double-click on the Media Player icon. When the Media Player window appears, open the Device menu and make sure that MIDI Sequencer and Sound both appear. When you select MIDI Sequencer from the menu, a file selection window will be displayed. There should be at least one file name in the list box on the left. Select a file whose name ends with “.MID” and click on OK. You will return to the Media Player. Click on the Play button (the one with a small triangle pointing to the right). The indicator should begin moving from left to right and the file should play. If you do not hear sounds, make sure your cables are fastened securely, and that the volume control on your sound device is set high enough. When you are satisfied that the MIDI sounds are playing, stop the Media Player by clicking on the Stop button (the one with a solid square on it).

Even if you are unable to make MIDI sounds play, proceed with the Sound test. Select Sound from the Device menu. The file selection window will appear again, this time listing files whose name ends with “.WAV.” Choose a file and click OK. Click the Play button in the Media Player to hear the sound. If you have not heard both types of sounds, or if either Sound or MIDI Sequencer did not appear in the Device menu, then Windows drivers for your sound device have not been properly installed. Please refer to the manual that came with your sound device for instructions on installing Windows sound drivers.

Video Display Problems

For the game to display properly, your Windows video driver **MUST** be set to display 256 colors with a minimum resolution of 640x480. The game will not function with video drivers set to any other value. For instructions on changing Windows video display drivers, please refer to either your Windows manual or the manual that came with your video card.

If you are experiencing problems with QuickTime movies not being placed correctly on the screen, try updating to the most recent version of your display driver. Please consult the manual that came with your video card for more information on obtaining the updated driver.

If You Can't Get Started

If updating to the most recent version of display drivers does not help, then try making the following modifications to the QTW.INI file (the QTW.INI file should be located in your \WINDOWS directory.):

Open the QTW.INI file using Notepad or another plain text editor.

If there is a line labeled:

optimize=hardware

then change it to read:

optimize=driver

If neither of these lines exist then add the following two lines:

[Video]

optimize=driver

These adjustments may degrade the performance of QuickTime for Windows, so only attempt them if you are experiencing problems with the placement of movies on the screen.

Updating Device Drivers

If you are unable to resolve your problem through the suggestions provided here, please contact your hardware manufacturer to make sure that the driver for each piece of hardware is current. Listed below are the Bulletin Board System (BBS), technical support, and main phone numbers for some hardware manufacturers. Most hardware manufacturers have a BBS which enables you to download their drivers and other information via modem. If you do not have a modem, use the technical support numbers provided to acquire the current drivers or contact your hardware manufacturer.

If You Can't Get Started

VIDEO BOARDS

Ahead Systems, Inc.

BBS# (510) 623-0961

Main# (510) 623-0900

ATI Technologies, Inc.

BBS# (905) 764-9404

TS# (905) 882-2626

Main# (905) 882-2600

Boca Research, Inc.

BBS# (407) 241-1601

TS# (407) 241-8088

Main# (407) 997-6227

Cirrus Logic

BBS# (510) 440-9080

TS# (510) 623-8300

Diamond Computer Systems, Inc.

BBS# (408) 730-1100 2,400 baud

BBS# (408) 524-9301 9,600 baud

TS# (408) 736-2000

Main# (408) 736-2000

Hercules Computer Technology, Inc.

BBS# (510) 623-7449

TS# (510) 623-6050

Orchid Technology, Inc.

BBS# (510) 683-0555

TS# (510) 683-0323

Main# (510) 683-0300

Technology Works / National
Design, Inc.

BBS# (512) 974-9329

TS# (800) 933-6113

Main# (512) 794-8533

Trident Microsystems, Inc.

BBS# (415) 691-1016

TS# (415) 691-9211

Main# (415) 691-9211

Tseng Labs

BBS# (215) 579-7536

TS# (215) 968-0502

Main (215) 968-0502

SOUND BOARDS

Creative Labs

BBS# (405) 742-6660

TS# (405) 742-6622

Main# (405) 742-6600

Media Vision

BBS# (510) 770-0968

BBS# (510) 770-0527

TS# (800) 638-2807

Main# (800) 638-2807

Roland Corp.

Main# (213) 685-5141

Turtle Beach Systems

BBS# (717) 767-5934

TS# (717) 767-0200

Main# (717) 767-0200

If You Can't Get Started

CD-ROM PLAYERS

Mitsumi

TS# (408) 970-9699

BBS# (408) 970-0761

NEC

TS# (800) 388-8888

Panasonic

TS# (800) 222-0584

Philips

BBS# (719) 593-4081

Main# (800) 777-5674

Plextor / Texel

BBS# (408) 986-1569

TS# (800) 886-3935

Sony

BBS# (408) 955-5107

TS# (800) 326-9551

Microsoft has made available the Windows Driver Library (WDL). The WDL offers device drivers for many video displays, sound cards and printers not provided with Windows 3.1. If you have a modem, the drivers are available at no charge on CompuServe, GENie, Microsoft OnLine, and the Microsoft Download Service (MSDL.) However, note that standard connect-time fees and long distance telephone charges, if any, will still apply during downloading. When you connect to any of these services, please read the WDL.TXT file for downloading instructions and a list of devices supported in the WDL.

The phone number for the MSDL is (206) 936-MSDL (6735). There is no connect-time charge for using this service.

On CompuServe, the WDL is in the Microsoft Software Library, which can be reached by typing "go msl" (without quotation marks) at any system prompt. (To find WDL.TXT search on S13345.)

On the GENie and Microsoft OnLine systems the WDL is in the Microsoft Software Library. (To find WDL.TXT, search on S13345.)

The WDL is also available via the Internet at <ftp.microsoft.com>.

If You Can't Get Started

MACINTOSH

Not Enough Memory

Math Workshop requires a total of 2,560KB of free memory to run. To check the amount of available memory, go to the Apple menu and select *About This Macintosh*, or *About This Computer* if you are using a Performa.

You can free up additional memory by quitting other applications that may be running, or by disabling System Extensions. Other programs running on your system might affect *Math Workshop*'s performance. We recommend that you exit all other applications before running *Math Workshop*. For additional information on disabling System Extensions, please refer to your Macintosh manual.

Sound Problems

If you are unable to hear music or sound effects from the game, you should check to see that the volume control in your Sound Control Panel is high enough to be audible. To do this, select *Control Panels* from your Apple menu, double-click on the *Sound* icon, and set the volume to a higher number.

PRINTING PROBLEMS

Not Printing/Memory Problems

- Select the *Chooser* from your Apple menu, and turn off Background Printing.

Printout is Wrong

If strange characters appear in your printout then there may be a communications problem between the printer and the computer system. If the printout is not as expected, please try the following:

- Make sure the printer cable is no longer than 6 feet.
- Make sure that the printer cable is connected securely to both the printer and the CPU.
- Make sure that the printer is NOT going through a switching device.
- Make sure that the proper printer driver is selected for the emulation in which the printer is running.
- Make sure that there is no information left in the printer from a previous software program. To clear the printer, turn the printer off, wait for about 20 seconds, turn the printer back on and then try printing again.

If You Can't Get Started

No Color Output

If you receive no color output when printing to a color-capable printer, please follow these steps:

- Make sure that the correct printer driver is selected.
- Run a color test print directly from the printer (please refer to your printer's manual for instructions on how to do this).

Prints Too Slow

If the printing process is too slow there may be a few things you can try to speed this up:

- If running under Microsoft Windows, disable the Print Manager and de-select the Fast Printing Direct To Port option in the Microsoft Windows Control Panel.
- Make sure that only one application is running at one time.
- Make sure that all memory-resident programs are not running (also known as TSR's, terminate-and-stay-resident). This includes screen savers.
- If printing to a laserjet-compatible printer, lower the printer driver's resolution (for dot-matrix printers, lowering the quality to draft will increase the print speed).
- Depending on the Microsoft Windows swap file size, increasing the swap file may improve the printing process.

Printer Not Responding

If this error message appears immediately after you select "Print," please try correcting the problem with the following:

- Make sure that the printer cable is connected securely to both the printer and the CPU.
- Make sure that the printer is NOT going through a switching device.
- Make sure the proper printer port is selected.
- Make sure the proper printer resolution of the printer driver is selected.
- If the computer system was upgraded from a 286 to a 386 or better processor, make sure that the printer ports were also upgraded.

If You Can't Get Started

Prints only Part of the Certificate

If the printer seems to cut off one end of the certificate:

- If you are using fanfold/tractor paper on any tractor-feed printer, make sure that you select Computer Paper in the print dialog box.

Prints onto the Second Page

If the printout looks as though it could print successfully to one 8 1/2" x 11" piece of paper, but it prints to a second page:

- Make sure the proper emulation printer driver is selected.
- If the printer isn't capable of printing 66 lines per page, then there is no solution to force the project to print to a printer that is only capable of printing at 61 or 63 lines per page.
- Select Cut Sheet or Manual Feed in the print dialog box.
- If printing to a laserjet-compatible printer, lower the printer driver's resolution.

WHEN ALL ELSE FAILS

If you have worked through these troubleshooting suggestions and still need assistance, you can contact Brøderbund Technical Support by using the options listed below. It will be very helpful if you can tell us your computer make and model, and the brand names of both the video card and the sound card you are using. If possible, have the computer both positioned near your phone and turned on. Please also be prepared to give us a detailed description of what happens when you try to run the program.

If You Can't Get Started

You can contact us in any of the following ways:

- ❑ *Phone* - Call us at (415) 382-4700 from Monday through Thursday between the hours of 7 a.m. and 5 p.m., and Friday from 7 a.m. to 3:45 p.m., Pacific Standard Time.
- ❑ *BroderLink* - Brøderbund's Bulletin Board Service offers TESS, our on-line Technical Support Database, as well as an Electronic Mail link to our Technical Support Representatives. You can reach the BroderLink at (415) 883-5889.
- ❑ *CompuServe* - Type GO BB at any prompt to access Broderbund's area in CompuServe, or send your questions to 70007,1636.
- ❑ *America OnLine* - Use the Keyword: BRODERBUND to find our Product Support Boards, or address your questions to BBund Tech using AOL's electronic mail.
- ❑ *Fax* - Fax your questions to (415) 382-4419. Please include your name, address and fax number.
- ❑ *Mail* - Send your questions to Brøderbund Technical Correspondence, P.O. Box 6125, Novato, CA 94948-6125

Special Thanks

The *Math Workshop* Team Would Like to Send a Special THANK YOU to the School Teachers Who Inspired Us to Think About Things!

Alan Agol of Sir Francis Drake High School (San Anselmo, CA)

Cheri Tomei of Lark View School (Huntington Beach, CA)

Betty Duncan of Reed School (Tiburon, CA)

Mark Hendricks of Highland High School (Bakersfield, CA)

Jen Litherland of Seafar Primary School (Cumbernauld, Scotland)

All the Teachers at Willa Cather Elementary (Omaha, NE)

Steve Smith of Edison School (Alameda, CA)

Dr. Wallace Dunnbelt of Brentwood School (Los Angeles, CA)

Janis Hawkins of Terrace Elementary School (San Antonio, TX)

Mr. Lecel of Santa Venetia Middle School (San Rafael, CA)

Dr. William Hanf of University of Hawaii (Manoa, Hawaii)

Archimedes of the City Marketplace (Alexandria, Egypt)

Ms. Fledderman of Montclair Elementary (Omaha, NE)

Warranty

BRØDERBUND'S LIMITED NINETY-DAY WARRANTY

Brøderbund warrants for a period of ninety (90) days following the original retail purchase of this copy of *Math Workshop* that the program is free from substantial errors or defects that will materially interfere with the operation of the program as described in the enclosed user documentation. This policy applies to the initial purchaser only.

If you believe you have found any such error or defect in the program during the warranty period, call Brøderbund's Technical Support Department at 415/382-4700 between the hours of 7 a.m. and 5 p.m. (Pacific Time), Monday through Thursday, and Friday from 7 a.m. to 3:45 p.m. Brøderbund technical personnel will attempt to help you correct or avoid the problem. If any such error or defect cannot be corrected or reasonably avoided, Brøderbund will inform you how to obtain a corrected program disk (or, at Brøderbund's option, Brøderbund may authorize a refund of your purchase price).

This warranty gives you specific legal rights, and you may also have rights which vary from state to state.

Disc Replacement Policy

If any disc supplied with this product fails within ninety (90) days of purchase for any reason other than accident or misuse, please return the defective disk together with a dated proof of purchase to Brøderbund Software-Direct®, P.O. Box 6125, Novato, CA 94948-6125, for a free replacement. This policy applies to the original purchaser only.

Brøderbund will replace program disks damaged for any reason, whether during or after the ninety (90) day free replacement period, for a minimal fee. For more information, please contact Brøderbund Customer Service at 415/382-4600. This policy will be followed as long as the program is still being manufactured by Brøderbund.

Limitations on Warranty

Unauthorized representations: Brøderbund warrants only that the program will perform as described in the user documentation. No other advertising, description or representation, whether made by a Brøderbund dealer, distributor, agent or employee, shall be binding upon Brøderbund or shall change the terms of this warranty.

Implied warranties limited: Except as stated above, Brøderbund makes no other warranty, express or implied, regarding this product. Brøderbund disclaims any warranty that the software is fit for a particular purpose, and any implied warranty of merchantability shall be limited to the ninety (90) day duration of this limited express warranty and is otherwise expressly and specifically disclaimed. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

No consequential damages: Brøderbund shall not be liable for special, incidental, consequential or other damages, even if Brøderbund is advised of or aware of the possibility of such damages. This means that Brøderbund shall not be responsible or liable for lost profits or revenues, or for damages or costs incurred as a result of loss of time, data or use of the software, or from any other cause except the actual cost of the product. In no event shall Brøderbund's liability exceed the purchase price of this product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

You are entitled to use this product for your own use, but may not sell or transfer reproductions of the software or manual to other parties in any way, nor rent or lease the product to others without the prior written permission of Brøderbund. You may use one copy of the product on a single terminal connected to a single computer. You may not network the product or otherwise use it on more than one computer or computer terminal at the same time.

For technical support call 415/382-4700.

R033

Notes

DETACH HERE AND MAIL

DETACH HERE AND MAIL

DETACH HERE AND MAIL

FREE Technical Support

4-18-95
FREE
Math Writing
Sub
proof
Phone 415-382-4700 or Fax 415-382-4419

Monday-Friday 7:00 - 4:30 Pacific Time

Product qualifies you for FREE technical support for its full product life. [Product life ends when a new version is released or the product is discontinued.]

Before calling Technical Support, please follow these steps.

1. Check your manual thoroughly. (Happily, many solutions turn out to be in the manual.)
2. Gather all information that applies to the problem. Note or print out any onscreen messages you get when the problem occurs.
3. Write down all the steps you have taken to solve the problem, along with any error messages your computer has given you.
4. Be sure you know your hardware configuration, operating system version, memory, monitor type, etc.
5. When you call, please be in front of your computer with the power on. Have on hand your manual, product disks and your registration number (below).

Safeguard your official registration number.

Be sure to keep this number with your program disks. It's your official "proof of purchase" that will help you obtain future Brøderbund services quickly and easily.

50102

Personal Product Registration

MODEM USERS!

Log on to the Brøderbund Bulletin Board FREE for Brøderbund customers!
415-883-5889

IMPORTANT: PLEASE RETAIN THIS CARD

0009915

R013



For more information about Brøderbund Software and our products, write to us at 500 Redwood Blvd., Novato, California 94948-6121.

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5019910

MPC (WINDOWS) QUICKSTART CARD

FOR

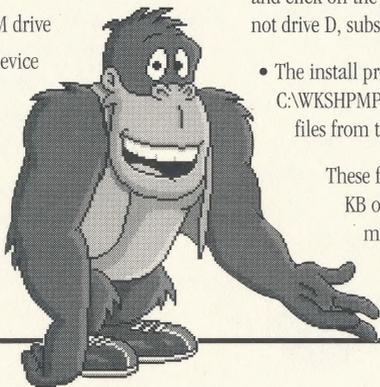
MATH WORKSHOP™

AND

PARENTS' VIDEO GUIDE™

System Requirements

- ✓ IBM/Tandy or 100% compatible
- ✓ 33 MHz 386DX or faster
(Enhanced mode only)
- ✓ 4 MB RAM with 2.5 MB available
- ✓ Hard disk with 950 KB free space
- ✓ Windows 3.1
- ✓ MS/PC DOS® 5.0 or higher
- ✓ SuperVGA (640x480, 256 colors)
- ✓ MPC-compliant CD-ROM drive
- ✓ MPC-compliant sound device
- ✓ Mouse
- ✓ Printer support: works
with most popular
printers (monochrome
and color)



• To install *Math Workshop*, begin at the Windows Program Manager. If you are not familiar with the Program Manager, consult your Windows manual. You must have Windows 3.1 to run *Math Workshop*. Insert the *Math Workshop* disc (located in the protective case in your package) into your CD-ROM drive (using a disc caddy if appropriate). Select *Run* under the *File* menu. In the line labeled *Command Line* type:

D:\INSTALL

and click on the *OK* button (if your CD-ROM drive is not drive D, substitute the correct drive's letter).

- The install program will create a default directory, C:\WKSHPMPC, and will then copy a number of files from the CD to this directory.

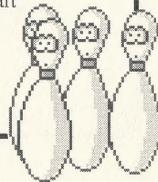
These files will require approximately 950 KB of hard disk space. If you wish, you may specify another directory during the install program.

The install program will create a program item called *Math Workshop MPC* within a program group named *Broderbund Software*. To play *Math Workshop*, double-click on the *Math Workshop MPC* icon.

- The installer will also run the *MIDI Driver Setup for Math Workshop*. Follow its directions to set up the best MIDI driver to run with *Math Workshop*. In the future, you can run this setup program again by double-clicking on its icon in the *Broderbund Software* program group.

Parents' Video Guide

- When you install *Math Workshop*, an icon for *Parents' Video Guide* will also be created in the *Broderbund Software* program group. *Parents' Video Guide* runs from the disc, and does not require any hard disk space. To start the program, double-click on the *Parents' Video Guide* icon.



MACINTOSH QUICKSTART CARD

FOR

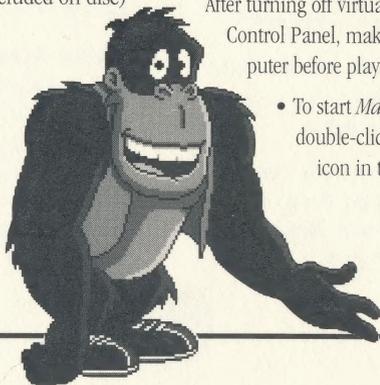
MATH WORKSHOP™

AND

PARENTS' VIDEO GUIDE™

System Requirements

- ✓ 8-bit video support (256 colors or shades of gray)
- ✓ Color or gray-scale monitor
- ✓ 4 MB RAM with 2.5 MB available
- ✓ Hard disk with 220 KB free space
- ✓ CD-ROM drive
- ✓ System 7.0.1 or higher
- ✓ *Sound Manager 3.0* (uses 80 KB of free space on hard disk - version included on disc)
- ✓ *QuickTime 1.6.1 for Parents' Video Guide* (uses 850 KB of free space on hard disk — version included on disc)
- ✓ Printer support: works with most popular printers (monochrome and color)



- Before playing *Math Workshop* for the first time, you must install *Sound Manager 3.0*. To install *Sound Manager*, insert the *Math Workshop* disc into your CD-ROM drive. A window will appear on your desktop. Drag *Sound Manager* into the System Folder icon on your hard disk. Restart your computer.

- In order for *Math Workshop* to work properly, **VIRTUAL MEMORY MUST BE TURNED OFF**. After turning off virtual memory in the Memory Control Panel, make sure you restart your computer before playing *Math Workshop*.

- To start *Math Workshop*, double-click on the *Math Workshop* icon in the window on your desktop.

Parents' Video Guide

- Before viewing *Parents' Video Guide* for the first time, you must install both *QuickTime 1.6.1* and *Sound Manager 3.0*.

To install *QuickTime* and the *Sound Manager*, insert the *Math Workshop* disc into your CD-ROM drive. A window will appear on your desktop. Drag both *QuickTime* and the *Sound Manager* into the System Folder icon on your hard disk. Restart your computer.

- In order for *Parents' Video Guide* to work properly, **VIRTUAL MEMORY MUST BE TURNED OFF**. After turning off virtual memory in the Memory Control Panel, make sure you restart your computer before starting *Parents' Video Guide*.

- To view *Parents' Video Guide*, double-click on the *Parents' Video Guide* icon in the window on your desktop.

