



# SCHOOL NETWORK VERSION FOR USE WITH RIVERDEEP SOFTWARE MANAGER





# **Teacher's Guide**

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# Introduction

Millie's Math House software and classroom activities have been created with a great deal of thought and care. They reflect our vision of what technology can bring to education. We want to share our love of learning with you and your students, so we've filled Millie's House with hours and hours of learning play, colorful characters, enchanting music, smiles, and giggles.

Through seven activities that feel like play, students learn about numbers, counting, addition, subtraction, patterns, problem solving, size, geometric shapes, and more. Six of the seven activities have both an Explore and Discover Mode as well as a Question and Answer Mode so that children experience both divergent (many good answers) and convergent (one best answer) thinking. These activities will help build a foundation for the math concepts and thinking skills that children need to construct understanding and make sense of the world around them.

Powerful technology and proven educational methods have been combined to ensure success for a wide variety of children. Built-in scanning is available for single switch users. The clear, digitized speech provides effective modeling for ESL students and early language development. *Millie's Math House* can also be very appropriately used in inclusionary settings.

A *Curriculum Connections* section in this Guide provides interdisciplinary opportunities with dozens of teacher-developed activities for use in the classroom and at home. Reproducible activity sheets and artwork are included to provide additional learning opportunities before and after using the software.

Millie's Math House provides students with the opportunity to develop feelings of control and confidence. Using the computer as a tool, students gain a sense of accomplishment and skill as they create, play, and learn.

The network version of *Millie's Math House* comes with the flexible *Riverdeep Software Manager*, making it easier for you to quickly assign program activities to individual students, workgroups, or classes. Look for details on the these and other useful features in the *Riverdeep Software Manager* guide included within the Teacher Resource Binder.

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# What's in This Guide?

# **Introductory information** (pages 2–9)

- Steps to Start information
- Visual overview of the program
- Activity room descriptions
- Learning opportunities matrix
- Program navigation for teachers and students
- Suggestions for introducing *Millie's Math House* to your students
- Reproducible quick reference pages for your students

## Room by Room in Millie's Math House (pages 11–38)

Helpful information about each room of Millie's Math House, including:

- Overview, giving a summary of the activity room, learning opportunities, and suggested extension activities for home and school.
- **Explore and Discover Mode**, explaining how your students can learn by experimenting with numbers, shapes, etc., in the activity room. In this Mode there are no "right" or "wrong" answers.
- Question and Answer Mode, explaining how a character takes charge and is looking for a "right" answer. The character also offers gentle help and fun rewards.
- **Together Time Activities**, offering suggestions for easy, at-home activities that integrate learning into everyday situations.

# **Curriculum Connections** (pages 39-81)

- Suggested activities that can be integrated into many curricular areas. These activities strengthen the learning opportunities found in *Millie's Math House*.
- Reproducible sheets (for student handouts, bulletin board headings, and overhead transparencies) that can be used in conjunction with *Curriculum Connections* activities.
- Suggestions for using Millie's Math House with students with special needs.

# **Technical Information** (pages 83-84)

- System Requirements and Installation Instructions
- For Technical Support, please refer to the customer information card included with this product.

# **Steps to Start**

#### 1. Check to be sure Riverdeep Software Manager is installed.

• See the RSM User Guide for more information.

#### 2.Install Millie's Math House.

• If the software has not been installed, see *Installation Instructions* (page 84).

#### 3. Read the Teacher's Guide.

What's Inside Millie's Math House (page 4) and Moving Around the House (page 6) will help you begin using Millie's Math House immediately. Curriculum Connections (pages 39-81) offers additional suggestions and supplemental materials to help you integrate Millie's Math House with classroom activities.

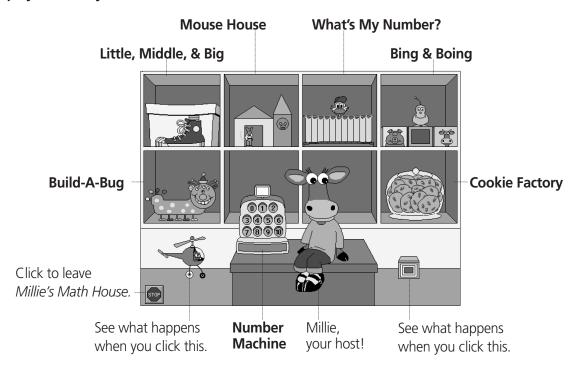
#### 4. Become familiar with the program.

- Try the software before you introduce *Millie's Math House* to your students.
- Decide if you want to introduce the activity rooms one at a time to your students or let them explore at their own pace.
- Select options (scanning, Stop Sign, etc.) you would like to use.

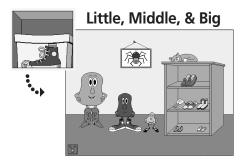
#### 5. Introduce Millie to your students.

- Reproduce (for each student) or make overhead transparencies of Millie's Map and Millie's Icons (pages 8 and 9).
- See Introducing Millie to Your Students (page 7) for suggestions.

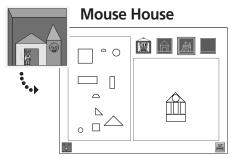
#### To play an activity, click one of the rooms below.



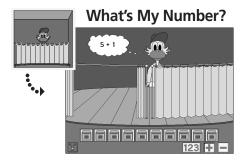
# What's Inside Millie's Math House



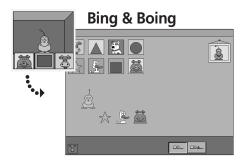
Compare and match sizes. Try shoes of three sizes on three different characters.



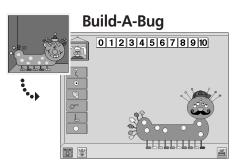
Identify and match geometric shapes. Build in the empty work area or by following a blueprint. Print and color what is built.



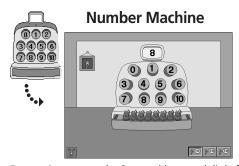
Count or use addition and subtraction. Read number sentences and find Dorothy's number.



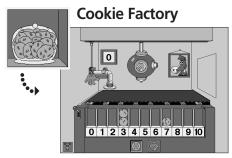
Recognize patterns. Create and complete interesting patterns that are seen and heard. Record sounds for the pictures.



Hear and see numbers and the corresponding quantity. Place from one to ten eyes, ears, spots, etc. on a bug. Print and color creations and record sounds for the bug.



Recognize numerals. See and hear a delightful assortment of critters counted as they pop out of a drawer.



Use thinking skills and counting. Try devices in different sequences to produce different results. Count jelly beans to decorate cookies.

# **Learning Opportunities**

	Cookie	0002 3456 7880	Build-A-	Bing &	What's My	Mouse	Little, Middle,
Explore concept of size	Factory	Machine	Bug	Boing	Number?	House X	& Big
Identify and compare sizes						X	X
Expand vocabulary of size words						Λ	X
Explore concept of shape						Х	
Match shapes						Х	
Discriminate between sizes of the same shape						Х	
Create with shapes						Х	
Expand vocabulary of shape words						Х	
Create patterns				Х			
Complete patterns				Х			
See relationship of parts to whole	х		Х	Х		Х	
Develop number recognition	Х	Х	Х		Х		
Recognize one-to-one correspondence	х	Х	х		Х		
Create a unique work of art			Х			Х	
Hear numbers counted	Х	Х	Х		Х		
Develop problem-solving skills and attitudes	Х			Х	Х		Х
Hear singular and plural forms of nouns		Х	х				
Develop basic addition and subtraction facts for numbers 1-10		Х	Х		Х		
Recognize and read number sentences					Х		
Observe that number sentences are a means of mathematical communication					Х		

# **Moving Around the House**

To move from the Main Room to an activity room, click one of these:





Click Millie to return to the Main Room from any activity room in the Math House.



When students enter an activity room, they will initially be in the Explore and Discover Mode. Since emphasis is placed on students experimenting freely by clicking objects and icons to see what happens, there are no right and wrong answers. With students in charge, divergent thinking is encouraged by playful, positive responses to their natural curiosity. When you want **to enter the Question and Answer Mode**, click the framed picture (each activity room has a different picture).



In the Question and Answer Mode of an activity room, a character asks questions or makes requests. Convergent thinking is emphasized as the character offers gentle feedback and guides students toward a "correct" answer. Click the empty picture frame to return to the Explore and Discover Mode.



Click the printer to print student creations in Mouse House and Build-A-Bug.



Click the Stop Sign in the Main Room to exit Millie's Math House.

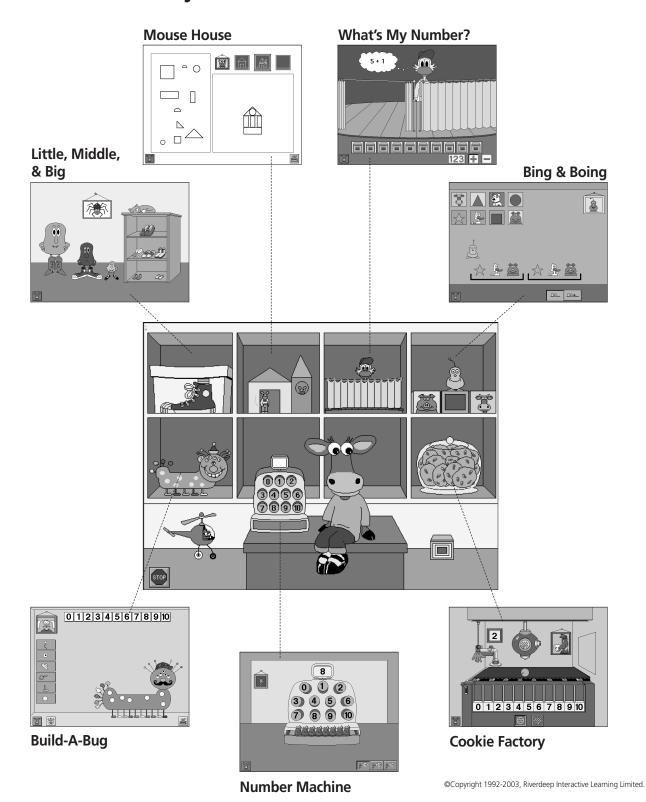
# **Introducing Millie to Your Students**

- Hand out copies of Millie's Map and Millie's Icons (pages 8 and 9).
- Point out the Main Room. Discuss the Stop Sign if you have not removed it.
- Ask a volunteer to click an activity room. Explain that students will first see the Explore and Discover Mode in each activity room. (Indicate that What's My Number? has the Question and Answer Mode only.) Point out the framed picture, explaining that when one of Millie's friends is there, students can freely explore the room to discover what happens.
- Have another volunteer click the framed picture. Point out to students that the frame is now empty; a character will make a request because they are in the Question and Answer Mode.
   Explain that if they have trouble finding the answer, the character will help them.
- Help students understand that anytime during play, they can:
  - go back to the Explore and Discover Mode by clicking the empty picture frame;
  - go back to the Main Room by clicking the Millie icon.
- If printing is available, point out the printer icon in Mouse House and Build-A-Bug. Point out the microphone icon in Bing & Boing and Build-A-Bug. Explain that you will help them learn to use these features when they are in these activity rooms.
- Have the students begin using *Millie's Math House*, or skim through *Curriculum Connections* and use one of the suggested activities to introduce an activity room. For example, "Meet Bing and Boing" (page 63) is a helpful introduction to the Bing & Boing activity room.
- As students work in different rooms of Millie's Math House, copy and send home the corresponding Together Time Activities (pages 14, 18, 22, 26, 30, 34, and 38).
- Use selected activities found in *Curriculum Connections* as follow-up exercises.

Note: If your students are using a TouchWindow, just have them touch the screen when instructed to click or drag.

# Millie's Map

# Click the room you want to enter:



# Millie's Icons

# **Click:**



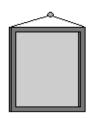
To go back to







To hear questions



To explore



To print

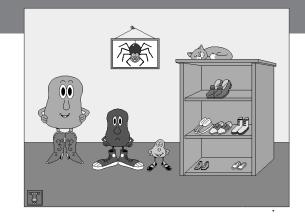


To exit



# Little, Middle, & Big Overview





Little, Middle, and Big need help finding shoes. As students select different pairs of shoes, Little, Middle, and Big let them know how well the shoes fit.

# **Learning Opportunities**

- Explore the concept of size
- Identify and compare different sizes
- Examine similarities and differences in size
- Expand vocabulary of "size words"

# **Together Time Activities (page 14)**

(To copy and send home)

- Bigger Than a Bread Box
- Silly Me

## **Curriculum Connections (pages 44-49)**

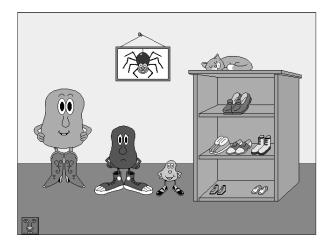
- Size Collages (Art)
- Size Up the World (Language Arts)
- Trash and Treasure (Language Arts)
- Seeing It All (Science)
- So Many Ways to Say It (Language Arts)
- What Size, Please? (Science)
- Color Me Little (Science)



# Little, Middle, & Big

# **Explore and Discover Mode**

- Click to enter Little, Middle, & Big from the Main Room.
- Click a pair of shoes Noice says the size; for example, "Small shoes."
- Click a character . Little, Middle, or Big asks for shoes; for example, "I'm Little. I need shoes."
- Click the shoes you want to try on Little, Middle, or Big. Because this is the Explore and Discover Mode, you can put any shoes on any character. The characters' faces react to the shoes you choose. You are in charge!



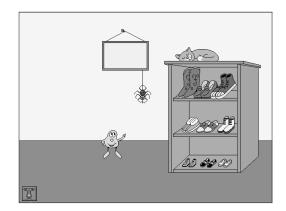
Try shoes on different characters as long as you like.

- If you want to mix up the shoes, click the cat \_\_\_\_\_\_. Try it just for fun. When you want the shoes sorted by size again, click the cat once more.
- Click for the Question and Answer Mode, or click to return to the Main Room.

# Little, Middle, & Big

# **Question and Answer Mode**

• Click to enter the Question and Answer Mode. The spider introduces a character. Then Little, Middle, or Big asks you to find a pair of shoes; for example:



"I'm Little. I need shoes."

- Click a pair of shoes.
  - If the shoes fit, the character looks happy and thanks you!
- If the shoes do not fit, the character tells you what



the problem is. For example, "These are too big." Try again until you find some that are just right.

• If you want a challenge, mix up the shoes by clicking the cat sorted by size, click the cat again.



. When you want them

- Play as long as you want. After all the shoes are used, the cat meows, and the shelves fill with shoes.
- Click for the Explore and Discover Mode, or click



to return to the Main Room.



# Little, Middle, & Big Together Time

Hi,
We've been using Millie's Math
House to learn about size. Maybe
you could try one of these activities
at home.

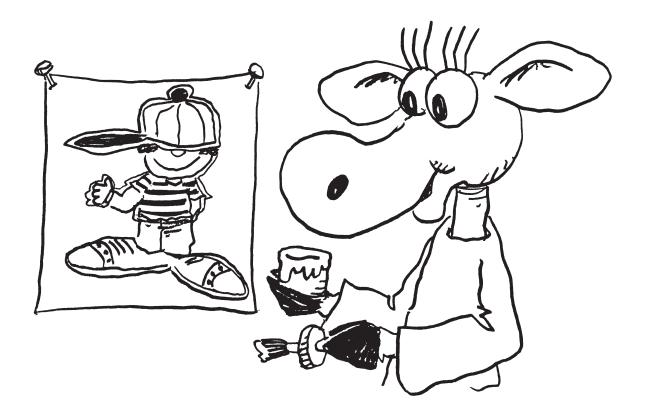
Love
Millie

# **Bigger Than a Bread Box**

Play a guessing game that requires size comparison and the use of "size words." Start by saying, "I see something smaller than you but larger than my ring." Let your child take a guess. Then help narrow the choices by offering another clue, "I see something smaller than your little brother but larger than the flowerpot." Continue to give clues until your child guesses correctly. Then let your child think of an object and give the clues.

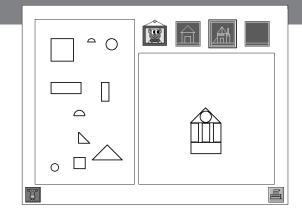
#### Silly Me

Cut out a full-length picture of your child from an old photograph. Glue the picture onto a large piece of white paper. Let your child find magazine pictures of hats, shoes, and gloves or mittens. Help cut out these items. Let your child create a funny self-portrait by adding clothing. Talk about the "too big hat," "too little mittens," and "just right shirt," etc. Follow by reading *Goldilocks and the Three Bears* as a bedtime story.



# Mouse House Overview





Students use geometric shapes (squares, triangles, circles, half-circles, and rectangles) as they build by following blueprints. With these same shapes, students can also create their own designs. Designs can be printed and colored.

# **Learning Opportunities**

- Match shapes
- Discriminate between sizes of the same shape
- Hear and use the names of shapes
- Discover that a shape is still the same shape, regardless of position or size
- Create with shapes

# **Together Time Activities (page 18)**

(To copy and send home)

- Tabletop Town
- Geometric Pretzels
- City Stamps

## **Curriculum Connections (pages 50-56)**

- I Spy Shapes (Language Arts)
- Funny Faces (Art)
- Our Town (Art)
- Shadow Play (Art)
- Sort It Out (Science)
- All Shapes and Sizes (Science)
- Crazy Quilt (Art)
- Team Shapes (Physical Education)
- What Shape Are You In? (Physical Education)



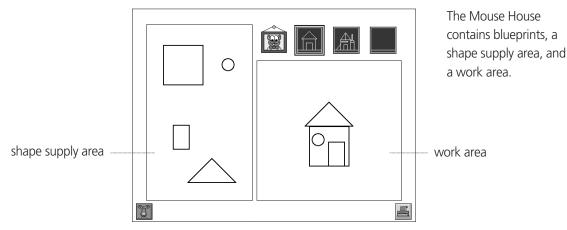
#### **Mouse House**

# **Explore and Discover Mode**

Click



to enter the Mouse House from the Main Room.



Click



Blueprints with squares, circles, rectangles, and triangles in one size.

or

Blueprints with squares, circles, rectangles, triangles, and half-circles in two sizes.

or



Empty work area (build without blueprints).

- If you are following a blueprint, drag the shape from the supply area to the work area and drop it into place (over the same shape).
- If you are building in the empty work area without a blueprint or adding extra shapes to a blueprint, drag the shapes wherever you want.
- Build as long as you like. Click another blueprint, or build in the empty work area at any time.
- Click to print what you have built. Once printed, you may want to color your design, adding bricks, scenery, people, etc.
- Click



for the Question and Answer Mode, or click



to return to the Main Room.

#### **Mouse House**

# **Question and Answer Mode**



to enter the Question and Answer Mode.

- Frank Lloyd Mouse has surprise blueprints. You will not know what you are building until you finish, but you can decide how many shapes and sizes to use.
- Click



Blueprints with squares, circles, rectangles, and triangles in one size.

or



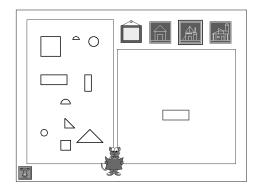
Blueprints with squares, circles, rectangles, triangles, and half-circles in two sizes.

or



Blueprints with all the shapes in two sizes and the most complex design.

• Mr. Mouse asks you to find a shape; for example:



"Please give me a large rectangle."

- Click or drag the shape requested. (To hear the request again, click Mr. Mouse.)
  - If you click or drag the right shape, it snaps into place.
- If you do not click or drag the right shape, Mr. Mouse asks you to try again.

When you finish building, the mice move in and celebrate!

for the Explore and Discover Mode, or click



to return to the Main Room.



# Mouse House

# **Together Time**

# Hello, We've been using Millie's Math House to learn about shapes. \( \sigma \sqrt{1} \) You can play with shapes at home, too.

## **Tabletop Town**

Cut out rectangles, squares, circles, half-circles, and triangles in different sizes from scraps of felt or other fabric. (Alternatively, use paper.) Sit with your child at the table, and construct buildings, trees, houses, roads, etc. together. Use the entire table. Then have dinner on the town!

#### **Geometric Pretzels**

If you and your child enjoy cooking together, you can make geometric pretzels. Mix together 1 package of dry yeast, 1 tablespoon of sugar, 1½ cups of water, 1 teaspoon of salt, and 4½ cups of flour. Knead the dough for five minutes, adding a little flour if necessary. Pinch off chunks of dough and roll them into "ropes" of different lengths. Shape these ropes into rectangles, squares, circles, and triangles of different sizes, and place them on a lightly greased cookie sheet. If you wish, you can brush them with a little water and sprinkle them with coarse salt. Bake for nine minutes at 475 degrees Fahrenheit.

## **City Stamps**

Do you have old, flat sponges available? These can easily be cut into geometric shapes. Then, with two or three pie tins of colorful tempera paint, your child can stamp a city onto shelf paper. The completed city can be hung as a mural in a play area or child's bedroom.



# What's My Number? Overview



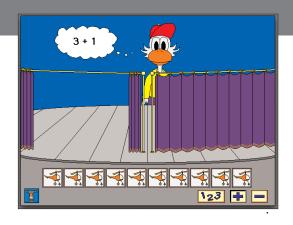












Students count objects and help Dorothy build number sentences. What's My Number? emphasizes numeral recognition and addition and subtraction facts for the numbers 0 through 10.

# **Learning Opportunities**

- Recognize and read the numerals from 0 to 10
- Understand that a number represents a certain quantity of objects, regardless of what the objects are
- Discover basic addition facts for the numbers 0 to 10
- Discover basic subtraction facts for the numbers 0 to 10
- Recognize and read number sentences
- Recognize the written or spoken number and the quantity it represents
- Observe that number sentences are a means of mathematical communication

# **Together Time Activities (page 22)**

(To copy and send home)

- Marble Bag
- License Plate Search

# **Curriculum Connections (pages 57-62)**

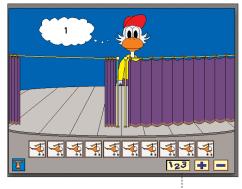
- Number Tunes (Music)
- Just Add Rain (Science)
- Paint by the Numbers (Physical Education)
- One of, Two of... (Art)
- Arithmetic, Tac, Toe (Problem Solving)
- Winner in a Flash (Problem Solving)



# What's My Number?

# **Question and Answer Mode**

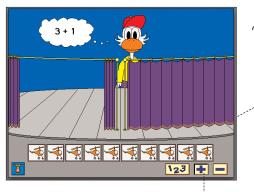
- Click to enter What's My Number? from the Main Room.
- A numeral appears on screen and its name is spoken aloud. Dorothy then asks you to solve a counting problem; for example:



"Can you put the same number of objects on your stage as I put on mine?"

Counting is selected.

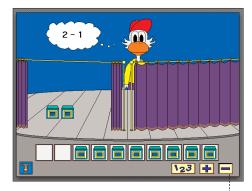
- Click an object or drag it to the stage. After you have placed the objects on the stage, click the curtain. (Click Dorothy to hear the problem again.)
  - If you count out the correct number of objects, Dorothy opens her curtain and shows you the same number of objects on her stage.
- If you do not count out the correct number of objects, Dorothy asks you to try again. If you keep trying, you will always find the correct answer.
- Click for addition problems. Dorothy asks you to solve a problem; for example:



"Can you put the same number of objects on your stage as I put on mine?"

Addition is selected.

- Click an object or drag it to the stage. After you have placed the objects on the stage, click the curtain. (Click Dorothy to hear the problem again.)
  - If you solve the problem correctly, Dorothy opens her curtain and shows you the same number of objects on her stage.
- If you do not solve the problem correctly, Dorothy asks you to try again.
   If you keep trying, you will always find the right answer.
- Click for subtraction problems. Dorothy asks you to solve a problem; for example:



"Can you leave the same number of objects on your stage as I left on mine?"

Subtraction is selected.

- Click an object or drag it off the stage. Click the curtain when the objects are on the stage. (Click Dorothy to hear the problem again.)
  - If you solve the problem correctly, Dorothy opens her curtain and shows you the same number of objects on her stage.
- If you do not solve the problem correctly, Dorothy asks you to try again.
   If you keep trying, you will always find the right answer.

Click



to return to the Main Room.



# What's My Number? Together Time

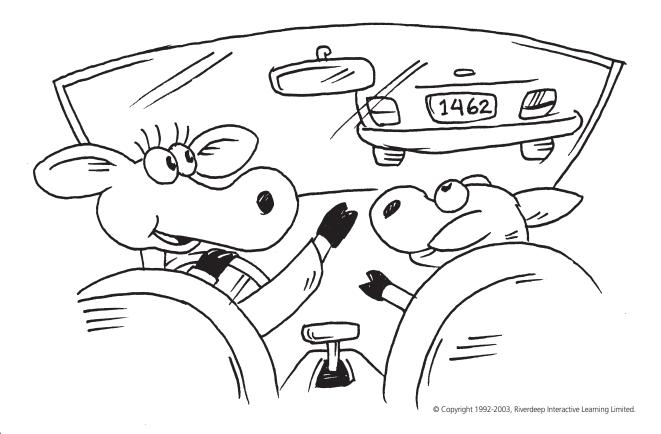
Hi,
We've been playing with
numbers in Millie's Math House. Here
are two more ideas to encourage
learning about counting,
addition, and subtraction.

## **Marble Bag**

Count out 3 marbles with your child and put them into a marble bag. Now say, "I'm going to add 1 more marble." Put another marble into the bag. Can your child guess how many marbles are now in the bag? Count them together to check the answer. As you continue, switch roles and/or try more difficult problems. You can also try subtraction problems, beginning with a simple problem such as: Put 4 marbles in the bag; remove 1; guess how many are left.

#### **License Plate Search**

This simple game helps time in the car pass quickly and teaches simple number skills as well. Ask your child to search license plates, looking first for a number 1, then a number 2, continuing to number 9. Meanwhile, you look for number 9 and work down to number 1. See who finishes first. To practice simple addition, alter the rules to allow credit if the first two numbers on a license plate add up to the desired number. (For example, if your child needs a number 3, a license plate beginning with 21 would work because 2+1=3.) Or, to practice subtraction, allow credit if the difference between the first two numbers on a license plate equals the desired number.



# Bing & Boing Overview





Bing and Boing are bouncing pals who help students create, recognize, and complete patterns. These patterns are special: each is made of pictures that make their own sounds.

# **Learning Opportunities**

- Create patterns
- Complete patterns
- Recognize that a pattern is made of regularly repeated parts
- Understand that parts make up the whole

# **Together Time Activities (page 26)**

(To copy and send home)

- Name That Pattern
- Patterns, Patterns, Everywhere

## **Curriculum Connections (pages 63-67)**

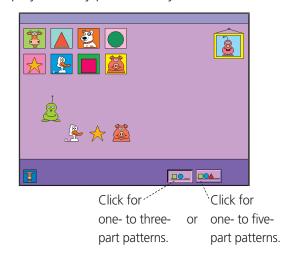
- Musical Motion (Music)
- Headband Patterns (Art)
- Meet Bing and Boing (Problem Solving)
- People Patterns (Creative Dramatics)
- Pattern Paths (Art)
- All Mixed Up (Creative Dramatics)
- Play That Pattern (Music)



# **Bing & Boing**

# **Explore and Discover Mode**

- Click to enter Bing & Boing from the Main Room.
- Click Bing . Bing repeats the pattern you created and then hops along, playing the pattern for you to hear. Create and play as many patterns as you like.



# **Bing & Boing**

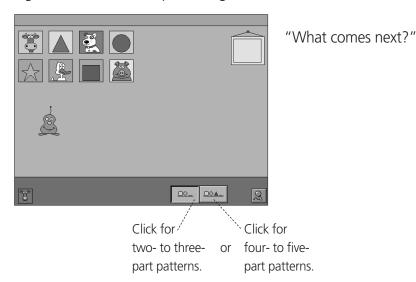
# **Question and Answer Mode**

Click

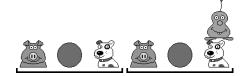


to enter the Question and Answer Mode.

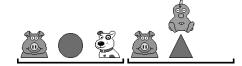
• Click Boing when you are ready to watch and listen. Boing starts to play a pattern. Can you help finish it? (Click Boing to see and hear the pattern again.)



- Click the picture you think comes next.
  - If you are right, Boing completes and plays the pattern.



- If you make a mistake, Boing stops and asks you to try again.



Try different patterns as long as you like. Just click Boing each time you want to play.

- Click for patterns with up to five parts.
- Click for the Explore and Discover Mode, or click to return to the Main Room.



**Bing & Boing** 

# **Together Time**

# Dear Friends, We've had fun playing with patterns in Millie's Math House. Here are some ideas to try at home. Love, Millie

#### **Name That Pattern**

Clap out name patterns with your child. Start with your child's name and repeatedly clap out "Jen-ni-fer, Jen-ni-fer," for example. Then, clap out your name pattern. Take turns thinking of names and clapping them out together. Try using some long names from your child's favorite stories, such as Cinderella or Rumpelstiltskin. For variety, you can play name patterns with back-to-back spoons or sticks on a board.

### Patterns, Patterns, Everywhere

Help your child identify patterns in the environment. When you are out for a walk or drive together, look at window placement, patterns in flowers, and the arrangement of bricks or blocks on buildings. At home, point out patterns in quilts, fabrics, wood trim, wallpaper, and flooring. Your child may enjoy sketching some of these patterns.



# Build-A-Bug Overview

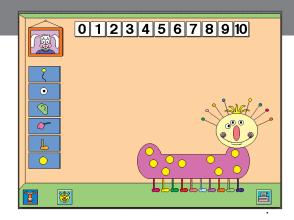












Students experiment with numbers by placing from one to ten eyes, ears, antennae, spots, feet, and tails on bugs. These bugs can be printed and colored.

# **Learning Opportunities**

- See numerals, hear them spoken, and see the corresponding quantity of objects
- Understand that a number represents a certain quantity of objects, regardless of what the objects are or how they are arranged
- See the relationship of parts to a whole
- Create a unique "work of art"
- Hear both singular and plural forms of nouns; for example, one antenna, two antennae

# **Together Time Activities (page 30)**

(To copy and send home)

- Yummy Bugs
- Big Bug Bread!

# **Curriculum Connections (pages 68-72)**

- How Many? (Language Arts)
- Find Five (Science)
- Mystery Bug (Art)
- Count on Me (Science)
- Bug Me! (Art)



# **Build-A-Bug**

# **Explore and Discover Mode**





to enter Build-A-Bug from the Main Room.

Click the bug's head to hear it giggle.

• Click a bug part, then click a number. If you click and then 4, you will see:

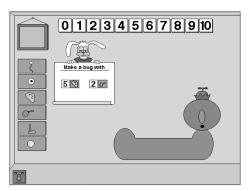


- To move a bug part, drag the part from one place to another.
- To change your bug's appearance, click new numbers and new parts. If you want to erase, click the bug part and then click zero.
- Click to print your bug. Once printed, you can color your unique bug.

# **Build-A-Bug**

# **Question and Answer Mode**

to enter Question and Answer Mode. The rabbit unrolls a plan and asks you to build a bug; for example:



"Make a bug with five ears and two tails."

- Following the directions given on the plan, click a bug part and a number. (Click the rabbit or the plan to hear the directions repeated.)
  - If you select the correct number of parts, you hear the number of parts spoken and the parts appear on the bug.
- If you do not select the correct number of parts, the rabbit repeats the request for the number of parts again.
- Continue clicking the numbers and parts to complete bugs. You can keep building bugs as long as you like.
- for the Explore and Discover Mode, or click



to return to the Main Room.



# Together Time

Hi,
Wow! We have created some
great bugs in Millie's Math
House. We counted the spots, ears,
antennae, etc. It would be fun to
make bugs at home, too.

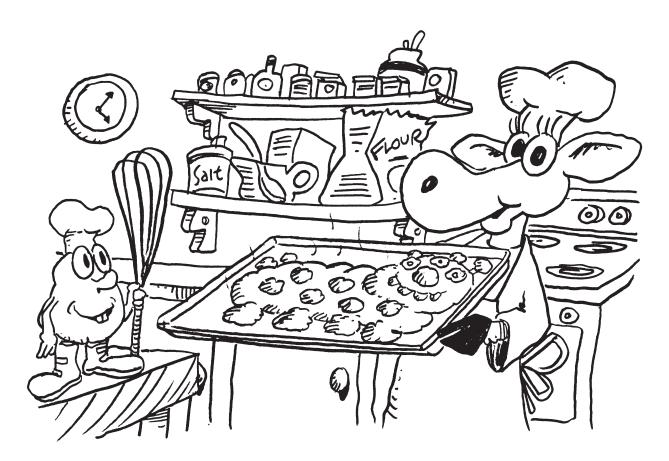
Millie

## **Yummy Bugs**

Open the cupboards and the refrigerator. It is time to create yummy bugs for your dining enjoyment! With your child, count out the right number of small plates for your family. Then let your child create a different salad on each plate. Peach or pear halves make good bodies. Radishes, apricots, or marshmallows can serve as heads. An assortment of nuts, raisins, carrots sticks, grapes, etc. can be counted out and added for different bug parts. Your child can have fun deciding who will enjoy devouring each bug.

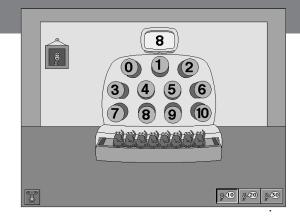
## **Big Bug Bread!**

You and your child can create a giant bug from bread dough. Set aside about a third of the dough to use for the small bug parts. Shape the rest of the loaf into a head and a body, using a little water to stick them together. Then, using the remaining dough, shape and add feet, eyes, ears, etc. Count with your child as these parts are added. After baking, share the BIG BUG BREAD with your family for dinner!



# Number Machine Overview





The Number Machine houses critters who help students count and recognize the numerals 0–30.

# **Learning Opportunities**

- See the numerals 0–30 and hear them spoken
- Recognize and read numerals
- Hear the numbers 1–30 counted
- Understand that a number represents a certain quantity of objects, regardless of what the objects are
- Hear both the singular and plural forms of nouns; for example, one mouse, two mice, one bee,
   three bees

# **Together Time Activities (page 34)**

(To copy and send home)

- Book Look
- Snip That Number

## **Curriculum Connections (pages 73-76)**

- Nonsense Poetry (Language Arts)
- Count on Action (Physical Education)
- Our Town Countdown (Social Studies)
- Door Decor (Science)
- Nutrition Numbers (Science)



#### **Number Machine**

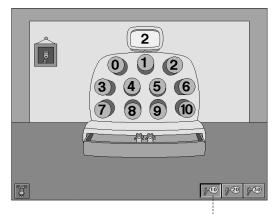
# **Explore and Discover Mode**

Click



to enter the Number Machine from the Main Room.

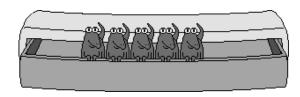
Click any key 2 on the Number Machine. The number you chose is shown 2, the drawer opens, and the critters pop up one-by-one. As they pop up, they are counted; for example:



"One, two. Two mice."

Numbers 0–10 currently selected.

• Continue exploring the Number Machine by clicking different keys and discovering the other critters that live in the drawer. You might like to count aloud as you see the numerals and hear the number of critters counted.



"One, two, three, four, five. Five lizards."

- Click for numbers 10 20.
- Click for numbers 20 –30.
- Click for the Question and Answer Mode, or click to return to the Main Room.

#### **Number Machine**

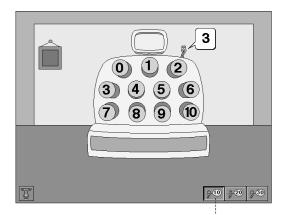
## **Question and Answer Mode**

Click



to enter the Question and Answer Mode.

• Annie, the worm, appears and asks you to find a specific number; for example:



"Find the number 3."

Numbers 0–10 currently selected.

- Try to find the number requested, and click that key. (If you forget what the number is, click Annie, the worm, for a reminder.)
  - If you are correct, the drawer opens and the critters pop up and are counted.
- If you do not click the key requested, you can keep trying until you find it.

Annie, the worm, continues asking you to find different numbers. Don't be concerned about making mistakes; if you keep trying, you will always find the right answer!

- Click for numbers 10–20.
- Click for numbers 20–30.
- Click for the Explore and Discover Mode, or click to return to the Main Room.



#### **Number Machine**

## **Together Time**

# Hello, We have been counting critters in Millie's Math House. Here are two more ideas to encourage learning about numbers. Love, Millie

#### **Book Look**

You and your child can look for numbers in newspapers, magazines, and books around your house. Count the people, animals, or objects on a page of a picture book. Read a story with counting or numbers to your child, or have your child "read" to you. Count the bananas in a grocery advertisement. Find and name page numbers. Count the houses in a real estate ad.

#### **Snip That Number**

Pile plenty of old magazines, catalogs, and newspapers on a table. Give your child ten sheets of paper, assorted markers, safety scissors, and paste or glue. Help your child number the pages from 1 to 10. Then cut out pictures to illustrate each number. For example, glue one house on page 1, two faces on page 2, three cars on page 3, etc. When all pages are completed, have your child design a colorful cover and staple the pages together. This is a great rainy day or "home from school with a cold" activity!



## Cookie Factory Overview



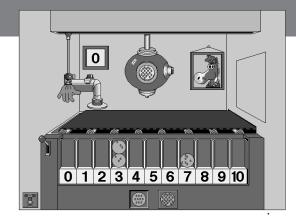












Students enjoy counting jelly beans as they decorate cookies for Harley, the horse, and his friend Froggy. They also discover that using the Factory's devices in different sequences produces different results.

#### **Learning Opportunities**

- See the numerals 0 20 and hear objects counted
- Recognize the spoken or written number and the quantity it represents
- Use trial and error
- Experiment with single actions that can be combined to produce a variety of results
- Foster problem-solving skills and attitudes
- See that a number of objects remain the same quantity, regardless of how those objects are arranged

#### **Together Time Activities (page 38)**

(To copy and send home)

- Comic Cut-ups
- Millie Says

#### **Curriculum Connections (pages 77-81)**

- Living Cookie Machines (Creative Dramatics)
- It's in the News (Social Studies)
- Putting the Cart Before the Horse (Science)
- Number Relay (Physical Education)
- Old Millie (Problem Solving)



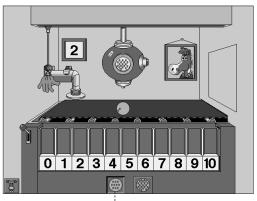
#### **Cookie Factory**

## **Explore and Discover Mode**

Let your students click different devices in the Cookie Factory to discover the function of each one. At first, students may see each device in isolation. At some point, they will discover that clicking devices in different sequences will produce different results. The sequence below decorates and sorts cookies, but let students use trial and error to discover this independently!

- Click to enter the Cookie Factory from the Main Room.
- Click the cookie pipe to make a cookie appear.
- Click the conveyor belt lever to move the cookie under the jelly bean dispenser.
- Decorate the cookie by clicking the jelly bean dispenser as many times as you want. The number of jelly beans will be counted aloud and shown on the jelly bean meter as they drop onto the cookie, for example:





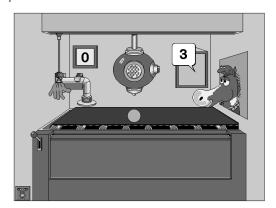
"One, two."

- Bins with numbers 0-10 selected.
- Click the hand to move the cookie into a bin, or click the lever to move the cookie along the conveyor belt. Make and decorate as many cookies as you want.
- Click for bins with numbers 10–20.
- Click for the Question and Answer Mode, or click to return to the Main Room.

#### **Cookie Factory**

## **Question and Answer Mode**

- Click to enter the Question and Answer Mode.
- A cookie drops and moves under the jelly bean dispenser. Then Harley asks you to put jelly beans on it; for example:



"Put three jelly beans on my cookie, please."

• Click the jelly bean dispenser once for each jelly bean Harley requested. Then click the hand to feed the cookie to Harley. (Click Harley if you want to hear the request again.)

- If you count out the number of jelly beans requested, Harley thanks you and gobbles the cookie!
- If you count out too many or too few jelly beans, Froggy gets to eat the cookie and you get to try again.

You can continue decorating cookies for Harley as long as you like.

• Click for the Explore and Discover Mode, or click



to return to the Main Room.



# Together Time

Hi,
We experimented to discover
how the Cookie Factory works in
Millie's Math House. Then we counted
jelly beans as we decorated cookies.
These two activities might be Love,
fun to try at home.

#### **Comic Cut-ups**

Cut out a comic strip (appropriate for your child) from the daily paper. Read the comic to your child and discuss what happens first, second, third, etc. Then cut the frames apart, shuffle them, and lay them out in a new order. Read the "new comic strip" and discuss the difference. Then let your child try arranging the frames into their original order.

#### Millie Says

Enjoy the fair weather and play "Millie Says" while you are outside in the yard or park. Make a request, such as "Millie says, 'Take 9 giant steps toward the tree.' " Count the giant steps together. Then make another request, such as "Millie says, 'Take 12 tiny hops sideways toward the house.' " Count aloud together as your child hops. Switch roles, and let your child be Millie.



## **Curriculum Connections**

#### Introduction

The learning opportunities in *Millie's Math House* can be reinforced throughout the school day in many curricular areas. On the following pages you will find ideas to add to those you may have already tried. These *Curriculum Connections* activities are grouped by the corresponding *Millie's Math House* activity room (see the chart below).

Some of the *Curriculum Connections* work well before using the corresponding parts of the software. Others work well as follow-up experiences. Most can be used before or after students play in the Math House. Pick and choose activities according to your students' needs as well as your computer equipment, facilities, resources, and schedule. There are many different ways to use *Millie's Math House* and *Curriculum Connections*; use them to stimulate your own imagination as you plan experiences for your students.

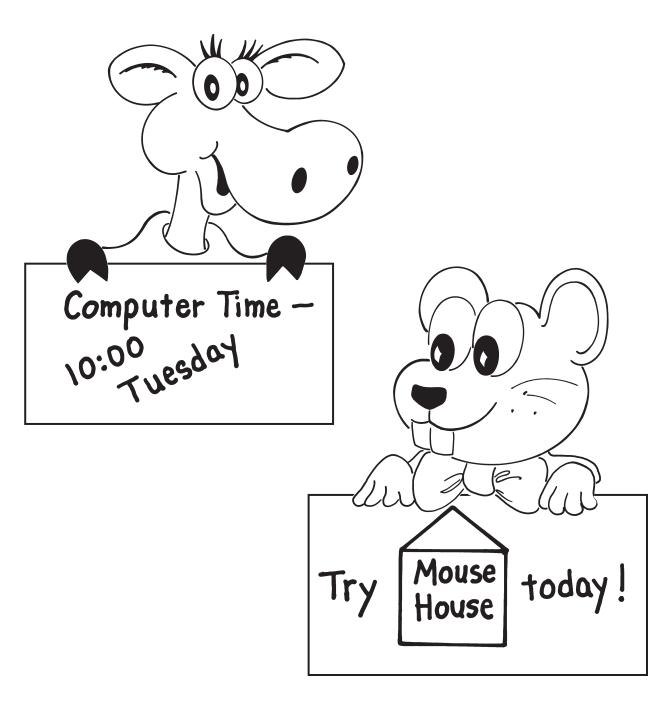
Reproducible activity sheets are also included. These can be used in a variety of ways (for student work, transparencies, labels, etc.), some of which are suggested in *Curriculum Connections*. In addition, there are two reproducible pages of Math House characters to use on your chalkboard, bulletin board, or computer.

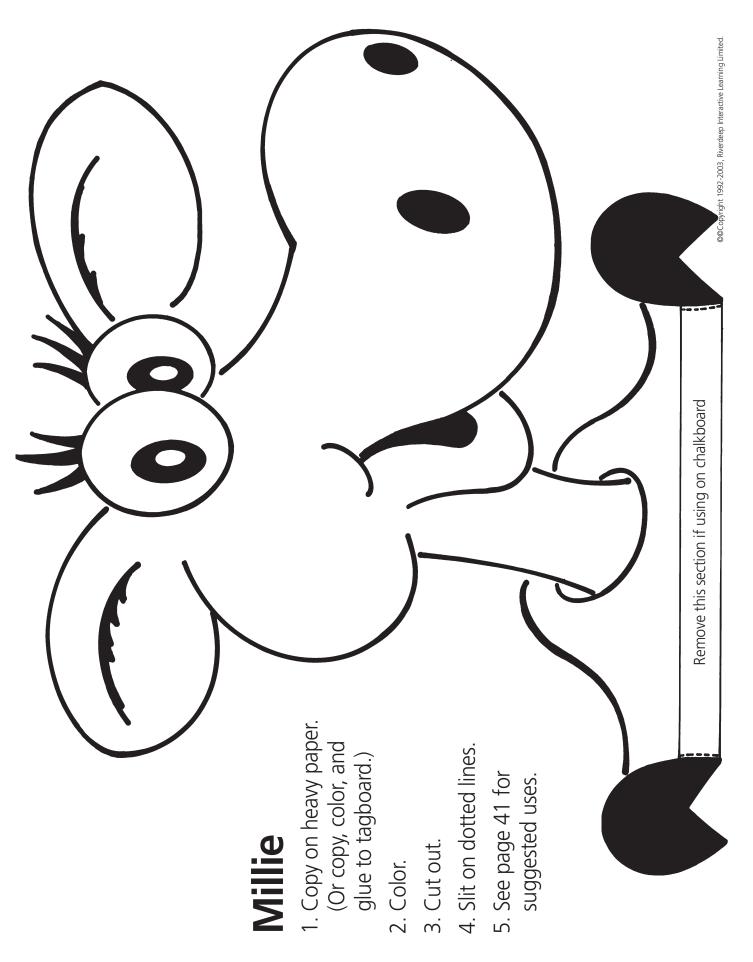
## **Activity Chart**

					1		, , , , , , , , , , , , , , , , , , , ,
	Little, Middle, & Big (pages 44-49)	Mouse House (pages 50-56)	what's My Number? (pages 57-62)	Bing & Boing (pages 63-67)	Build-A-Bug (pages 68-72)	000 3456 2090 Number Machine (pages 73-76)	Cookie Factory (pages 77-81)
Art	■ Size Collages	<ul><li>Funny Faces</li><li>Our Town</li><li>Shadow Play</li></ul>	• One of Two of	<ul><li>Headband Patterns</li></ul>	<ul><li>Mystery Bug</li><li>Bug Me!</li><li>Pattern Paths</li></ul>		
Creative Dramatics				<ul><li>People Patterns</li><li>All Mixed Up</li></ul>			<ul><li>Living Cookie Machines</li></ul>
Language Arts	<ul> <li>Size Up the World</li> <li>Trash and Treasure</li> <li>So Many Ways to Say It</li> </ul>	■ I Spy Shapes			■ How Many?	<ul><li>Nonsense Poetry</li></ul>	
Music	, ,		<ul><li>Number Tunes</li></ul>	<ul><li>Musical Motion!</li><li>Play That Pattern</li></ul>			
Physical Education		<ul><li>Team Shapes</li><li>What Shape Are You In?</li></ul>	■ Paint by the Numbers			■ Count on Action	■ Number Relay
Problem Solving			<ul><li>Arithmetic, Tac, Toe</li><li>Winner in a Flash</li></ul>	<ul><li>Meet Bing and Boing</li></ul>			Old Millie
Science	<ul><li>Seeing It All</li><li>What Size, Please?</li><li>Color Me Little</li></ul>	<ul><li>Sort It Out</li><li>All Shapes and Sizes</li></ul>	Just Add Rain		<ul><li>Find Five</li><li>Count on Me</li></ul>	<ul><li>Door Decor</li><li>Nutrition Numbers</li></ul>	<ul><li>Putting the Cart Before the Horse</li></ul>
Social Studies						<ul><li>Our Town Countdown</li></ul>	It's in the News

#### Characters for Bulletin Boards, Posters, and Chalkboards

Pages 42 and 43 can be used to "hold" messages for bulletin boards, computers, and chalkboards. Copy, color, and cut out the character. For bulletin boards, slip the character's hands over the message and staple or tape into place. To use the character on the chalkboard, mount the character on the chalkboard and draw a rectangular sign for the character to "hold." Then write the information inside the rectangle. These pages can also be reproduced to serve as posters near the computer. You can write in current assignments, notes of encouragement, etc.





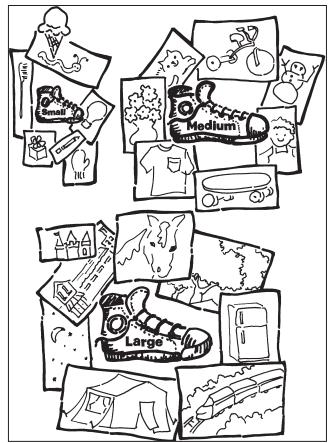




#### Little, Middle, & Big

Size Collages Art

Make one copy of page 47, and have a volunteer color and cut out the shoes. Use these shoes to label a bulletin board with sections for small, medium, and large. Explain that the class will be making a collage for each size. Ask students to cut out pictures of animals, people, boats, cars, etc. of different sizes from magazines and catalogs. Put them on the board as you talk about different sizes. (You may want to help students establish some guidelines. For example, "large" might include pictures of things at least as large as a refrigerator.) Encourage students to use other words for sizes, such as tiny, petite, gigantic, huge, etc.



#### Size Up the World Language Arts

Small, smaller, smallest. Long, longer, longest. Compare sizes by lining up three stuffed animals, toy trucks, or boxes and asking questions: "Which is smallest?" "Which is tallest?" Then compare two objects by talking about which is larger, longer, etc. Encourage students to use words that describe size when they talk. Have students create complete sentences to compare sizes. For example, "The red truck is the largest. The yellow truck is larger than the blue truck. The blue truck is the smallest." If desired, use a ruler or tape measure to measure the three objects. Record each measurement on a piece of masking tape and place on the object.

Trash and Treasure Language Arts

Make one copy of page 47 and have a volunteer color and cut out the shoes. Label three small

tables or extra desks with the headings. Explain to students that over the next week they can add objects to the tables: things they find while walking to school (leaves, rocks, etc.); things from a "junk drawer" at home (tennis balls, old candles, etc.); things they have made (clay sculptures, pencil holders, etc.); or things from the classroom that are not in use (basketball, rubber bands, etc.). Remind students not to collect objects that are dangerous or unclean and not to disturb living plants or animals. Once the display is complete, have students compose a story or poem, mentioning as many of these objects as possible. Invite the class to compose the poem while the teacher records it on the chalkboard or on a large piece of paper, or let groups dictate their poems to a classroom aide. A poem can be modeled after the adjacent one by using the first two words of each line and the entire last line.

Little, Middle, Big
Little is a tiny blue egg shell.
Little is a pearly bead.  Little is a sparkling birthday  candle.
<u>Little is a sparkling birthday</u>
candle
Little is a pebble.
•
Middle is a smooth round rock.
Middle is a dirty tennis ball.
Middle is a dirty tennis ball.  Middle is an old aluminum
can.
Middle is a bird nest built
of mud and twigs.
•
Big is a basketball.
Big is a very, very neavy  diction ary.  Big is an empty fish bow!  Big is ME!
Big is an empty fish bow!
Big is ME!
3

Seeing It All Science

Students can sharpen their observation and memory skills using the "trash and treasure" display (from the above activity). Have students observe the table of large objects for thirty seconds and then turn their backs to the table. As students call out the names of objects they remember, the teacher records them on the chalkboard. Repeat the process for the other two tables.

#### So Many Ways to Say It

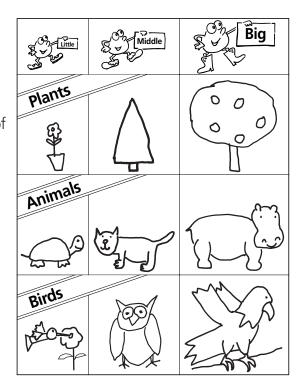
**Language Arts** 

Reproduce page 47 and have students color the shoes. Hang three long strips of shelf or freezer paper on the wall. At the top of each, place one of the headings (Small, Medium, or Large). Encourage students to think of and write down words that have meanings similar to the heading words (or set aside a specific time to write down the words your students suggest). Leave these papers up for a few weeks so students can add and discuss the words. Use these word lists for vocabulary building activities, such as constructing sentences describing unusual objects.

What Size, Please? Science

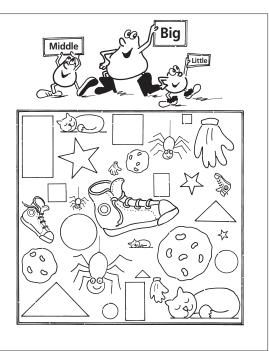
In this activity, students categorize objects. Make copies of page 48 for your students. As a class,

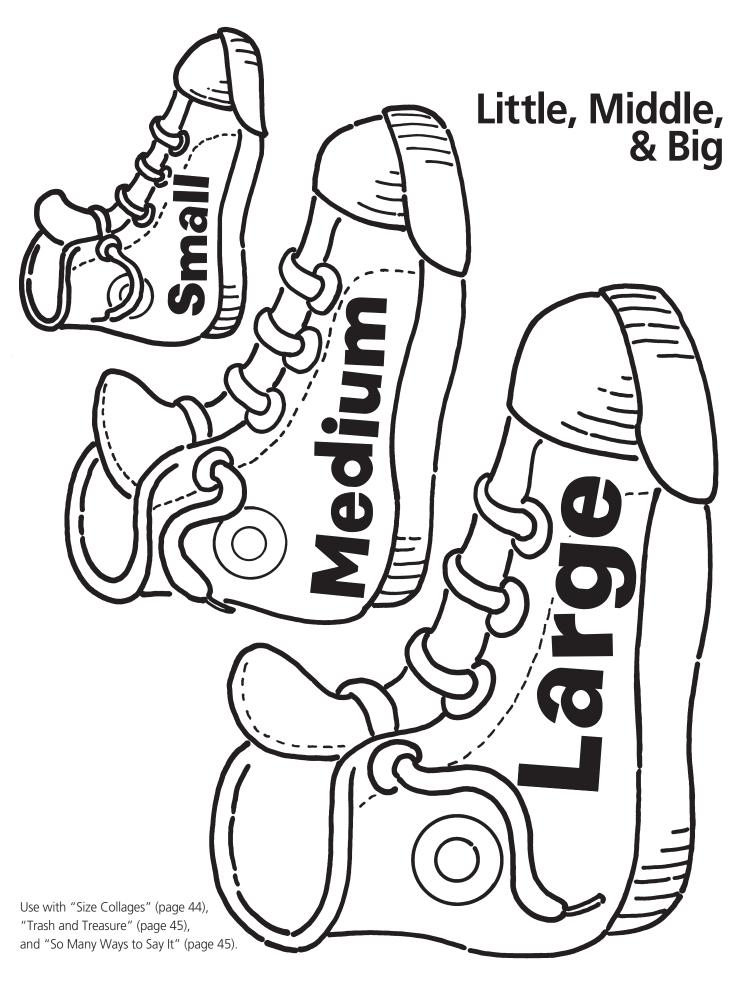
list trucks that are large (moving trucks, garbage trucks, etc.), trucks that are medium-sized (milk trucks, bread trucks, etc.), and trucks that are small (mail trucks, meter checker trucks, etc.) on the chalkboard. Distribute the activity sheet and discuss the first row (plants). Ask the class, "Can you think of a little plant?" (violet or pansy) "Draw it in the box under the little character." "Can you think of a medium-sized plant?" (bush or house plant) "Draw it in the box under the character for middle." "Can you think of a large plant?" (tree) "Draw it in the box under the big character." Then allow time for students to complete the rest of the activity sheet independently. When all students are done, have student volunteers share their ideas with the class.



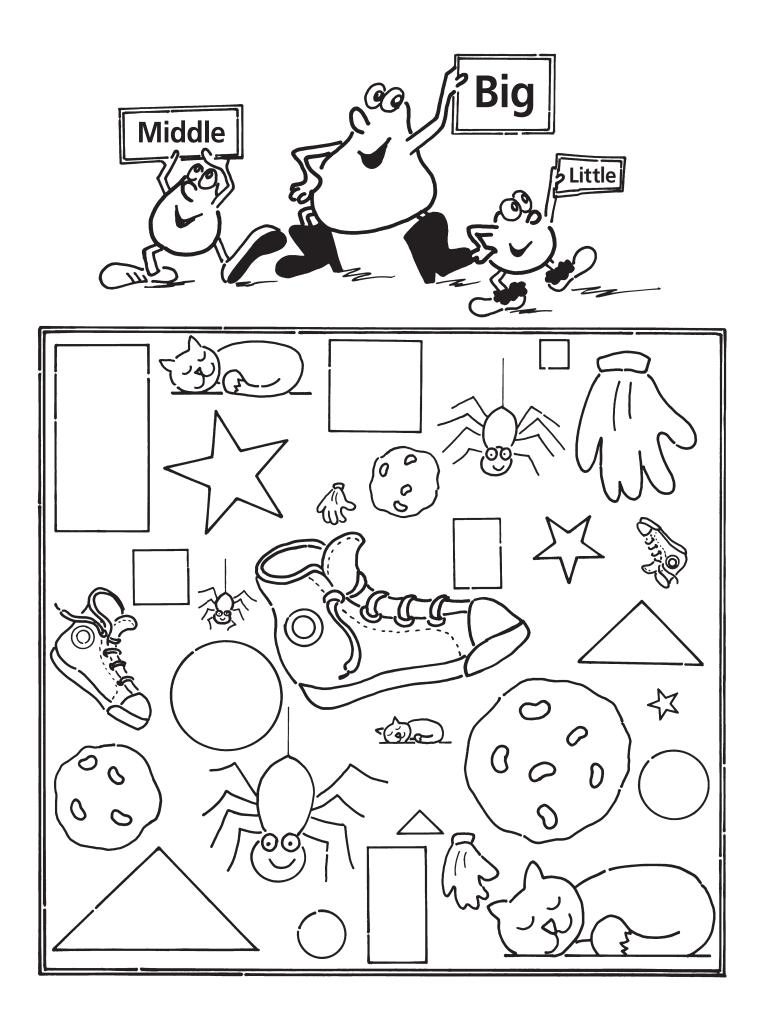
Color Me Little Science

Reproduce page 49 for students. As students learn about color, they can also learn about categorizing by size. Distribute the activity sheet and instruct students to color the characters: Little — yellow; Middle — red; and Big — green. Then explain that these characters provide the clues that tell them how to complete the sheet: color all little objects yellow; all medium-sized objects red; and all big objects green. Ask students to locate the three spiders on their activity sheets. Tell them to color the littlest spider yellow, the medium-sized spider red, and the big spider green. Have them continue on their own, first locating three sizes of the object, and then coloring according to the key.





Little	Middle	Big
Plants		
Animals		
Birds		





#### **Mouse House**

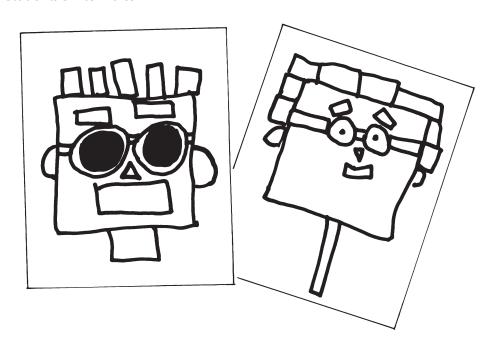
I Spy Shapes Language Arts

Review the characteristics of each geometric shape with your class: A triangle has three sides; a square has four equal sides, etc. Describe an object in the room to your class: "I see something that is shaped like a rectangle and is made of wood. What is it?" Let the student who guesses the object describe the next object to be found.

Funny Faces Art

Draw and discuss the following geometric shapes on the chalkboard: square, triangle, rectangle, circle, and half-circle. Ask a student to draw a funny face on the chalkboard, using these shapes. Then ask another student to describe the face to the class, using the names of the shapes.

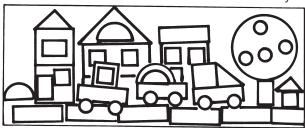
To make this a collaborative drawing activity, have students work with partners. All students will need pencil, paper, and something sturdy under the paper. Have each pair sit back-to-back. As one student draws and says aloud what is being drawn (for example, "I'm drawing a large circle for a head. Now I'm using small triangles for ears."), the other student "copies" the drawing, relying on the verbal information for directions. When the drawings are finished, have students compare results and see the variation achieved using the same shapes (see the examples below). Then have students switch roles.



**Shape Sets** Make a copy of pages 54 and 55 (for each student) on the heaviest paper your copier will accommodate. Have students color the shapes as they choose and cut them out. These shape sets can be stored in old envelopes. Students can use the shape sets for the following three activities:

Our Town Art

Roll out several long pieces of shelf or freezer paper across the classroom or art room floor. Have students bring their shape sets and crayons with them to work on a classroom town. Students can work in small groups or individually, tracing around their shapes along the paper (or gluing their shapes to the paper) to design buildings, trees, vehicles, etc. Once the shapes are outlined (or glued in place), have the students add details and fill in with color. Hang the completed artwork in the classroom. Then, play "How many?" with your students and ask questions such as the following: "How many triangles between this tree and this bush?" "How many yellow squares are there in our paper town?" Student volunteers can also ask "how many."



Shadow Play Art

Set up a station where students can make shadow pictures using an overhead projector. Have students combine different shapes on the projector surface and then turn on the projector to see the shadow picture on the screen or wall. They may enjoy working at this station in pairs with one student composing the picture and the other guessing what it is.

Sort It Out Science

Each student will need a shape set for this categorizing activity. Start by asking students to sort the shapes into two groups: shapes that are circles and shapes that are not circles. Then have student volunteers make up rules for sorting the shapes. Some suggestions include:

#### Two groups:

- big shapes and little shapes
- shapes with some straight lines and shapes with no straight lines
- shapes with four sides and shapes with a different number of sides
- shapes that are yellow and shapes that are not yellow (if students colored their shapes)

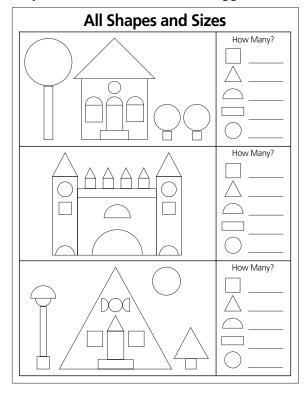
#### Three groups:

- shapes with curves, shapes with three straight sides, shapes with four straight sides
- big shapes, medium-sized shapes, little shapes

#### **All Shapes and Sizes**

Science

Page 56 can be used to sharpen categorizing skills, while working with shapes. There are many ways to use the sheet; two are suggested below:



- Make page 56 into a transparency, and use it to introduce Mouse House to your students.
   Talk about the different shapes and their characteristics. Have students point out all of the rectangles in a picture, all of the circles, etc.
- Make a copy of page 56 for each student. Beginning with the first picture, instruct students to pick a different color to fill in each shape along the right-hand side of the page (for example, yellow square, red triangle, etc.). Then have students color all of the shapes in the picture according to this key. Lastly, have them count the shapes and fill in the blanks at the right. For the next picture, they may want to change the color key.

Crazy Quilt Art

If possible, introduce this activity by showing the students quilts or pictures of quilts. Discuss how quilts have been made for many years and often can give us a glimpse into the times in which they were created. Explain how quilt making is a useful way to recycle fabric from old clothing and to utilize leftover fabric scraps. Give each student a 4-inch square of white paper; these will be the quilt blocks. Have students fill their blocks with the geometric shapes they used in the Mouse House. (You may want to draw the geometric shapes on the board for reference.) They can arrange the shapes into any design they wish and fill the blocks with as much color as possible. When they have finished, assemble the blocks by stapling them edge-to-edge onto a bulletin board. As a class, discuss the variety and repetition in the quilt. (You can also do this activity with small precut geometric shapes, asking students to color and then glue the shapes to their quilt blocks.)

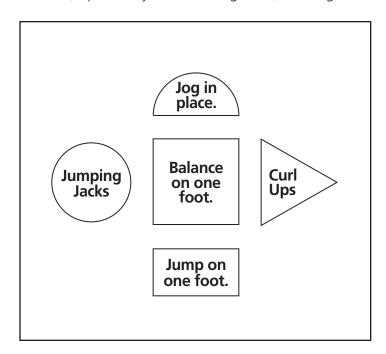
#### Team Shapes Physical Education

Using paper from a recycling box, cut out an equal number of rectangles, squares, triangles, half-circles, and circles. The total number of shapes should equal the number of students in your class. (For example, if you have 20 students, you will need four of each of the five shapes.) When you need to group students into teams, distribute the shapes randomly to the students. Then, to make up five teams, explain that all of the triangles will be a team, all of the rectangles will be a team, etc. If you want to make up two teams instead of four, you can have two types of shapes on a team. For example, one team can be squares and triangles. The other team can be circles and rectangles.

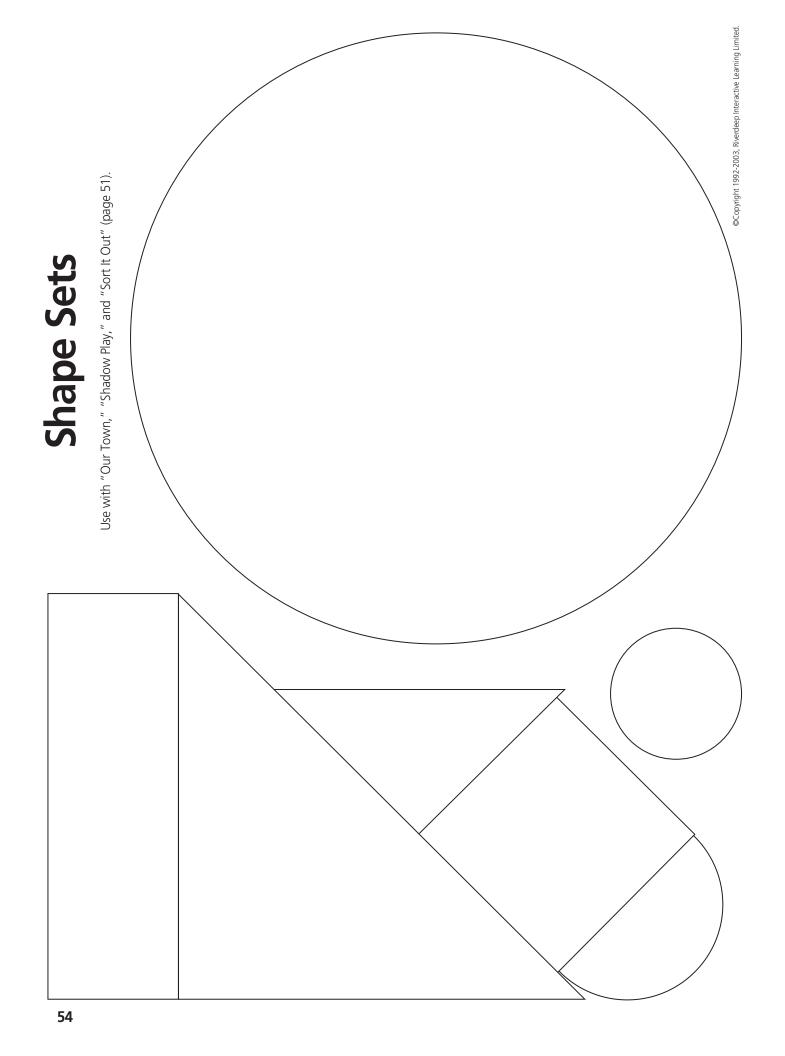
#### What Shape Are You In?

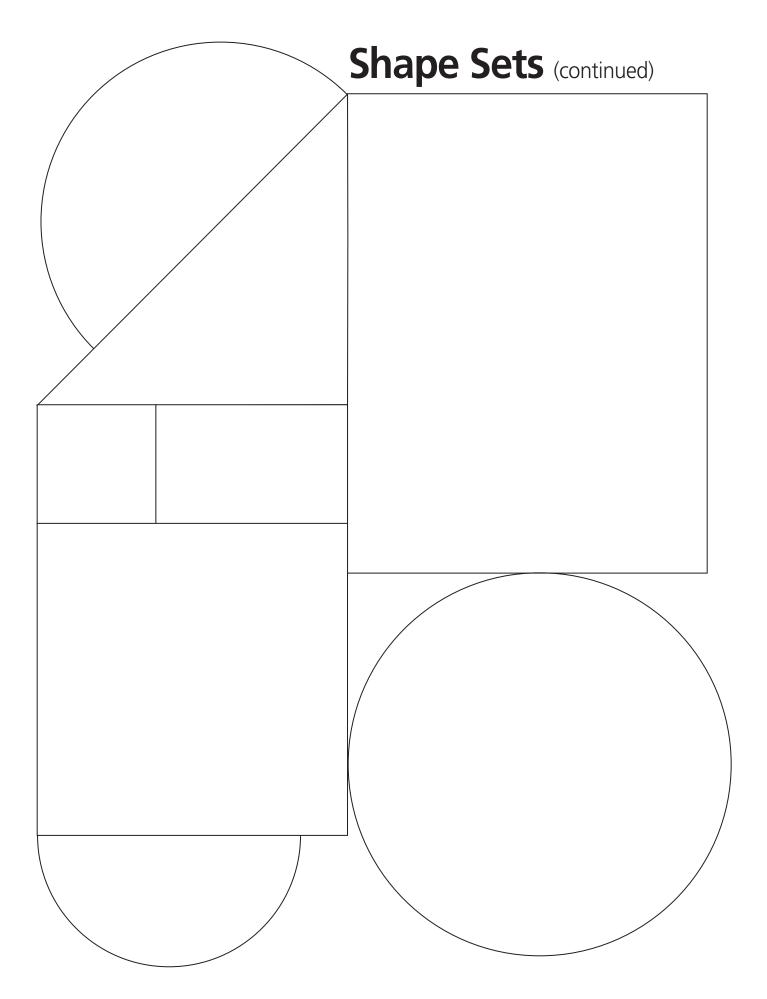
#### **Physical Education**

Using chalk on the playground (or tape on the gymnasium floor), mark off very large shapes. You can use some or all of the shapes from Mouse House (square, rectangle, circle, triangle, and half-circle). Have students walk along the edges of each shape as they quietly say the name of the shape aloud. Next divide the class into the same number of groups as there are shapes. Write an activity key on the chalkboard (or post a key written on tagboard). You might like to try the following:

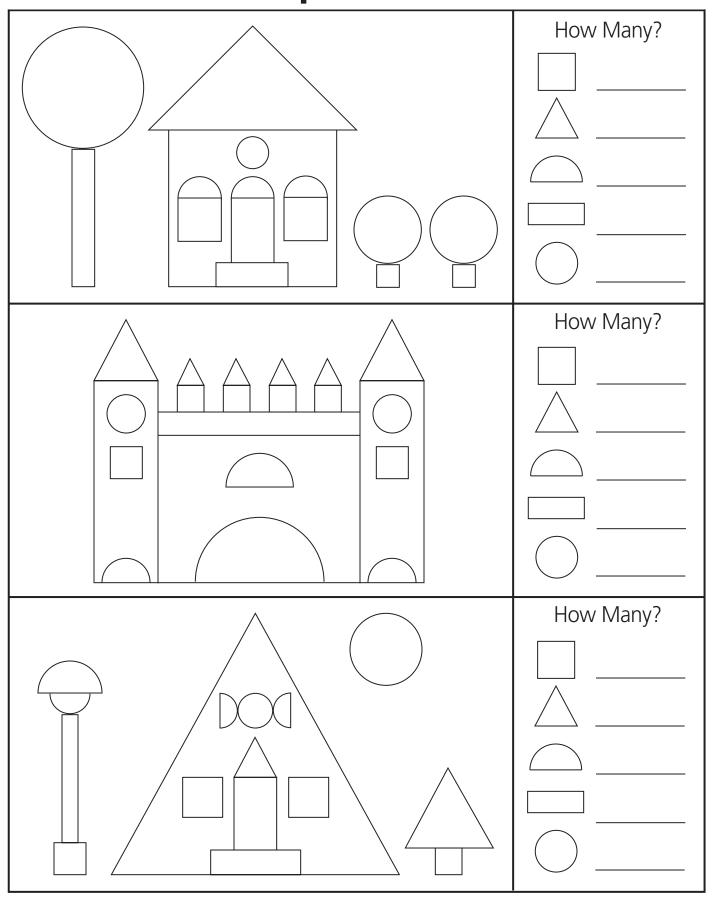


Assign each group to stand inside one of the shapes and then consult the activity key to see what they should do first. A student leader rings a bell or says "go" when it is time to start the activity. After a few minutes, the leader instructs the groups to rotate to the next shape, consult the activity key, and begin the activity for that shape. Continue the rotation until all groups have been in all of the shapes. This is a good activity for warm-up or cool-down time in physical education.





## **All Shapes and Sizes**



## What's My Number?



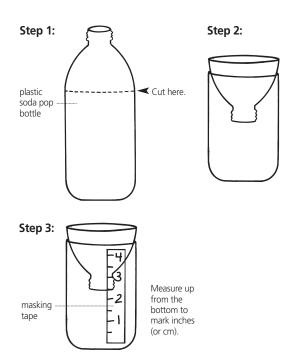
Number Tunes Music

If students are not already familiar with number songs, introduce them to songs such as, "The Ants Go Marching." Encourage participation by selecting ten volunteers (one for each verse). While the whole class sings, "The ants go marching one by one . . .", the first volunteer marches around the room, pausing only when it is time to say or sing a made-up line, such as, "The first one ate my hot dog bun." Continue adding volunteers for each successive verse, the last volunteer always making up the new line. Repeat the activity on other days with a different ten students until all have had a chance to march.

#### Just Add Rain Science

Follow these three steps to make a rain gauge.

Using water from a pitcher, demonstrate how rain is collected and measured. Have students take turns determining the amount of "rainfall" when water is added to an empty gauge, as well as when water is added to a partially filled gauge ("If there were two inches of rain in the gauge, and now there are four inches, how many inches has it rained?"). Liven up rainy days by setting the gauge outside, near a classroom window, for real world measurements. Mention other types of instruments used for measuring (thermometers, barometers, etc.) and discuss why these measurements are important.



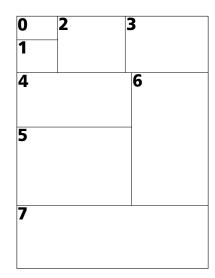
#### **Paint by the Numbers**

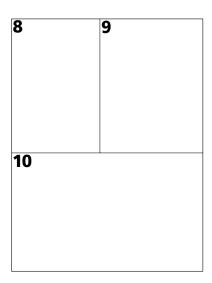
#### **Physical Education**

As a cool-down activity after an outdoor physical education period, here's a fun way for students to practice writing and solving equations. Pair students to work together, outfitting each pair with an old paintbrush and a plastic bucket of water. After the first student "paints" an equation (for example, 2+1=) on the sidewalk or blacktop, the second student quickly "paints" the answer before the equation dries up and disappears. Encourage students to switch roles after each equation.

One of, Two of... Art

Make pages 60 and 61 into transparencies. Using an overhead projector, show one of the pages on a screen. Ask students to think of something there is "zero of" (elephants, trees, whales, etc.) in the classroom. Explain that nothing is drawn next to the numeral 0 on the transparency because there are no elephants (for example) in the classroom. Then ask students to find something there is "just one of" (teacher, clock, window) in the classroom and have a volunteer draw it next to the numeral 1. Continue the activity for each of the numerals. A fun variation of this activity is to project the image onto a large sheet of white paper instead of a screen. Then volunteers can draw on the paper instead of the transparency. Or, turn this into a "cut and paste" activity for younger students, using old magazines or catalogs.



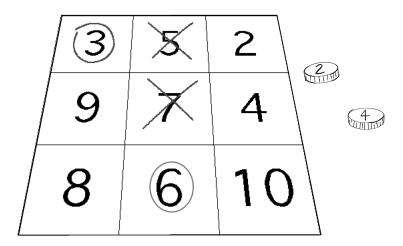


Older students may be able to do this activity individually or in pairs. Distribute copies of pages and let students work independently. The completed papers can be posted on a bulletin board for students to enjoy the variety of responses.

#### Arithmetic, Tac, Toe

#### **Problem Solving**

To prepare for this two-player equation game, first collect ten milk-bottle caps and mark each with a number from 1 to 5 (two bottle caps for each number). Drop all the bottle caps into a bag and shake them up. Next make a copy of page 62 and cut the game boards apart. Set one aside to play later. You are now ready to explain the game to the students.



The first player selects two bottle caps from the bag and draws an *X* on the square that displays the sum of the bottle cap numbers. For example, if the player selected a *2* and a *3*, the player would draw an *X* on the square with the number *5*. The second player then takes a turn, drawing two bottle caps and placing an *O* on the correct square. If a square has already been marked, the player must pass. Like traditional tic-tac-toe, the winner is the player to first draw a straight line through three *X*'s or three *O*'s.

Winner in a Flash Problem Solving

Play a favorite board game, using a deck of equation flashcards instead of the game's dice or spinner. At the start of a player's turn, the player draws a flashcard and must correctly answer the equation in order to move the game piece (by as many spaces as the equation answer).

0	2	3
1		
4		6
5		
7		

8	9
10	



## Bing & Boing

Musical Motion! Music

Students can use many kinds of sounds, hand claps, and foot stomps to make patterns. Begin with a two-part pattern, such as a "Bing" in a high voice, followed by a "Boing" in a low voice. Then add a hand clap for a three-part pattern (Bing, Boing, clap; Bing, Boing, clap; etc.). After some practice, students can make up their own sound patterns. Some sample patterns include:

Two-part patterns

- Bing, stomp; Bing, stomp; Bing, stomp.
- Click, clap; click, clap; click, clap.

Three-part patterns

- Clap, clap, Boing; clap, clap, Boing.
- Stomp, Bing, clap; stomp, Bing, clap.

Headband Patterns Art

Pull out your favorite rubber stamps, cut calculator tape for headbands or wristbands, and stamp out a pattern. For example, a student might stamp out 2 frogs, 1 cat; 2 frogs, 1 cat, etc. Glue or staple the ends together to make headbands or wristbands. If you don't have stamps or calculator tape, ask students to create their own patterns with crayons on precut strips of paper.

#### **Meet Bing and Boing**

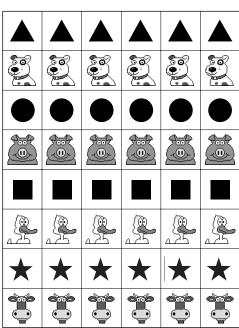
classmate to complete it.

analyze patterns and anticipate what comes next. It is also an effective tool for introducing Bing & Boing to the class. Once you have made the transparency, cut it into pieces. Use some of the pieces to lay out a two-part pattern on the overhead projector surface (for example, star, square; star, square). Arrange the remaining pieces at the bottom on the projector surface. Turn on the projector and add one more star to the pattern. Ask if anyone knows what comes next. Have a volunteer move the square into place. Ask the class to repeat the pattern aloud together, "Star, square; star, square; star, square." Then let a student lay out a new pattern and call on a

Make page 66 into a transparency. This activity helps

develop problem-solving skills as students

#### **Problem Solving**

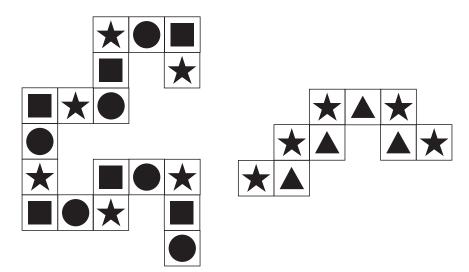


People Patterns Creative Dramatics

Divide the class into groups of six students each. Have each group model positions, gestures, and facial expressions and organize themselves into a two-part or three-part pattern. For example, one student pattern might include two frowning students, one smiling student; two frowning students, one smiling student. Another pattern might include one sitting student, one standing student, one student with back to class; one sitting student, one standing student, one student with back to class. Have student groups take turns "setting up their patterns" in front of the class. Then, as a volunteer points to each student in the group, the class calls out each part of the pattern.

Pattern Paths Art

Make copies of page 66 for your students and have them cut the copies into pieces. (Keep the pieces in old envelopes or clipped together with paper clips.) Students can work together in groups of two to four. The first student starts the pattern by laying down two or three pieces. Thereafter, students take turns placing one piece at a time, maintaining the pattern. Students can make the pattern "turn corners" and change direction, but each new piece must touch the previous piece on one (and only one) side. Interesting designs will form as the pattern is repeated, especially if students combine pieces from all of their envelopes.

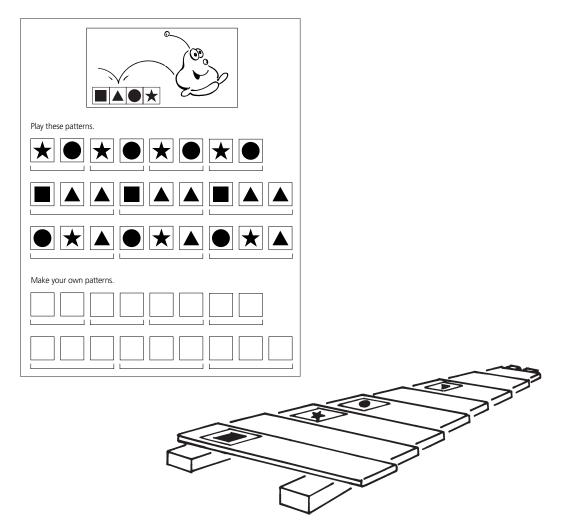


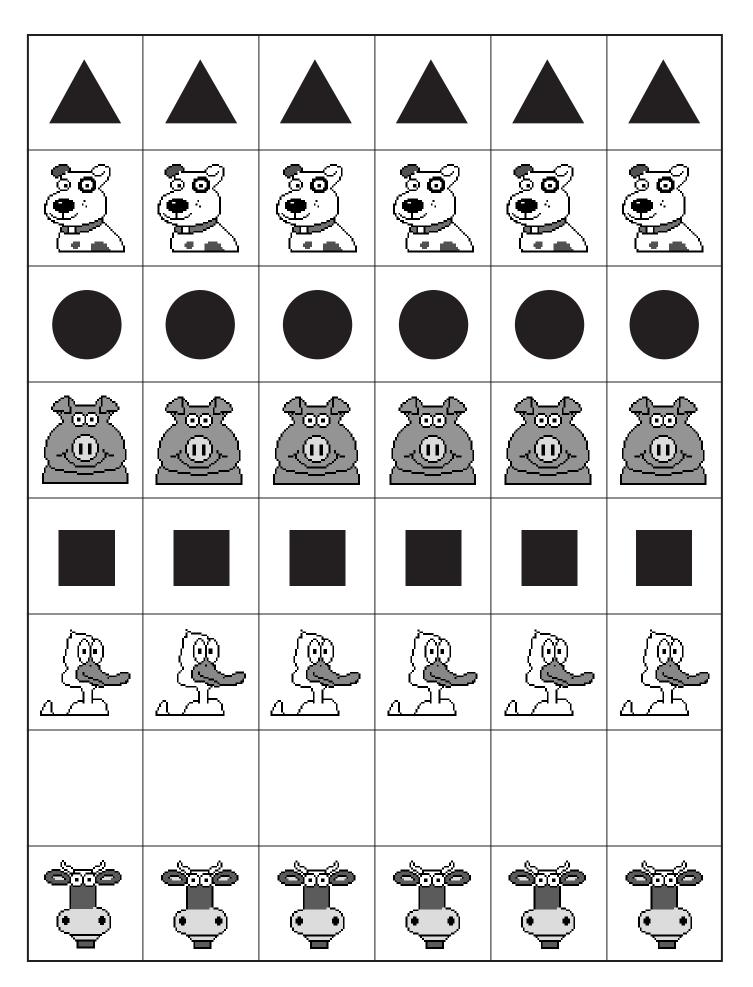
All Mixed Up Creative Dramatics

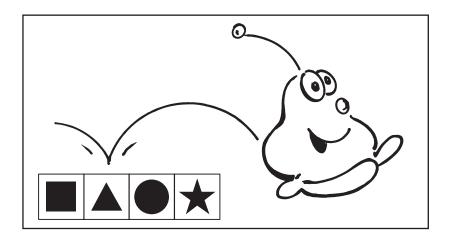
Read the story *The Cow That Went Oink* (by Bernard Most; Harcourt Brace Jovanovich, Publishers) to the class. Let volunteers make the sounds of different animals. Then talk together about what sounds seem funny. For example, a bunny that moos, an elephant that quacks, etc. Talk about the sounds students hear in Bing & Boing.

Play That Pattern Music

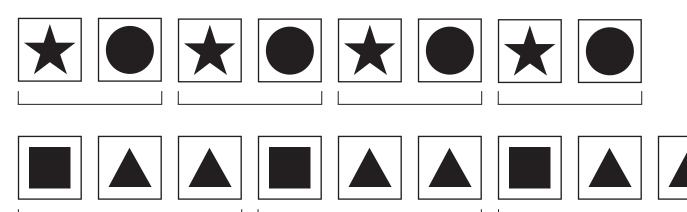
Make copies of page 67 for your students and one extra copy. Using the extra copy, cut out the four small pattern pieces at the top of the page. With removable tape, attach these pattern pieces to four different keys of a xylophone or piano. (Alternatively, the pattern pieces can be attached to four different rhythm instruments.) Have students bring their activity sheets with them when it is their turn to try playing the instrument. (Two or three students will need to work together if they are using rhythm instruments.) Encourage them to play the patterns on the activity sheet and then to invent patterns of their own. The activity sheet is designed for students to invent one two-part pattern and one three-part pattern.





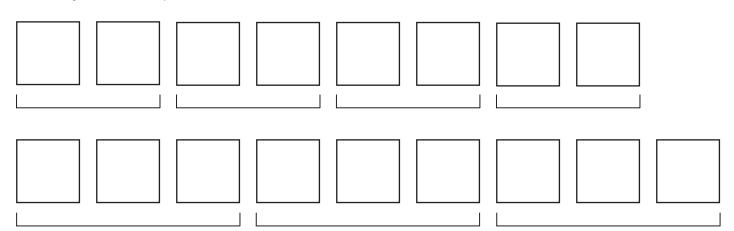


## Play these patterns.





## Make your own patterns.



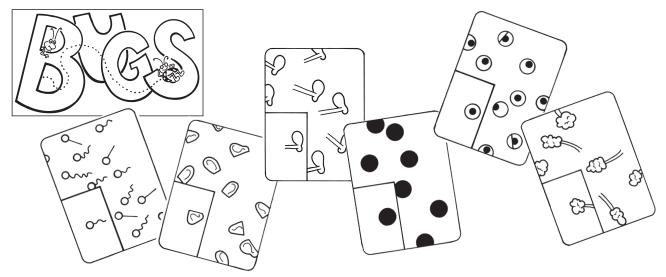


#### **Build-A-Bug**

How Many? Language Arts

Post printouts of students' bug creations (from Build-A-Bug) on the bulletin board. Ask one student at a time: "Can you find a bug with 3 eyes?" "Can you find a bug with 6 legs?" To make it more challenging ask, "Can you find a bug with 2 ears and 5 spots?"

For a variation of this activity, copy pages 70 and 71. If desired, color the title on page 70 and use it as a title for the bulletin board. Cut out the word cards and put them in a box or sack. Let a student draw out a card. After noting the singular and plural forms of the word (for example, "eye" and "eyes"), ask the student a question about the word such as "Can you find a bug with 4 eyes?" Or, let students formulate the questions and/or draw two cards at a time. For example, "Which bug has 4 eyes and 2 spots?" When you have completed the activity, add the word cards to your bulletin board display.



Find Five Science

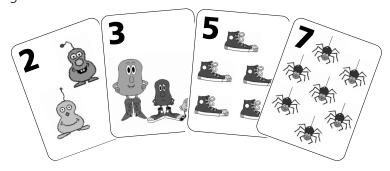
Play this game to give students practice in sorting and counting. Ask students to find 1 tall thing; find 2 short things; find 3 green things; find 4 round things; and so forth. Then let the children choose what and how many to find.

Mystery Bug Art

Divide the students into groups of six students each. Each group will need a large sheet of white paper, scissors, glue, and scraps of colored paper. First, the members of the group design a bug body and head and glue it to the white paper. Then, each member of the group is assigned a bug part. That member determines how many spots, eyes, etc., the bug will have and cuts them out of the colored paper scraps. Group members take turns gluing the parts onto the bug as the group counts, for example, "One, two, three spots." When every group is finished, they can share their bugs with the rest of the class or post them on a bulletin board labeled "Bug Zoo."

Count on Me Science

Make two copies of page 80 on the heaviest paper your copier will accommodate. If possible laminate the paper. Cut the cards apart and have them available for pairs of students to sharpen their observation skills by playing "Count on Me." To play, students take turns drawing a card from the stack and then finding something of the same number on their own clothing or body. For example, if the card says 2, the student counts, "One, two. Two eyes"; if the number is 4, "One, two, three, four. Four buttons"; if the number is zero, "Zero antennae." If they find something of the right number, they get a point; if they cannot find something of that number, the other student gets the point. Once something has been said, the other student cannot use it for an answer. For example, if a student has used "two eyes," the next time 2 is drawn from the cards, the student cannot use "eyes" but could use "two knees" or "two pockets." When all the cards are used, the game is over.

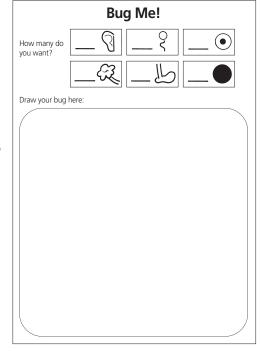


Bug Me! Art

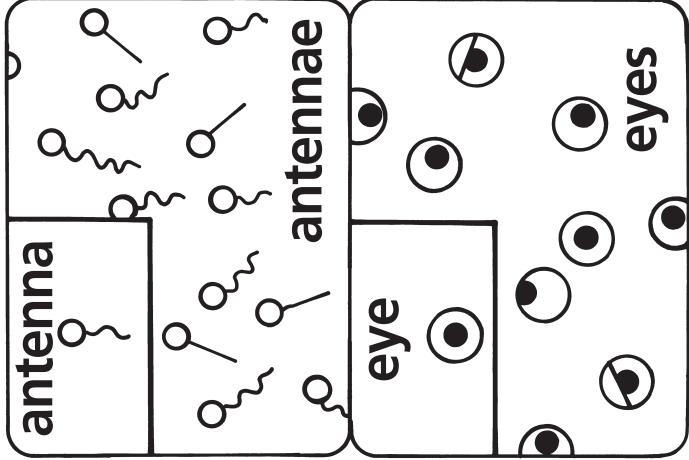
Make copies of page 72 for your students. Have them "plan a bug" by writing numbers beside

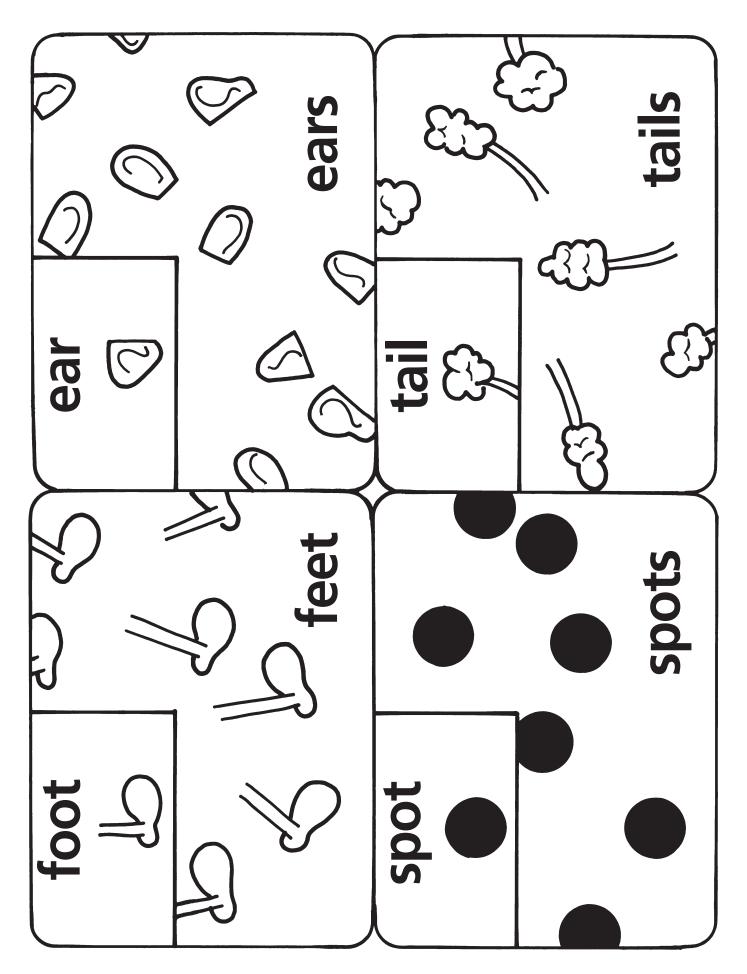
the bug parts on the activity sheet. Next, tell students to each draw a bug body and head. Have them continue drawing by consulting their plans to see how many of each part to draw. Encourage them to count quietly to themselves as they add parts to their bugs. Suggest that they use all sorts of colors and shapes and make their bugs as outlandish as their imaginations allow. If desired, have students name their bugs and introduce them to the class. For example, "This is my bug,

Hannah-Louise. She has 4 spots, 2 ears, 3 antennae, 9 eyes, 1 tail, and 6 legs."









# **Bug Me!**



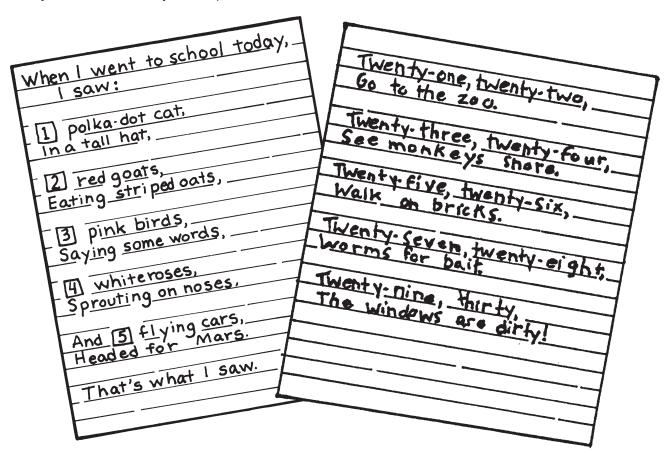


#### **Number Machine**



Nonsense Poetry Language Arts

Compose a class number poem using fantastic, outlandish words or situations, or rewrite familiar rhymes in creative ways. Examples are shown below:



Count on Action Physical Education

Have the class count aloud to 30 as each student repeats an action such as jumping jacks, toe touching, hand clapping, or jumping. On the playground, in the classroom, or in the gymnasium, let pairs of students take turns counting actions for each other.

Door Decor Science

Cover both sides of a classroom door with a large sheet of paper. Give each student a number from 1 to 30. Print a topic that your class is currently studying at the top of the paper. Throughout the day, have students take turns (starting with number 1) "drawing on the door" that number of things related to the topic. For example, if the topic is "The Ocean," students could draw one octopus, two whales, three pieces of seaweed, etc. This activity can also be done on a section of the chalkboard using colored chalk or on a white board using colored, erasable markers.

#### Our Town Countdown

**Social Studies** 

Create a town scrapbook. Start by using heavy paper (8½ by 11 inch) to prepare the thirty pages. At the top of each page, print the title, "Our Town has," followed by a number from 1 to 30 and an ellipsis (...). For example, the first page will read, "Our Town has 1...", the second page will read, "Our Town has 2...", etc. Shuffle the pages and pass them out to either individual students or small student groups.

Offering resources such as local visitors' guides, phone book yellow pages, newspapers, and city maps, ask students to fill each page with appropriate pictures or facts. Encourage a mixture of community information (professions, landmarks, names, etc.).

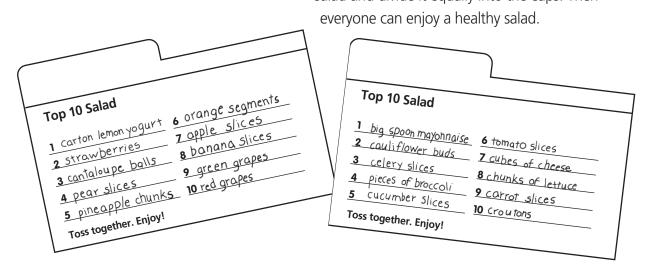


Three-hole punch the completed pages. To conclude the activity, ask the students or student groups to insert their pages in a three-ring binder in the correct order.

Nutrition Numbers Science

As a culminating activity for the study of nutrition, let students work in groups to make healthy salads. Divide the class into groups of 6 to 8 students. Give each group a copy of page 76. Work with the groups, deciding and writing down what will go into their salads. Ingredients can include fresh, frozen, dried, or canned foods such as raisins, nuts, nectarines, kiwi, peaches, watermelon, sunflower seeds, onions, green beans, or shoestring potatoes. (Other ingredients are included in the sample recipes shown below.) Each salad will have ten ingredients—one unit of the first ingredient, two units of the second ingredient, etc. Some groups might choose vegetable salads and others fruit salads.

Provide each group with the ingredients (or have them donated from home), a large bowl, a large spoon, a table knife, and a cutting board for slicing ingredients. (You may want to precut ingredients.) Each group will also need a small cup and spoon for each student. After students have washed their hands, each student in the group prepares one ingredient and adds it to the bowl while the other students in the group count aloud. For example, a student adds raisins and counts, "One, two, . . . ten raisins." Students may need help cutting bananas, carrots, etc., but let them add the pieces to the bowl. When all the ingredients are in the bowl, a student can stir the salad and divide it equally into the cups. Then



If food allergies, school policy, etc. prevent you from doing this activity with real ingredients, groups can make salad collages with pictures they draw themselves or cut from magazines. They can start with a large piece of green paper cut into a giant lettuce leaf and glue on the ingredients as the rest of the students in the group count aloud.

# Top 10 Salad

Put in bowl:	
	9
2	7
<b>C</b>	<b>∞</b>
4	6
2	10
Toss together. Enjoy!	

Use with "Nutrition Numbers" (page 75).



#### **Cookie Factory**

#### **Living Cookie Machines**

**Creative Dramatics** 

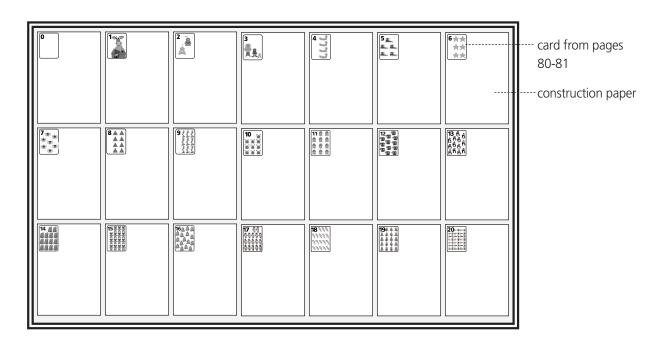
Ask five students to play the following parts:

- 1) The cookie pipe that pats out a clay cookie;
- 2) The conveyor belt that receives the cookie and slides it under the dispenser;
- 3) Harley, the horse, who asks for a cookie decorated with a specific number of jelly beans;
- 4) The jelly bean dispenser that counts clay jelly beans as they are dropped onto the cookie;
- 5) The <u>hand</u> that gives the cookie to Harley, who pretends to gobble it up.

Encourage the entire class to provide the sound effects and to count along as jelly beans are dispensed.

It's in the News Social Studies

Encourage children to start looking at the newspaper even before they can read. Set up a bulletin board using the cards copied from pages 80-81. A suggested arrangement is shown below. Ask students to hunt through old papers (either at home or at school) and circle places where the numerals 0 through 20 are used. Next, they can tear or cut out the example to post on the bulletin board by the corresponding numeral. Allow the clippings to accumulate on the board over several days and then discuss some of the examples of where numerals were used (classified advertisements, diagrams, weather maps, etc.).



#### **Putting the Cart Before the Horse**

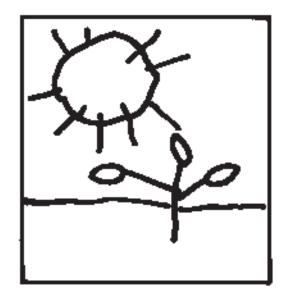
Science

Cut sheets of drawing paper (9 by 12 inch) into fourths and distribute two pieces to each student. Have students number their sheets "1" and "2." Set the papers aside for a few minutes.

As a class, talk about sequence as it relates to science. Make the discussion fun by asking silly questions such as, "Can a flower grow before the seed is planted?" "Can baby birds fly out of the nest before the eggs hatch?" Then talk about what happens first and second. Help students think of other things that must happen in a specific sequence (cooking dinner before eating it; getting the paint and the paper ready before making a painting; building a house before moving into the house; baking a cake before having the birthday party, etc.).

Then have students draw a two-step sequence of an event. Explain that the first thing to happen should be drawn on rectangle 1 and the second on rectangle 2. When students are finished, they can take turns holding their drawings up for the class and asking which comes first and which comes second. The rectangle sets can also be stored in individual envelopes and left on a table for students to enjoy during free time.





#### **Number Relay**

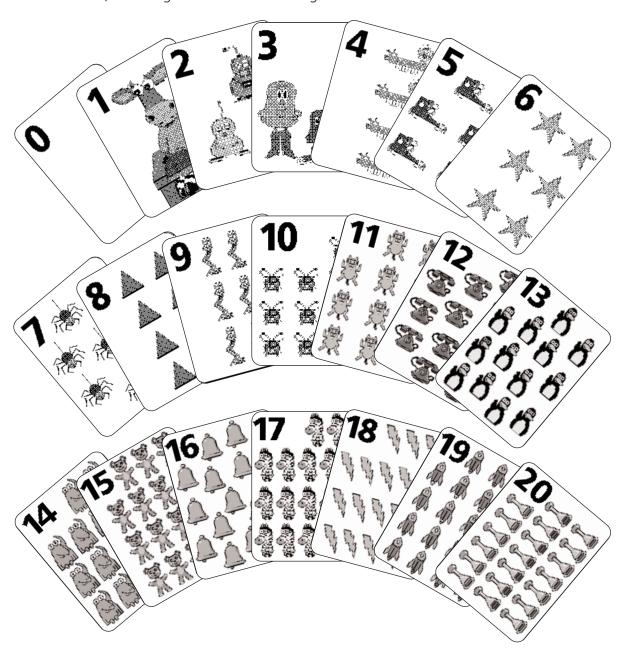
#### **Physical Education**

Students can sharpen memory skills while exercising. Divide the class into four groups. Each group sits behind a line in the gymnasium. When the teacher says "go," the first person in each group runs up to another line and says "One shoe" (or whatever object they want to say) and then runs back. The next person in each group runs to the line and says, for example, "One shoe, two bananas." Then the third person says, for example, "One shoe, two bananas, three trucks." (A group member who can't remember one of the objects must run back and bring the person who had that particular number to the line. Then they say the list together.) The first group to reach 10 wins.

Old Millie Problem Solving

Many familiar card games require players to analyze data, anticipate moves, and practice memory techniques. Use Millie's Deck to play some of these games. Make two copies of pages 80 and 81 on the heaviest paper your copier will accommodate. If possible, laminate the paper. Cut the cards apart. To play "Old Millie," remove one of the cards with Millie's picture (the 1 card). Hand out the rest of the cards to two (or more) students; let them draw and match cards until one student is left with Millie.

To play another kind of memory game, students turn all cards face down and take turns trying to match cards by turning over two at a time. Students will be able to play other familiar games using Millie's Deck. Also, encourage them to invent new games and teach each other.



Use with "Count on Me "(page 69), "It's in the News" (page 77), and "Old Millie" (page 79).

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Use with "It's in the News" (page 77) and "Old Millie" (page 79).

## **Students with Special Needs**

Millie's Math House is designed to be used by young students or students with special needs and is fully compatible with TouchWindow, a touch-sensitive screen that attaches to your computer monitor. (The TouchWindow can also be used as a single switch device. See below.)

#### **Single Switch Input Options for Students with Special Needs**

Built-in scanning is available for single switch users. When scanning is turned on, a selection arrow automatically advances from choice to choice (the speed is adjustable). Students make a selection by activating a single switch device. (See below). When scanning is on, Macintosh users can temporarily suspend or resume scanning by pressing Command  $\mathcal{H}$  -Option-S; Windows users press Ctrl-Alt-S. Macintosh users can also temporarily activate the mouse cursor by holding down the Command  $\mathcal{H}$  key.

Although most of the features in *Millie's Math House* function normally when scanning is on, two features change:

- The Explore and Discover Mode is not available in Mouse House.
- The microphone in Bing & Boing and Build-A-Bug is not scanned. Record by suspending scanning, recording as you normally would, and then resuming scanning.

#### **Single Switch Devices Used with Scanning**

You can connect a variety of single switch devices, using them in accordance with the special needs of your students. Each student can then use the most suitable switch while taking turns on the same software activity.

- **TouchWindow** The entire TouchWindow can function as the single switch device. When the selection arrow points to the object or icon, touching any part of the screen selects the indicated object or icon. The TouchWindow can be placed in the user's lap or on a desktop.
- **Mouse** The mouse button can serve as the single switch device. When the selection arrow points to the object or icon, clicking the mouse button selects the indicated object or icon.
- **Keyboard** (Windows users only) The Space Bar and the F5 key can be used as single switch devices. When the selection arrow points to the object or icon, pressing the Space Bar or the F5 key selects the indicated object or icon.
- **Switch** A switch is a specialized input device for special needs users. When the selection arrow points to the object or icon, touching a switch selects the indicated object or icon. (Most switches require a switch interface to connect them to the computer.)

## **System Requirements**

#### **Server and Network**

- Windows NT 4.0 with latest service pack
- Windows 2000 with latest service pack
- Novell 4.11 or later
- AppleShare IP 6.0.3 or later
- OS X.0.4 Server or later
- Ethernet 10 Mbit/sec or faster
- CD-ROM drive for one-time installation
- 100 MB free disk space (not including disk space for students' saved files)

#### **Windows Client Workstations**

- Windows 95b/95c/98/ME/2000/XP
- 166 MHz Pentium processor or better
- 64 MB RAM or higher
- 100 MB hard disk space
- Super VGA 800 x 600 display with a minimum of 256 colors
- CD-ROM drive
- Sound card and speakers compatible with DirectX

#### Optional:

- Windows-compatible printer
- Microphone
- TouchWindow® or single-switch device

#### **Macintosh Client Workstations**

- OS 8.6 to OS 9.2.2 (classic) and OS 10.1.5 and higher (OS X native)
- G3 processor or better
- 128 MB RAM or higher
- 100 MB hard disk space
- 800 x 600 display with a minimum of 256 colors
- CD-ROM drive

#### Optional:

- Macintosh-compatible printer
- Microphone
- TouchWindow or single-switch device

### **Installation Instructions**

This version of *Millie's Math House* is for use with *Riverdeep Software Manager (RSM)*. Make sure *RSM* is installed before installing *Millie's Math House*. If you need assistance with *RSM*, please consult the *RSM User Guide* (included on CD or in the school binder). You will install *Millie's Math House* to the network file server, you will need to run the *RSM* **Administration Center**.

The *Millie's Math House* installation places both Windows and Macintosh files on the network file server where *RSM* is located. Both Windows and Macintosh are installed simultaneously.

- 1. Exit all applications and start at the desktop.
- 2. Insert the *Millie's Math House* Network CD into the drive.

Macintosh: Double click to open the CD

Windows: The CD window will open automatically. If Autoplay is not enabled, choose **RUN** from the Start menu and type d:\Autoplay.exe (where d represents your CD drive).

- 3. Click the *Millie's Math House* installer and follow the on-screen instructions.
- 4. *Millie's Math House* must be installed in the **Riverdeep Server** folder that was created on the network file server during RSM installation. Navigate to this location and begin the installation.
- 5. When the installation is complete, you must launch the **RSM Administration Center** to enable *Millie's Math House*. Consult the *Riverdeep Software Manager* user's guide for additional information.

When students launch *Millie's Math House*, it is automatically copied from the server to the workstation. The technology coordinator may wish to launch *Millie's Math House* from the *RSM* **Student Center** before first student sue. This will save student's time in waiting for the application files to be copied to the workstation.

#### **Optional User Privileges**

If your school has restrictions on user access to network locations, the following folder permissions required for *Riverdeep Software Manager* 

- Teacher users will need read, write, and delete access to the **Riverdeep Server** folder.
- Student users will need read and write access to the **Student Documents** folder and the **Data** folder (both within the **Riverdeep Server** folder).

## **Technical Support**

For Technical Support, please refer to the customer information card included with this product.

