Thinkin' Things®

COLLECTION 1

Toony the Loon's Lagoon™

S C H O O L   V E R S I O N

EDMARK®

Quick Start

Setup Instructions

Windows 95, 98, or Me

1. To install *Thinkin' Things Collection 1: Toony the Loon's Lagoon*, insert the CD-ROM. If AutoPlay is not enabled, choose **Run** from the Start menu and type **d:\setup** (where **d** represents your CD-ROM drive).

2. To run *Thinkin' Things 1*, use the Start menu. (If AutoPlay is enabled, *Thinkin' Things 1* runs automatically when the CD-ROM is inserted.)
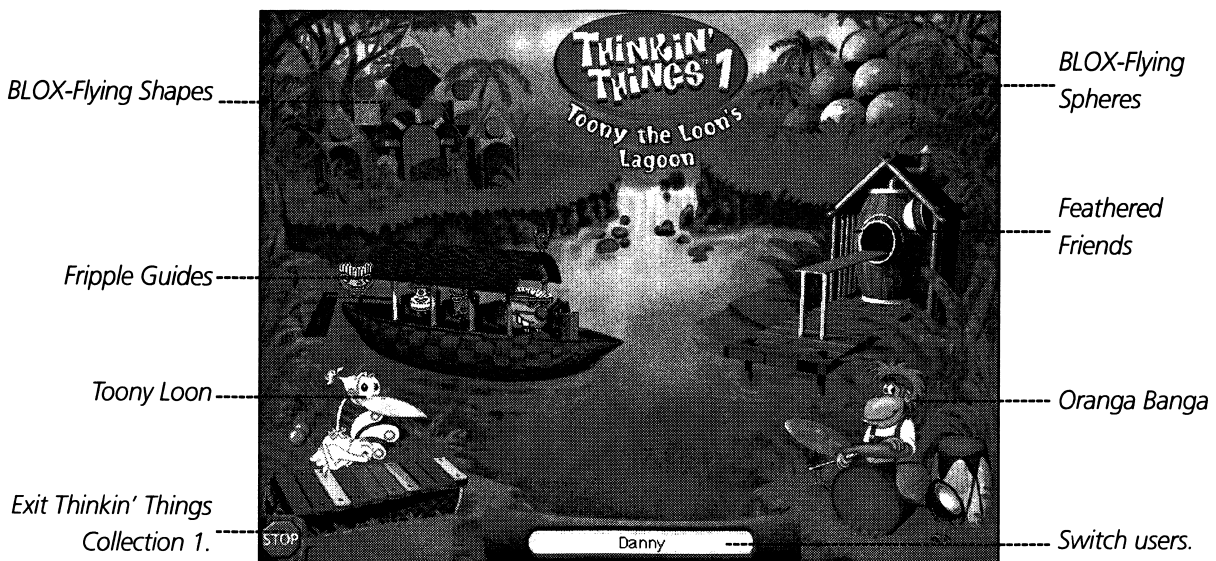
Windows 2000 Professional or XP

1. Log in as an administrator.

2. Follow the installation instructions listed under *Windows 95, 98, or Me*, above.

Macintosh

1. Insert the CD-ROM.

2. Double-click the *Thinkin' Things 1* icon.

Moving Around the Lagoon

From the Main Menu, click a lagoon location to visit an activity.

BLOX-Flying Shapes

BLOX-Flying Spheres

Feathered Friends

Fripple Guides

Toony Loon

Oranga Banga

Exit Thinkin' Things Collection 1.

Switch users.

From any activity, click ■ to return to the Main Menu, where you can choose another activity or exit the program.

To set program options:

- Windows users hold down the **Ctrl** and **Alt** keys while pressing the **A** key.

- Macintosh users hold down the **Command ⌘** and **Option** keys while pressing the **A** key.

Welcome to
Thinkin' Things® Collection 1:
Toony the Loon's Lagoon

Our students will live and work in an Information Age that we can only imagine. As children master the basic skills of the three R's, they must also develop a broader, higher-level set of thinking skills that will transfer to the content of the future. Given appropriate opportunities, the young mind is amazingly capable. *Thinkin' Things Collection 1: Toony the Loon's Lagoon* is designed to offer young students experiences with a variety of thinking skills: **memory, critical thinking, problem solving, and creativity**.

Thinkin' Things Collection 1 celebrates intellectual diversity. A student's musical/rhythmic intelligence may shine when working with Toony the Loon and his xylophones, or visual/spatial intelligence in creating with BLOX, or logical/mathematical intelligence with the Fripple Guides and Feathered Friends. In areas that may not come as naturally to some children, *Thinkin' Things Collection 1* offers warm, friendly experiences in which self-confidence is built, exploration and creativity are fostered, and persistence is rewarded with success.

Thinkin' Things Collection 1 also focuses attention on how students learn. Is a particular student more likely to remember what is seen or what is heard? How do your students approach learning? Do they "guess and test?" Once something is "discovered," do they use that information in another way to "see what happens?" Do your students prefer to take Fripple orders at the door (both auditory and visual), on the phone (auditory only), or by mail (visual only)? *Thinkin' Things Collection 1* promotes learning in each student's areas of strength while encouraging growth and building skills in other areas as well.

Thinkin' Things

COLLECTION ①

Toony the Loon's Lagoon™

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Kalles-Levine Casting Agency • Franz Krachtus
Valerie Laird • Russ LaValle • Taryn Mayhew
Brian Merculief • Michelle Reece • Mark Tolleshaug
Phil Warwick • David Wright
and ALL the kid-testers who helped us along the way

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R2601 a.3.02

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Getting Started (pages 2–5)

- *Steps to Start* information.

- System requirements and setup instructions.

What's Inside Thinkin' Things Collection 1? (pages 7–9)

- An overview of the program.

Software Learning Activities (pages 10–34)

- **Overview**, providing a summary of the activity, learning opportunities and developmental information.

- **Explore Mode**, explaining how your students can learn by exploring, experimenting, and creating.

- **Question & Answer Mode**, explaining how a character takes charge and is looking for a "correct" response. 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. Each of these pages can be copied for students to take home.

Teacher Resources (pages 35–45)

- Suggestions for introducing *Thinkin' Things Collection 1* to your students.

- How to customize the software for your students.

- Scope and sequence chart that correlates the software activities with key curriculum areas.

- Complete list of the thinking skills topics in each program activity.

- Information about using the program with students who have special needs.

Classroom Activities and Reproducibles (pages 46–82)

- Suggested activities, which can be integrated within many curricular areas. These activities strengthen the learning opportunities found in *Thinkin' Things Collection 1*.

- Reproducible pages (for student activity sheets, games, and overhead transparencies), which can be used in conjunction with the suggested classroom activities.

- *Computer Partner Play*, which suggests activities for students to try at the computer.

Technical Information (page 83)

- Troubleshooting tips

Steps to Start

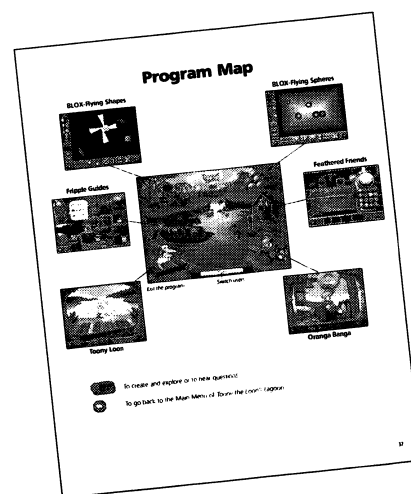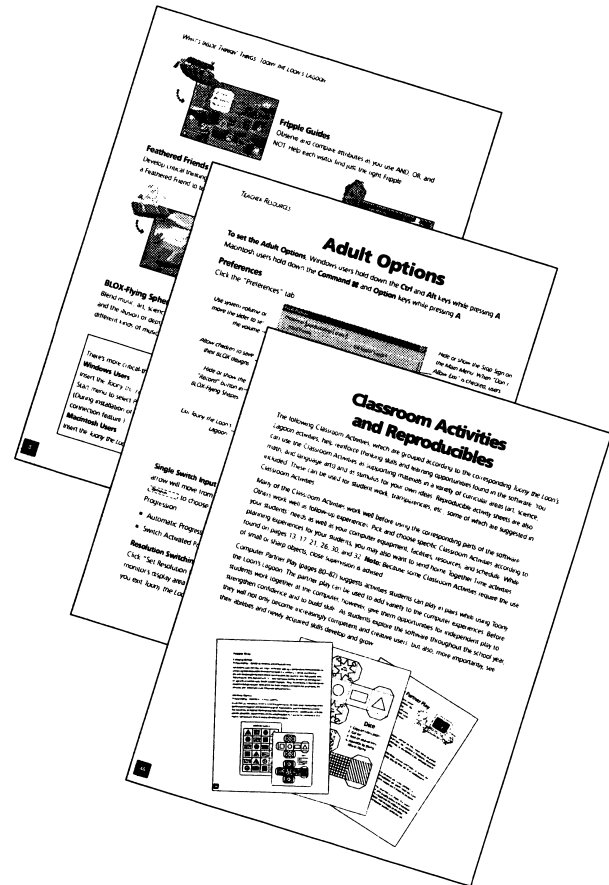## 1. Check to be sure *Thinkin' Things Collection 1* is installed.

- If the software has not been installed, please see *Setup Instructions* (page 5).

2. Read the Teacher's Guide and become familiar with the program.

- *What's Inside Thinkin' Things Collection 1?* (pages 7–9) and the *Scope and Sequence Chart* (page 42) will give you a brief overview. Before you introduce *Thinkin' Things 1* to your students, read through the *Software Learning Activities* (pages 10–34) as you try each one at the computer.
- See *Adult Options* (pages 38–40) to customize the program. (You can adjust the Grow Slides, turn scanning on/off, and so on.)
- Skim *Classroom Activities and Reproducibles* (pages 46–82) and decide which of these supplemental activities you will use to introduce or to follow-up *Thinkin' Things 1* computer experiences.

3. Introduce *Thinkin' Things Collection 1* to your students.

- Reproduce the *Program Map* (page 37) for each student. You may also make the page into a transparency for use in introducing the program.
- See *Introducing the Program to Your Students* (pages 35–36) for suggestions.

System Requirements

Windows®	Macintosh®
▪ Windows 95, 98, Me, 2000 Professional, or XP	▪ Mac OS 7.1.2 to Mac OS X in Classic Mode
▪ Pentium (66MHz) or better	▪ PowerPC
▪ Hard disk with 12 MB free	▪ 16 MB RAM, 7000K unused
▪ 16 MB RAM	▪ 13"or larger monitor, thousands of colors
▪ Super VGA, 640x480, High Color	▪ Double-speed (2X) or faster CD-ROM drive
▪ Double-speed (2X) or faster CD-ROM drive	
▪ Windows-compatible sound-output device	

Optional

- Microphone—Record speech or sound directly using a microphone. You can record original sounds in BLOX-Flying Shapes.

- TouchWindow—A touch screen that attaches to your monitor and provides direct, easy input for young students or students with special needs.

Setup Instructions

Windows 95, 98, or Me

1. To install *Thinkin' Things Collection 1: Toony the Loon's Lagoon*, insert the CD-ROM. If AutoPlay is not enabled, choose **Run** from the Start menu and type **d:\setup** (where **d** represents your CD-ROM drive).

2. To run *Thinkin' Things 1,* use the Start menu. (If AutoPlay is enabled, *Thinkin' Things 1* runs automatically when the CD-ROM is inserted.)

Windows 2000 Professional or XP

1. Log in as an administrator.

2. Follow the installation instructions listed under *Windows 95, 98, or Me*, above.

Macintosh

1. Insert the CD-ROM.

2. Double-click the *Thinkin' Things 1* icon.

What's Inside Thinkin' Things Collection 1?

The Main Menu

Before you can explore the lagoon, you need to sign in. Select your name from the list and click OK. If your name is not on the list, type it in, then click OK.

The Main Menu of *Thinkin' Things Collection 1* lets you choose from six learning activities. From an activity, click the back arrow ◀ to return to the Main Menu.

To play with a *Thinkin' Thing,* click one of the "hot spots" below:

BLOX-Flying Shapes

Fripple Guides

Toony Loon

Exit Toony the Loon's Lagoon.

BLOX-Flying Spheres

Feathered Friends

Oranga Banga

Switch users.
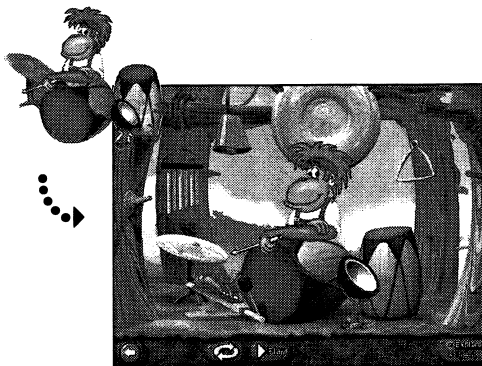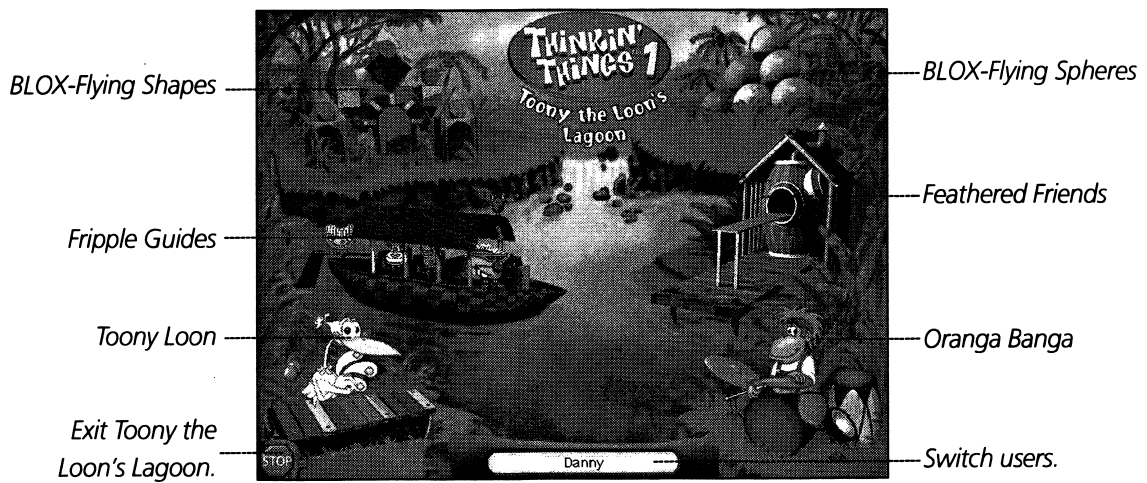
Oranga Banga

Develop creativity, auditory discrimination, and memory as you improvise or repeat patterns with different instruments.

BLOX-Flying Shapes

Discover spatial relationships. Create your own works of kinetic art as you control the motion of shapes and the sounds they make.
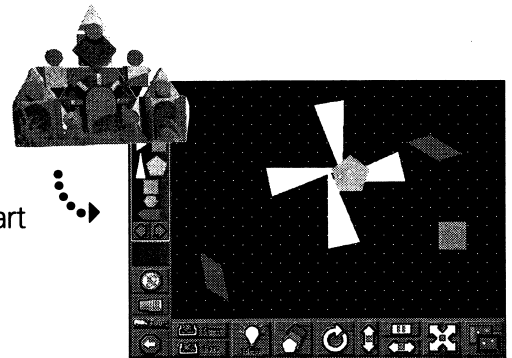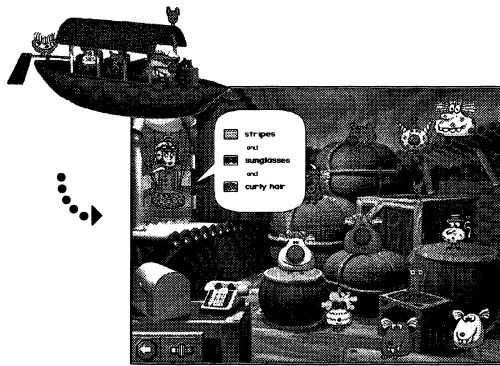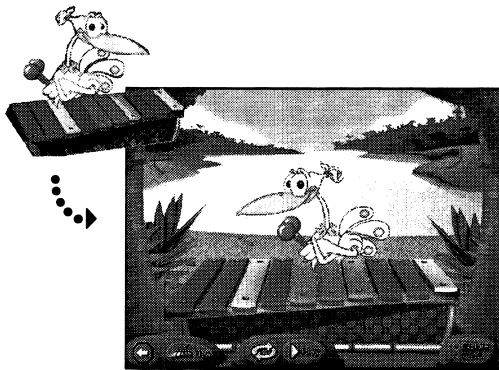
Fripple Guides

Observe and compare attributes as you use AND, OR, and NOT. Help each visitor find just the right Fripple.

Feathered Friends

Develop critical thinking ability as you deduce a rule and then build a Feathered Friend to test your hypothesis.
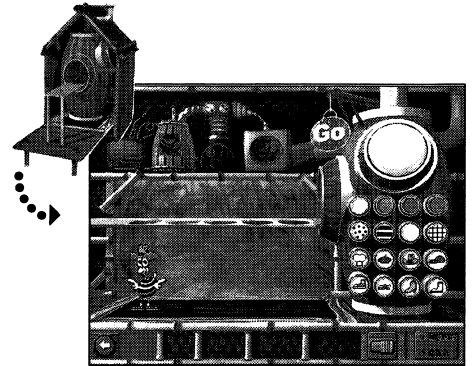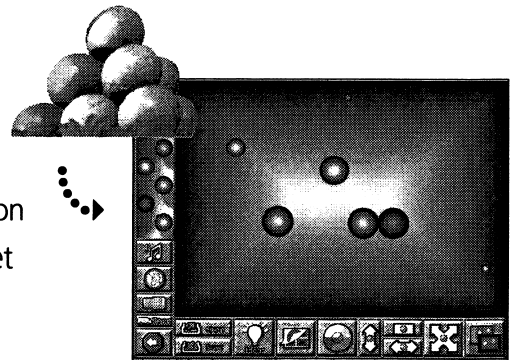
Toony Loon

Increase memory and musical skills as you repeat patterns or create tunes of your own on Toony's wacky xylophones.

BLOX-Flying Spheres

Blend music, art, science, and play as you experiment with motion and the illusion of depth. Create unique visual effects to interpret different kinds of music.

Playing in the Lagoon

Question & Answer and Explore Modes

Oranga Banga, Feathered Friends, and Toony Loon have two modes: the Explore Mode (you explore, experiment, and create) and the Question & Answer Mode (you answer a character's request). To switch between modes, click the Explore/Q&A button.

Grow Slides

Your students can use Grow Slides in the Question & Answer Mode of Oranga Banga, Fripple Guides, Feathered Friends, and Toony Loon to adjust the difficulty level of the activities. As students answer questions and solve problems, the Slider on the Grow Slide advances and more difficult questions or problems are offered.

From an activity: Click the Grow Slide button and then drag the slider to adjust the difficulty level. You can also click a specific problem-solving topic. (Refer to page 43 for the topic lists.)

From Adult Options: Click the "Activity Settings" tab. You can turn off your students' access to the Grow Slides or adjust the Grow Slide settings. The problem-solving topics available in the currently selected activity are displayed below the Grow Slide.

Adult Options

To enter Adult Options, Windows users hold down the **Ctrl** and **Alt** keys while pressing the **A** key. Macintosh users hold down the **Command ⌘** and **Option** keys while pressing the **A** key. Adult Options (pages 38–40) allows you to customize *Thinkin' Things Collection 1* for each student.

Oranga Banga
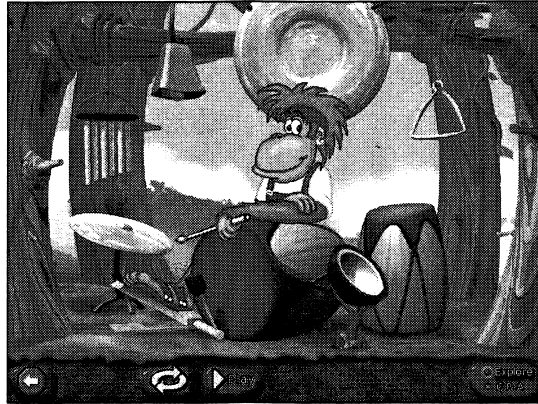
In the Explore Mode, students explore sounds or compose patterns. In the Question & Answer Mode, Oranga plays patterns for students to recognize, remember, and repeat, helping to develop students' auditory discrimination and memory skills. Click a button to make Question & Answer play more challenging by listening to Oranga "at night" (with the screen darkened), requiring that the discrimination and memory be based only on what is heard.

Learning Opportunities
- Develop auditory discrimination
- Enhance visual and auditory memory
- Create patterns
- Remember and repeat patterns

Together Time Activities (page 13)
- Pots and Pans Band
- Guess What?

Classroom Activities (pages 47–51)
Computer Partner Play (page 80)

About Kids
Children enjoy making sounds and creating patterns. When students work with patterns, they learn that parts make up the whole, and begin to recognize repetition and organization. These elements contribute to the foundation of efficient thought, comparison, and memory. Some students exhibit strong preferences for visual or auditory input. Watch as your students play with Oranga, "at night" and with the "lights on." You may observe some striking differences. Noticing these preferences can offer valuable insight into your students' individual learning styles.
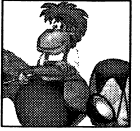
Explore Mode

- Click 🐔 from the Main Menu to play with Oranga Banga.
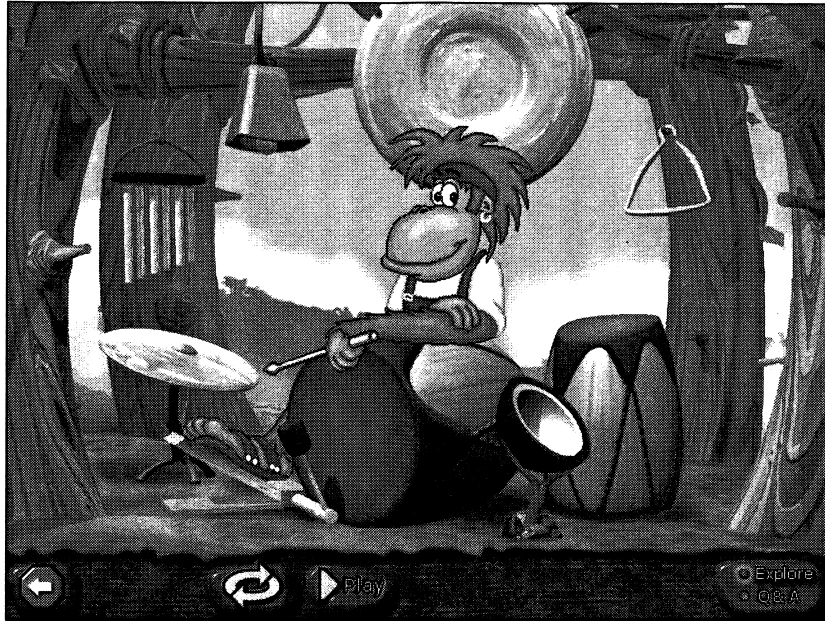
"You go first."

- Click the instruments to hear the sounds they make. You can create all sorts of patterns.

- Click ▶Play or click Oranga. Oranga will play what you played.

- Click ⟳ if you want Oranga to repeat what you have played over and over. Click anywhere to stop the repeating pattern.

- Experiment and create patterns as long as you like.

- Click 🔘 for the Question & Answer Mode, or click ◀ to choose another Thinkin' Thing.

Question & Answer Mode

- Click ![Explore Q&A button] to enter the Question & Answer Mode.
- Oranga plays a pattern and asks you to repeat it.
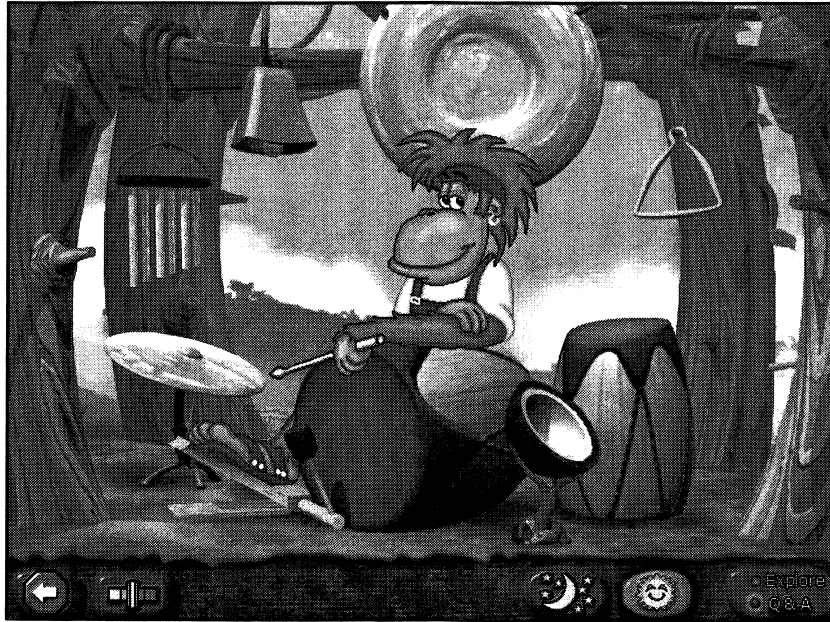
"Can you play that?"

- If you repeat the pattern correctly, Oranga congratulates you and plays a new pattern.
- If you do not repeat the pattern correctly, Oranga will play the pattern again. Keep trying!

- Click the instruments to repeat Oranga's pattern. To hear the pattern again, click Oranga.
- If you want a greater challenge, click ![moon button] to play with Oranga in the dark.
- Click ![sun button] to turn the lights back on.
- Click the Grow Slide button ![grow slide button] to change the difficulty level of the problems.
- Click ![Explore Q&A button] for the Explore Mode, or click ![back button] to choose another Thinkin' Thing.

Together Time

Pots and Pans Band

Look through the kitchen cupboards with your child. Take out five or six items to serve as instruments for your band (pots, pans, lids, colanders, pie tins, etc.). You will also need wooden or metal spoons to play the instruments. Allow time for your child to explore the sound of each instrument and create patterns using a series of sounds. Then, while you watch, have your child play a short pattern for you to repeat. Continue playing, taking turns creating new patterns. Also try listening with your eyes closed while the pattern is played.

Guess What?

Play this game as you are working together in the kitchen. With eyes closed, have your child guess what you are doing. Tear off aluminum foil, close the oven door, stack dishes, put silverware away, bite into a cracker, etc. Begin with sounds that are very different and, over time, move to sounds that are more alike. Your child will enjoy switching roles and having you guess, too.

Fripple Guides

Visitors to the lagoon are looking for Fripple tour guides! Students choose to help a visitor at the door (auditory and visual), on the phone (auditory only), or by mail (visual only). Each visitor asks for a Fripple guide with specific attributes, for example, "I like purple and stripes, but not curly hair." The child must then examine a group of Fripples to find one that matches the vistor's request.

Learning Opportunities

- Recognize, compare, and contrast attributes
- Develop skill in observing details
- Recognize relationships described by AND, OR, and NOT (Boolean logic)
- Develop skill in visual scanning (looking through a group to find a specific attribute or combination of attributes)

## Together Time Activities (page 17)

- A Closer Look
- Fripple Cookies

Classroom Activities (pages 52–57)

Computer Partner Play (page 80)

About Kids

When challenged to use higher-level thinking skills, children often prove themselves capable. Careful observation and logical comparisons contribute to cognitive development and the ability to classify and categorize.

Not all students learn, think, or absorb information in the same way. By noticing whether a student would rather use the door, the phone, or the mailbox, you may become more aware of that student's preferences and strengths. By observing as students fill increasingly more difficult "visitor requests," and occasionally asking how the right Fripple was found, you may become more aware of how each student reasons.
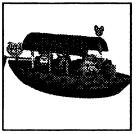
Question & Answer Mode

- Click ![boat icon] from the Main Menu to play with the Fripple Guides.

- Click several Fripples to hear their attributes described (eyes, color, hair, etc.). For example, one Fripple might be purple with spots and big eyes; another might be green with stripes and small eyes.
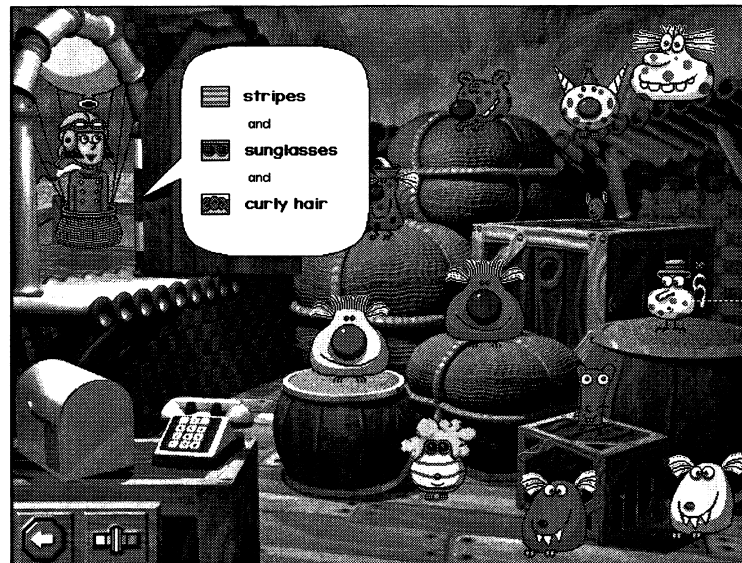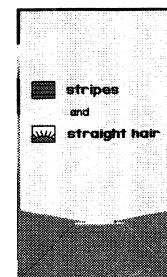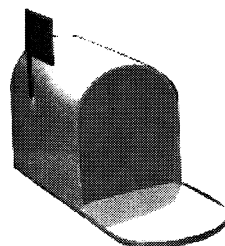

"This Fripple is green with spots. It has big eyes.

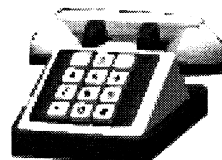- There are three ways to get Fripple requests from visitors:

  - Click the door (auditory and visual).
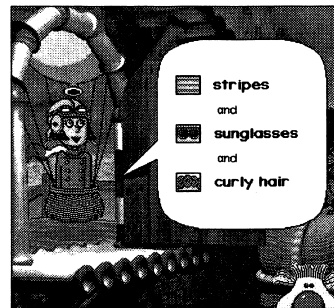
  - Click the mailbox (visual only).

  - Click the phone (auditory only).

- Look carefully at the attributes of each Fripple. Click a Fripple to fit the visitor's request.

"I like stripes, and sunglasses, and curly hair, please."

- If you choose a Fripple that is exactly what the visitor requested, the Fripple will leave with the visitor.

- If you do not choose exactly what the visitor requested, keep trying. You are sure to find the right Fripple.

- Click the Grow Slide button ⬛ to change the difficulty level of the problems.
- Play with the Fripple Guides as long as you like. The visitors will come until you decide to leave!
- Click ⬛ to choose another Thinkin' Thing.

Together Time

A Closer Look

You and your child can have fun looking at family photographs while strengthening visual discrimination skills.

Place three different photographs on the table. Start with simple questions such as, "Can you find a picture with both people and animals?" or "Where is a picture with stripes and also shoes with laces?" At another time, you might make the questions more complex. For example, "Which one has buildings and people, but no trees?" Change the selections of photographs after every three or four questions.

Fripple Cookies

Cookie-making time can be a great opportunity to learn about matching attributes with verbal requests. You will need plain cookies and toppings such as raisins, nuts, dried fruit, coconut, chocolate chips, and so on. Take turns "ordering" and decorating cookies. For example, you might say, "I'd like a cookie with nuts and dried fruit." Or, your child might say, "I'd like a cookie with chocolate chips and nuts but no coconut." If you prefer, you and your child can decorate peach or pear halves instead of cookies.

BLOX-Flying Spheres
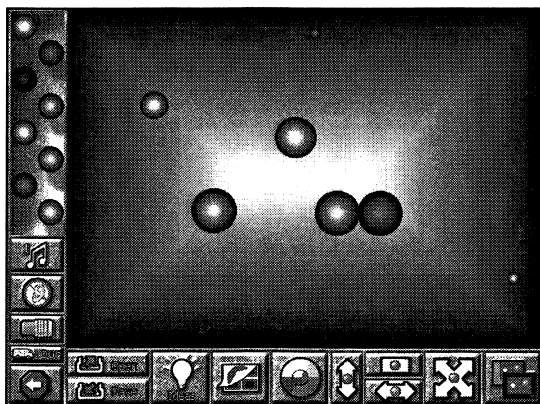
Flying Spheres offers a novel and challenging environment in which students can explore their artistic, musical, and scientifically inquisitive natures. Colorful spheres can be placed or tossed into motion over backgrounds that alter the size of the spheres and give the illusion of depth. The motion of individual spheres can be controlled (using the mouse), or you can control all the spheres at once (using the buttons).

Learning Opportunities
- Enhance observation and perception skills
- Explore the illusion of depth
- Create and conduct experiments involving motion, change in motion, and motion as affected by different gradient backgrounds
- Create kinetic art (aesthetically pleasing designs using color and motion)
- Choreograph moving spheres to interpret music
- Increase creativity and musicality

Together Time Activities (page 21)
- Floor Tennis
- Sphere Mobile

Classroom Activities (pages 58–62)
## Computer Partner Play (page 81)

About Kids
Children of all ages enjoy and respond to music, color, and motion. BLOX-Flying Spheres provides a creative environment in which all three elements can be easily controlled and manipulated. Eye-hand coordination and other developmental limitations need not inhibit creativity or exploration. Because of the open-ended nature of this environment, the first interesting patterns and designs that students construct are often created by chance. The foundation for scientific thought and creativity blossoms as students continue to explore, wondering "What might happen if...," experimenting, observing the results of their actions, and then using bits and pieces of their previous discoveries to try new creations.

Explore Mode

- Click from the Main Menu to play with BLOX-Flying Spheres.

Click a sphere or drag it into the workspace to begin. (Up to 20 spheres can be placed in the workspace.)

———— Workspace
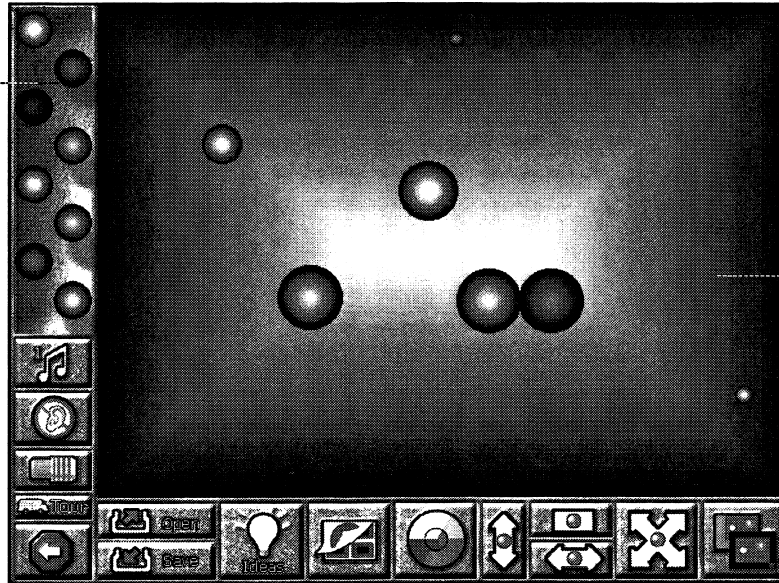
Mouse Controls

Drag and Toss

Click and hold the center of a sphere to "grab" it. Then:

- DRAG the sphere by moving the mouse.
- TOSS the sphere by releasing the mouse button while you move the mouse. (The speed of the sphere is affected by the speed of the mouse movement. Young students may prefer to use the on-screen buttons to control movement.)

Erase a Sphere

Click and hold the sphere. Then:

- DRAG the sphere out of the workspace to erase that sphere.

Catch a Moving Sphere

Hold down the mouse button. Then:

- Move the cursor into the path of the moving sphere.

Buttons

Click a button to:

Turn the sound on or off.

Change the music. You can choose from different tunes.

Remove all spheres from the workspace.

Take a tour that shows you all the different things you can do with BLOX–Flying Spheres

See some sample designs that can be made with the sphere set.

Change to a different background. Many backgrounds are available.

Change the background color.

Stop movement of all spheres in the workspace. Click again to start the spheres moving.

Move all spheres horizontally. Click again to change speed.

Move all spheres vertically. Click again to change speed.

Move all spheres out from the center of the workspace.

Hide the button bar. Click again to make the buttons reappear. When the button bar is hidden and the mouse is not moved for five seconds, this button and the cursor disappear. They reappear when the mouse is moved.
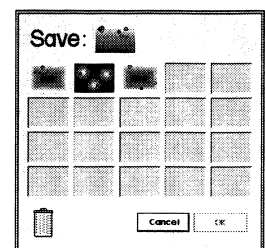
Choose another Thinkin' Thing.

Saving and Replaying Your Designs

To save your design:
- Click the Save button .
- Drag the miniaturized version of your design (thumbnail) to an empty rectangle.
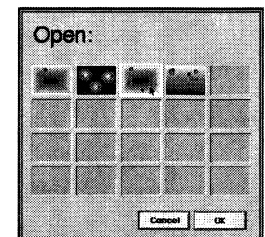- Click to save the design.

To delete a previously saved design:
- Click Save .
- Drag the thumbnail of the unwanted design to the trash can.
- Click to empty the trash can.

To open a previously saved design:
- Click the Open button .
- Click the thumbnail of the design you wish to open.
- Click to replay or change the design.

Together Time

Floor Tennis

For this activity, choose the room in your house with the least amount of furniture. Close the door. Sit across from your child on the floor at opposite ends of the room. Roll a tennis ball directly back and forth. Then, experiment with different routes while talking about the techniques you are using. For example, "This time I'm going to roll the ball softly and try to bounce it off two baseboards before it gets to you."

Sphere Mobile

Help your child find a stick or twig about 12 to 15 inches long. You will also need two balls (styrofoam, soft foam, or old tennis balls). Let your child decorate the balls with colored markers, sequins, scraps of yarn, or small shapes cut from paper or felt. Use yarn to tie a loop snugly around the center of each ball, leaving a length of yarn on each ball. Your mobile will be more interesting if one length of yarn is longer than the other. Tie the ends of the yarn to opposite ends of your child's twig. Tie another piece of yarn to the center of the twig at the point where the mobile maintains its balance. Hang the mobile where it can rotate freely and watch it move with the air currents.
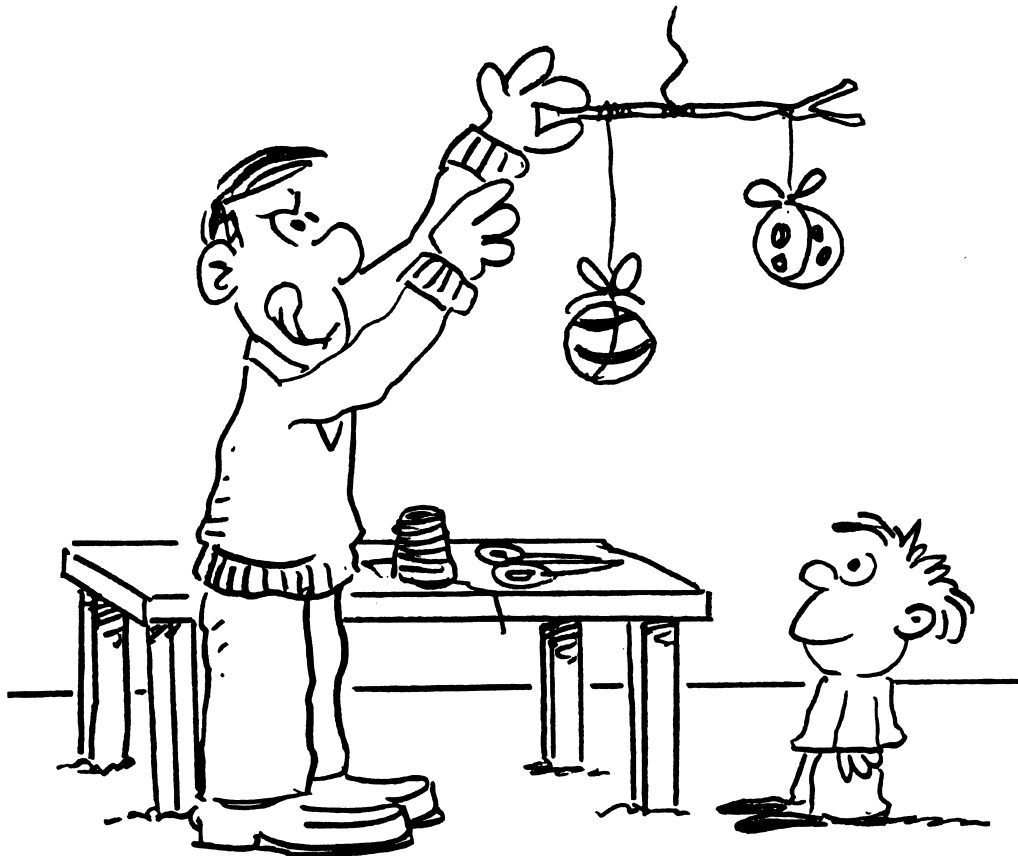
BLOX-Flying Shapes
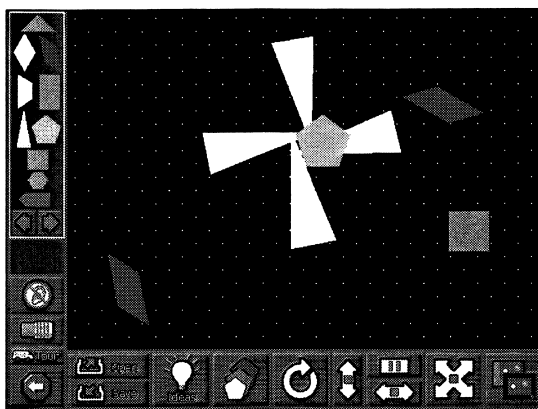
Students explore, experiment, and create using geometric shapes, motion, and sound. One shape or a combination of shapes can be set in motion. Shapes can also be individually manipulated to grow or shrink, spin, and travel across the workspace. A sound is associated with each shape. The volume and pitch of the sound can be changed by altering the shape's size and spinning speed.

Learning Opportunities
- Develop spatial awareness
- Discover similarities and differences in shapes
- Observe and compare shapes in various positions
- Build investigative skills by creating and conducting experiments
- Create aesthetically pleasing designs using shape, color, motion, and sound
- Experience the relationship between scientific exploration and creativity
- Increase creativity and musicality

Together Time Activities (page 26)
- Turn and Trace
- Shape Snacks

Classroom Activities (pages 63–67)

Computer Partner Play (page 81)

About Kids
Students begin their exploration of BLOX-Flying Shapes in a variety of ways. One may begin by playing with the sound properties of several shapes while another may be fascinated with causing a single shape to re-size, spin, and move around the screen. Many topics of investigation are present in this creative and experimental environment. It is important to foster learning without stifling the natural curiosity and creativity that all students possess. Encourage students to ask questions, to predict results, and then to experiment in order to test their predictions. It is the process of asking and answering their own questions (and not the answers to the questions) that is most valuable in developing the inquisitive nature that serves all aspects of learning.
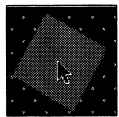
Explore Mode

- Click ![icon] from the Main Menu to play with BLOX-Flying Shapes.

- BLOX-Flying Shapes allows you to experiment with geometric shapes, motion, and sound in a unique environment.

Click a shape or drag it into the workspace to begin. (Up to 20 shapes can be placed in the workspace.)
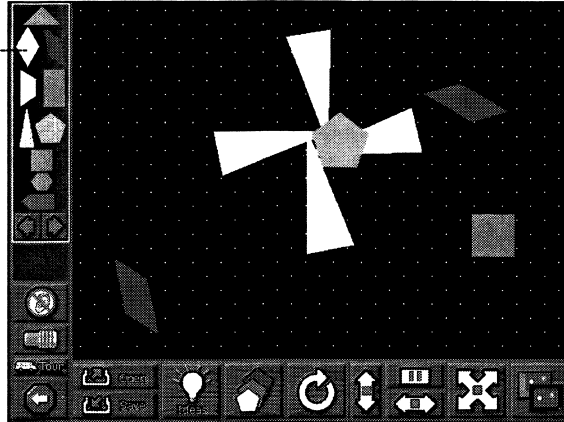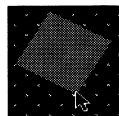

Workspace

Mouse Controls

Drag and Toss

Click and hold the center of a shape to "grab" it. Then:

- DRAG the shape by moving the mouse.
- TOSS the shape by releasing the mouse button while you move the mouse. (The speed of the shape is affected by the speed of the mouse movement. Young students may prefer to use the on-screen buttons to control movement.)

Rotate and Spin

Click and hold the point of a shape until a circle appears. Then:

- ROTATE the shape by moving the mouse.
- SPIN the shape by releasing the mouse button while you rotate the shape.
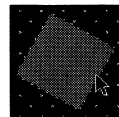
Resize

Click and hold a shape's side until you see a flashing white outline. Then:

- Move the mouse to enlarge or shrink the shape.

Catch a Moving Shape

Hold down the mouse button. Then:

- Move the cursor into the path of the moving shape.

Erase a Shape

Click and hold the shape. Then:

- Drag the shape out of the workspace to erase that shape.

Buttons

Click a button to:

Switch to a different set of shapes. There are three sets.

Change the sound assigned to a shape ("Original Sound"). Click the arrows to choose a shape. Click "Record" to record a sound for the shape. Click "Your Sound" or "Original Sound" to choose the sound that plays when the shape hits the edge of the workspace.

Turn sound on or off.

Remove all the shapes from the workspace.

Take a tour that shows you all the different things you can do with BLOX–Flying Shapes

See some sample designs that can be made with the current shape set.

Resize all shapes to one of three sizes.

Spin all shapes at one speed and in one direction. Click again to spin in the opposite direction and at faster speeds.

Stop movement of all shapes in the workspace. Click again to start the shapes moving.

Move all shapes horizontally. Click again to change speed.

Move all shapes vertically. Click again to change speed.

Set shapes in motion out from the center of the workspace.

Hide the button bar. Click again to make the buttons reappear. When the button bar is hidden and the mouse is not moved for five seconds, this button and the cursor disappear. They reappear when the mouse is moved.

Choose another Thinkin' Thing.

Sound

**Pitch:** Spin the shape faster to raise the pitch.

Volume: Make the shape larger to play the sound louder.

Rhythm: The sound of shapes as they hit the edge of the workspace creates rhythms.

Saving and Replaying Your Designs

To save your design:

- Click the Save button ▪▪▪▪▪.
- Drag the miniaturized version of your design (thumbnail) to an empty rectangle.
- Click ▪▪▪ to save the design.

To delete a previously saved design:

- Click Save ▪▪▪▪▪.
- Drag the thumbnail of the unwanted design to the trash can.
- Click ▪▪▪ to empty the trash can.

To open a previously saved design:

- Click the Open button ▪▪▪▪▪.
- Click the thumbnail of the design you wish to open.
- Click ▪▪▪ to replay or change the design.

Together Time

Shape Snacks

Encourage creativity at sandwich-making time. Cut sandwiches into triangles and let your child arrange the pieces into pine trees, sailboats, etc., on plates. At another time, cut sandwiches into squares, rectangles, or a combination of shapes, and see what scenes develop on the plates.
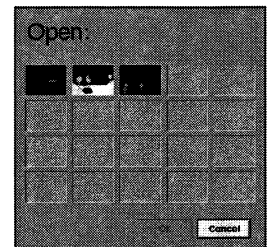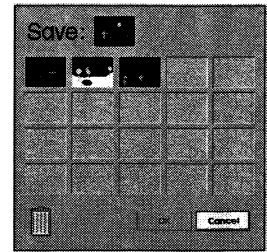
All sorts of shapes fly around when we play in *Thinkin' Things Collection 1*. Using Flying Shapes, we spin and toss shapes and experiment as we create works of art. It would be fun to play with shapes at home, too.
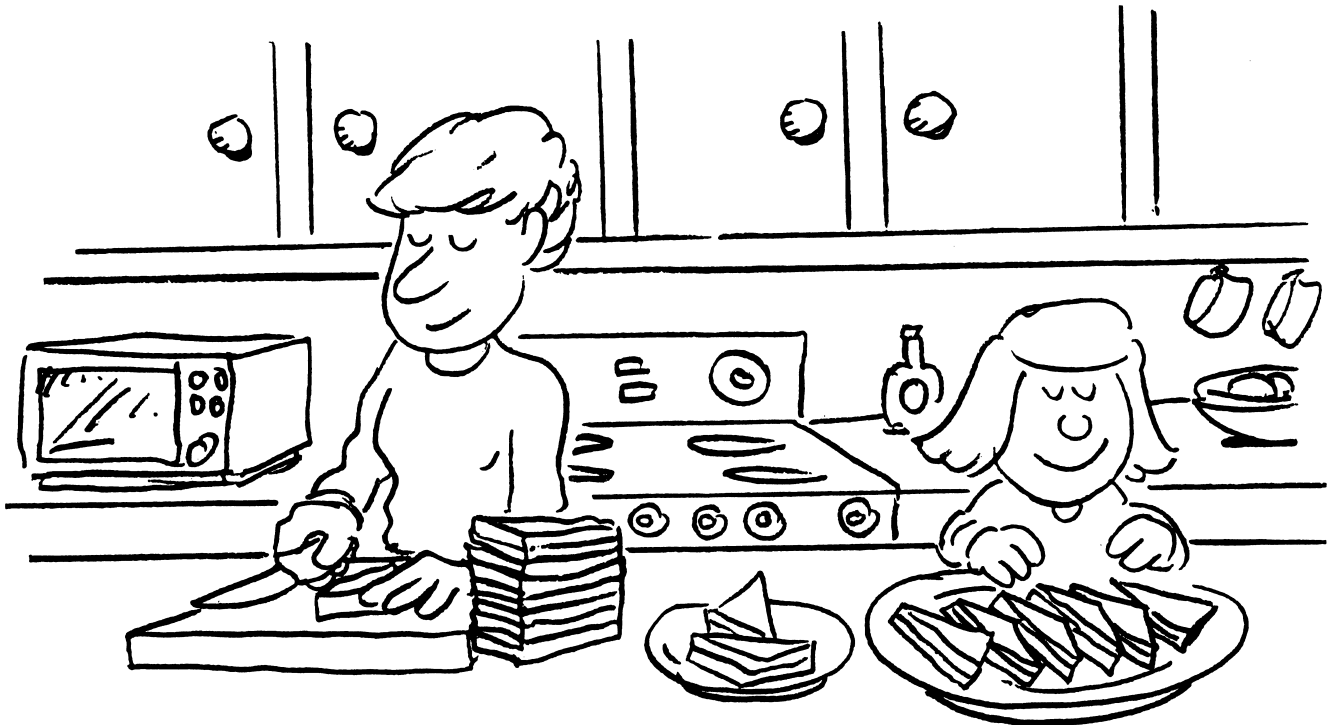
Turn and Trace

Cut a triangle, a square, and a rectangle from tagboard or cardboard. Lay a piece of white paper on top of another sheet of cardboard. Then, pin one of the shapes on top of the white paper. Place the pin near one of the edges or points of the shape. Have your child trace around the shape. (You may have to hold the shape in place while your child traces.) Leaving the pin in place, have your child turn the shape slightly and trace it again. After tracing the shape in several different positions, remove it and look at the design created. It should have a "feeling" of movement. Continue experimenting with the other shapes.

Feathered Friends
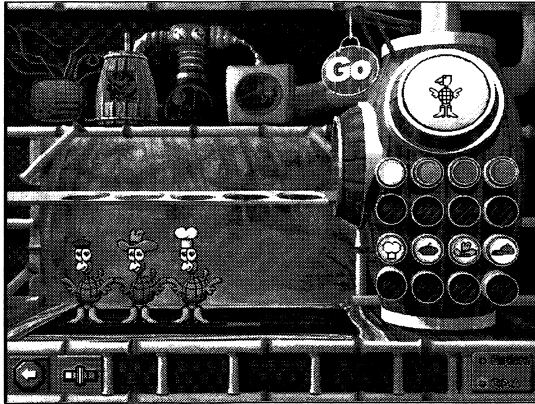
In the Explore Mode, students experiment with four categories of attributes (color, shoes, hats, and body pattern) as they create baby birds. In the Question & Answer Mode, students must carefully examine a group of baby birds to determine exactly what kind of friend the birds are seeking.

Learning Opportunities:
- Develop visual discrimination
- Recognize, compare, and combine attributes
- Use parts to create a whole
- Complete patterns
- Recognize changes in attributes that create a pattern
- Complete visual analogies
- Hypothesize and test a rule

Together Time Activities (page 30)
- Guess My Rule
- What Makes a Toothbrush a Toothbrush?

Classroom Activities (pages 68–74)

Computer Partner Play (page 81)

About Kids

Even very young students will enjoy choosing and changing attributes to create Feathered Friends. Using the Explore Mode, students can make up their own games—one person makes a bird, the other matches; one person describes a specific bird, the other tries to make a bird to fit, etc. As students talk about the attributes of the birds, they increase vocabulary and the ability to compare, contrast, and describe.

As students mature, working with attributes in the Question & Answer Mode can enhance observation and discrimination skills and build a foundation for critical-thinking skills (rule formation, classification, and so on.). In playing with Feathered Friends, students move through a series of progressively difficult problems involving identities, differences, patterns, and analogies.

Explore Mode

- Click [icon] from the Main Menu to play with the Feathered Friends.

"You can make a Feathered Friend."

Blueprint Window

Choose an attribute from each row.

- Click the attribute buttons on the machine to design a Feathered Friend. As you make choices, your design appears in the blueprint window. If you change your mind, click a different button.
- To change all of the attributes and start from scratch, click the eraser [icon].
- When you have clicked one button in each row and are ready for the machine to make your design, click [Go]. A new baby bird will appear.

- Use the machine to create as many Feathered Friends as you like. (You can see up to five birds displayed at a time.)
- Click [icon] for the Question & Answer Mode, or click [icon] to choose another Thinkin' Thing.
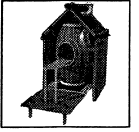
Question & Answer Mode

- Click ▣ to enter the Question & Answer Mode.
- Baby birds ask you to make the missing bird. Look closely at their attributes (color, body pattern, hat, shoes). Use what you see to guess what kind of bird they want you to make.
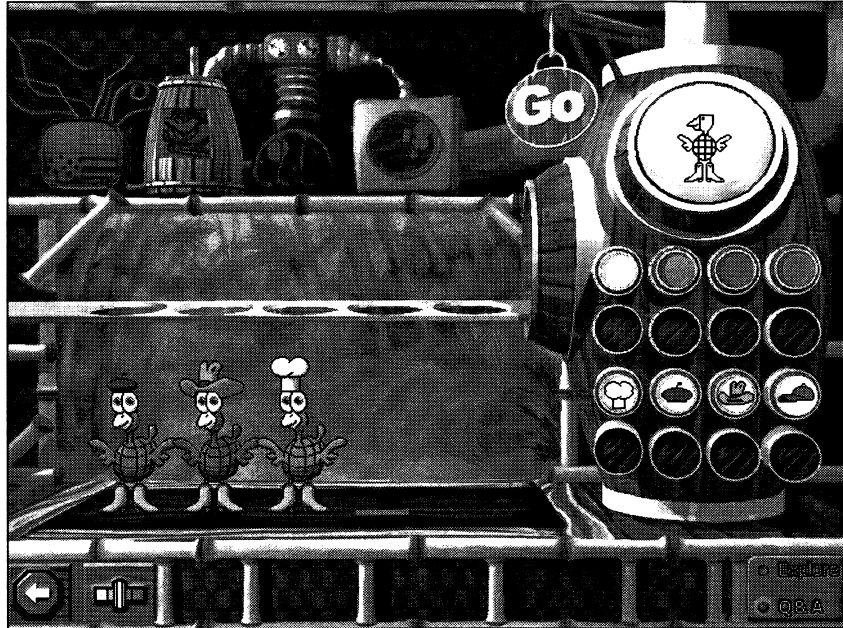
"Please make the missing bird."

- You will continue patterns, repeat differences, or complete analogies at different levels of difficulty.
- Click the attribute buttons on the machine to design the Feathered Friend that you think the baby birds want. Then, press 🔘 .

- If you answer correctly and make the friend the birds want, Robo Chicken lays an egg and the friend hatches.

- If you do not answer correctly, try again. If you keep trying, you will always be able to make the friend the baby birds want.

- Click the Grow Slide button ▣ to change the difficulty level of the problems.
- Click ▣ for the Explore Mode, or click ▣ to choose another Thinkin' Thing.

Together Time

Guess My Rule

For this activity, you will need about 10 colorful photographs from magazines. Spread out all of the pictures and ask your child to find something that you describe in each one. For example, a picture with red in it, a picture with no people, a picture with six ears, etc. Next, sort the pictures and ask your child to guess the sorting rule you have in mind. Start with something simple such as trees and no trees. Later, your child might like to sort the pictures and ask you to guess the rule. Below are some sorting rules you could try:

dark—light	curvy shapes—straight edge shapes
inside—outside	vertical pictures—horizontal pictures
people—no people	happy feeling—sad feeling
machines—no machines	

What Makes a Toothbrush a Toothbrush?

Put two objects on the table in front of your child; for example, a toothbrush and a fork. Ask your child what these two objects have in common. (They both are hard. They both are long and thin. They are similar in length.) Ask what makes them different. (One has bristles, the other has prongs. One is red, the other is silver.) Finally, ask what one thing seems to make a toothbrush a toothbrush (bristles) and what one thing seems to make a fork a fork (prongs). Continue playing using other pairs of objects such as a stuffed toy animal and a blanket, a lamp and a radio, a pencil and a pen, a glass and a cup, and so on.
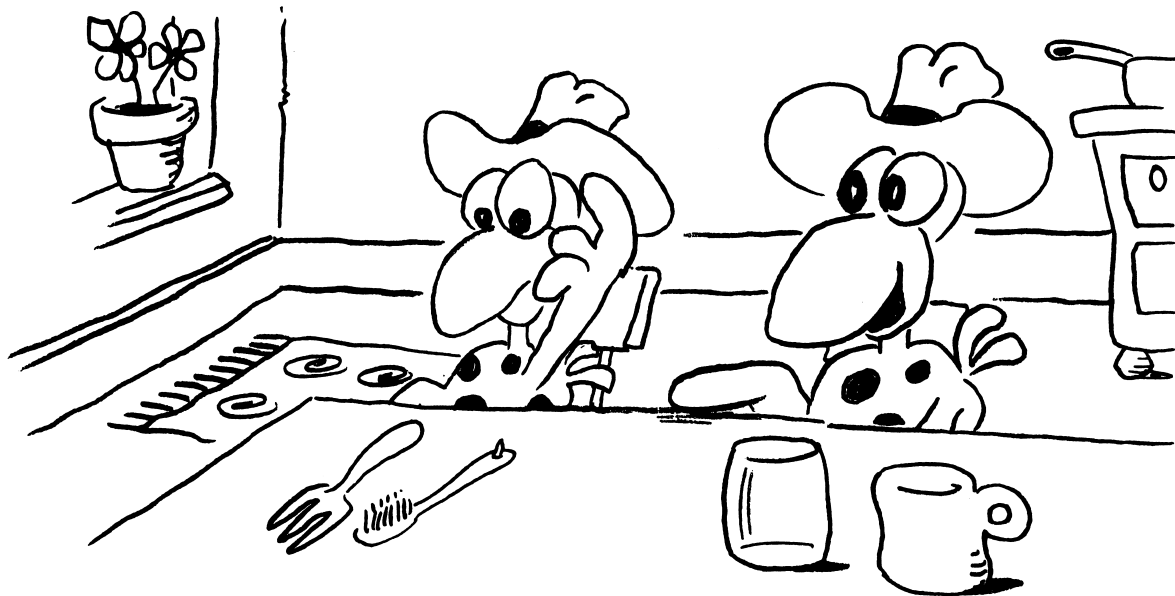
Toony Loon
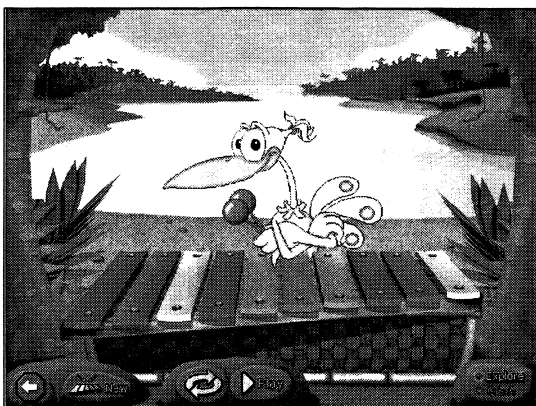
In the Explore Mode, students improvise their own musical patterns and tunes on unique xylophones. In the Question & Answer Mode, they develop auditory discrimination and memory skills by repeating patterns played by Toony Loon. Auditory memory can be isolated and strengthened by choosing to have Toony play "in the dark."

Learning Opportunities
- Develop auditory discrimination of pitch
- Strengthen auditory memory
- Create patterns
- Remember and repeat patterns
- Develop creativity and musicality

Together Time Activities (page 34)
- Tunes in a Jug
- High Note, Low Note

Classroom Activities (pages 75–79)

Computer Partner Play (page 82)

About Kids
Children respond to music very early in life. Most music is highly organized, including patterns and repetition (such as scales and chords). Children enjoy repeating patterns, and Toony is a patient teacher. When a student successfully repeats a pattern, a slightly more challenging one is offered. If students have difficulty with a long pattern, Toony breaks it into two parts to help them succeed. As an expressive art form, music also involves spontaneous improvisation and creativity. Students delight in making their own music and, as they do, musical abilities and aesthetic judgment develop.

Explore Mode

- Click ![icon] from the Main Menu to play with Toony the Loon.

- Click the bars of the xylophone to hear the sounds they make and create your own tunes.
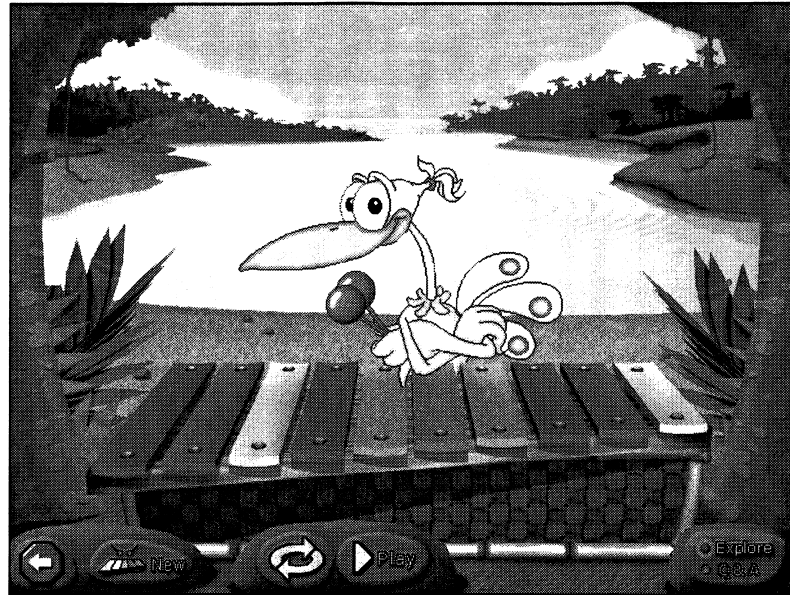
"Show me what to play."

- Click ![Play icon] or click Toony. Toony will play what you played.

- Click ![Repeat icon] if you want Toony to repeat what you have played over and over. Click anywhere to stop the repeating pattern.

- Click ![New icon] to play another xylophone.

- Explore the different xylophones and make up tunes as long as you like.
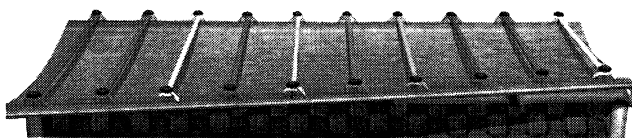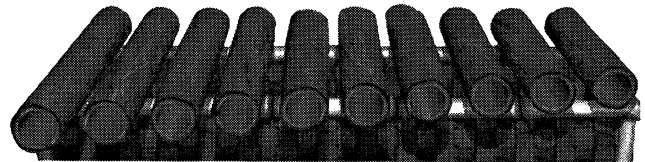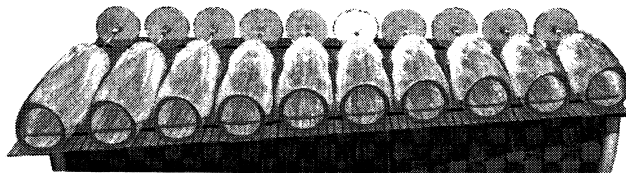
- Click ![Explore Q&A icon] for the Question & Answer Mode, or click ![arrow icon] to choose another Thinkin' Thing.

Question & Answer Mode

- Click ⬛ to enter the Question & Answer Mode.

- Toony plays a pattern on the xylophone and asks you to repeat it.
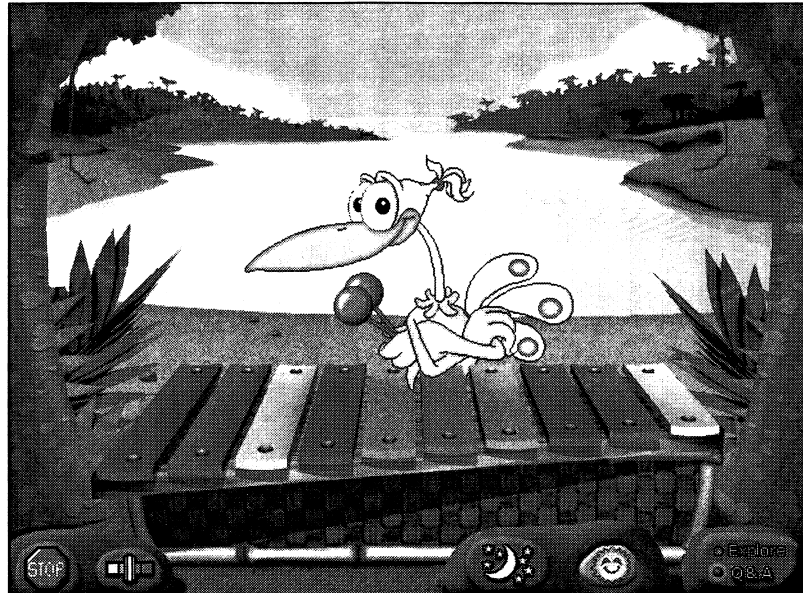
"Can you play that?"

- Click the xylophone bars to play the pattern you heard. To hear the pattern again, click Toony.

  - If you repeat the pattern correctly, Toony congratulates you and plays a new pattern.

  - If you do not repeat the pattern correctly, Toony will play the pattern again. Keep trying!

- If you want a challenge, click ⬛ to play with Toony in the dark.

- Click ⬛ to turn the lights back on.

- Click the Grow Slide button ⬛ to change the difficulty level of the problems.

- Click ⬛ for the Explore Mode, or click ⬛ to choose another Thinkin' Thing.

Together Time

Tunes in a Jug

Thoroughly clean several plastic, narrow-neck containers—syrup, ketchup, salad oil, or pop bottles. First, "play" the empty jugs. (Press the rim of the container against your lower lip and gently blow across the opening. This may take a little practice.) You and your child will discover that the larger the container, the lower the tone. Next, try filling the containers with different amounts of water and see how the tones change. You may want to make a game of trying to match each other's tones by adding and pouring out water.

High Note, Low Note

Begin by asking your child to sing a very high note, then a very low note. You could sing your highest and lowest notes, too. Then, play a favorite recording while your child follows the music, moving hands up and down as the music plays high and low notes. Together, follow changes in pitch with your whole bodies—standing on tiptoes for the high notes and bending down for the low notes.

Introducing the Program to Your Students

Thinkin' Things Collection 1 can be introduced to your students in a variety of ways. As you explore the program, consider your students' learning styles and what might be most helpful in getting them started. BLOX activities and those with the Explore Mode are designed to nurture children's natural curiosity, developing divergent thinking skills by allowing them to freely experiment and "see what happens." Activities with the Question & Answer Mode help students build convergent thinking skills such as visual and auditory memory. Allow students repeated practice in the Question & Answer Mode, spaced over several months, to build these skills.

Demonstrate how to move around in Toony the Loon's Lagoon.

- Turn on a computer that has *Thinkin' Things Collection 1* installed. Use a large monitor, if available. Turn the Grow Slides on/off (pages 38–39) or set them at appropriate levels for your students. If desired, hand out copies of the Program Map (page 37) or use a transparency of it for students to follow as you introduce the software.

- Point out the six activities available from the Main Menu.

- Explain to students that Oranga Banga, Feathered Friends, and Toony Loon have two modes: the Explore Mode (which allows them to experiment, explore, and create) and the Question & Answer Mode (in which they answer a character's question). Select one of these activities and demonstrate clicking the buttons to switch between Q & A and Explore Modes.

- Point out the Stop Sign on the Main Menu and the back arrow in each activity.

Below are suggestions for introducing each activity. Refer to the pages listed for detailed operating instructions. **Note:** If students are using a TouchWindow, have them touch the screen when instructed to click or drag.

Oranga Banga (pages 10–13)

Review how to switch between the two modes. In the Explore Mode, encourage students to become familiar with the sounds of instruments first. Then, in the Question & Answer Mode, demonstrate how Oranga Banga plays patterns for students to repeat. Demonstrate how students can adjust the Grow Slides to change the difficulty level (unless the Grow Slides have been turned off in Adult Options). Students can also add to the challenge by playing with the lights off.

Fripple Guides (pages 14–17)

Point out that there are three ways to receive vistors' requests: by fax, by phone, and "in person" at the door. (Or, you may want to remove the phone and the mail box when students first use Fripple Guides, adding them later. See page 39.) Demonstrate how students can adjust the Grow Slides to change the

difficulty level (unless the Grow Slides have been turned off in Adult Options). Also demonstrate how to click a Fripple to hear a description of its attributes.

BLOX-Flying Spheres (pages 18–21)

Encourage students to discover the functions of the buttons. Then, as a class or in groups, have students share their discoveries about how each button functions. Discuss some of the ideas shown by clicking the Idea button. Explain how students can save and open designs they have created. Encourage students to continue exploring and creating designs.

BLOX-Flying Shapes (pages 22–26)

Have students experiment with the buttons, shape sets, and mouse. (You may want to demonstrate the mouse controls shown on page 23.) Then, have volunteers share what they have discovered. Point out the Idea button. Explain how students can save and open designs they have created. Encourage continued exploration, experimentation, and sharing of ideas.

Feathered Friends (pages 27–30)

Review how to switch between the two modes. In the Explore Mode, encourage students to design a variety of Feathered Friends by trying all of the machine's attribute buttons. Later, in the Question & Answer Mode, have students look carefully at the birds shown to determine what kind of bird is missing. With the class as a whole or in groups, encourage students to share their thinking—"How did you know what kind of bird was missing?" Demonstrate how students can adjust the Grow Slides to change the difficulty level (unless the Grow Slides have been turned off in Adult Options).

Toony Loon (pages 31–34)

Review how to switch between the two modes. Allow sufficient time for students to explore in the Explore Mode, trying different xylophones, becoming familiar with the sounds, and composing tunes. Then, in the Question & Answer Mode, demonstrate how Toony Loon plays patterns for students to repeat. Also, demonstrate how students can adjust the Grow Slides to change the difficulty level (unless the Grow Slides have been turned off in Adult Options).

Use supplemental materials for reinforcement and variety.

- Together Time Activities—As students try each Thinkin' Thing, copy and send home the corresponding Together Time activity sheets.

- Classroom Activities—Use these activities to introduce, follow up, and reinforce the corresponding software activities (pages 46–79).

- Computer Partner Play—After students have explored each Thinkin' Thing in depth, introduce them to activities to play at the computer in pairs (pages 80–82) .

Program Map

BLOX-Flying Shapes
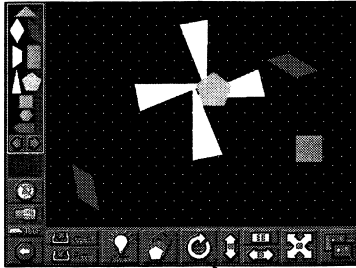
BLOX-Flying Spheres
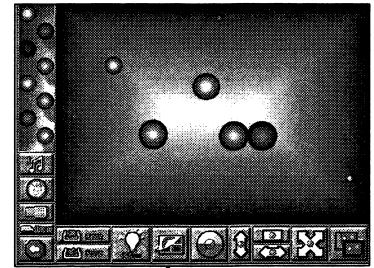
Fripple Guides
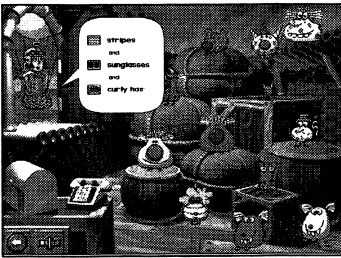
Feathered Friends
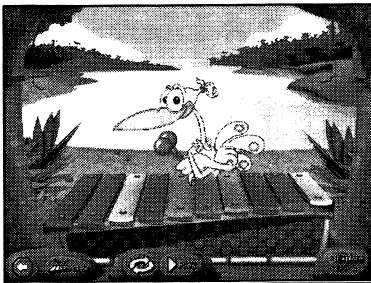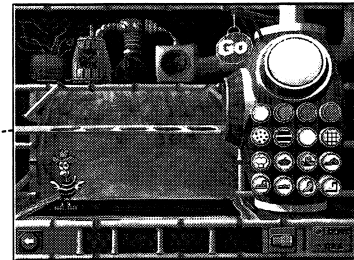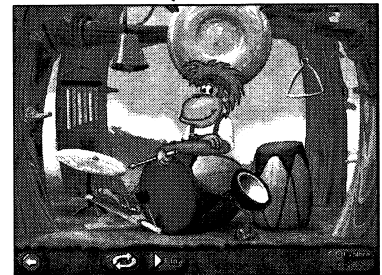
Exit the program.   *Switch users.*

Toony Loon

Oranga Banga

Click to create and explore or to hear questions.

Click two go back to the Main Menu of *Thinkin' Things Collection 1*.

Adult Options

To set the Adult Options, Windows users hold down the **Ctrl** and **Alt** keys while pressing the **A** key. Macintosh users hold down the **Command ⌘** and **Option** keys while pressing the **A** key.

Preferences

Click the "Preferences" tab.

Use system volume or move the slider to set the volume.

Allow children to save their BLOX designs.

Hide or show the "Record" button in BLOX-Flying Shapes.

Exit Thinkin' Things Collection 1.

Hide or show the Stop Sign on the Main Menu. When "Don't Allow Exit" is checked, users can still exit using Alt-F4 (Windows) or Command ⌘-Q (Macintosh).

See "Single Switch Input (Scanning)" below.

Return to Thinkin' Things Collection 1.

Single Switch Input (Scanning): Built-in scanning is available for single switch users. A scanning arrow will move from choice to choice on the screen. Turn "Single Switch Input" on and click [Options] to choose the Scan Rate (speed of scanning arrow movement) and the type of Scan Progression:

- Automatic Progression: Scanning restarts automatically after each selection.
- Switch-Activated Progression: Students initiate the arrow movement and make a selection by activating the single switch device.

Resolution Switching (Macintosh only):
Click "Set Resolution to 640X480" to allow *Thinkin' Things Collection 1* to automatically resize your monitor's display area while the program is running. (Your monitor will return to its usual setting when you exit the program.)

Activity Settings

Click the "Activity Settings" tab to adjust the Grow Slide settings and options. Adjustable Grow Slides allow you to monitor your students' progress or set an activity to focus on a particular topic. As your students successfully solve problems, the Slider automatically advances to more difficult problems.
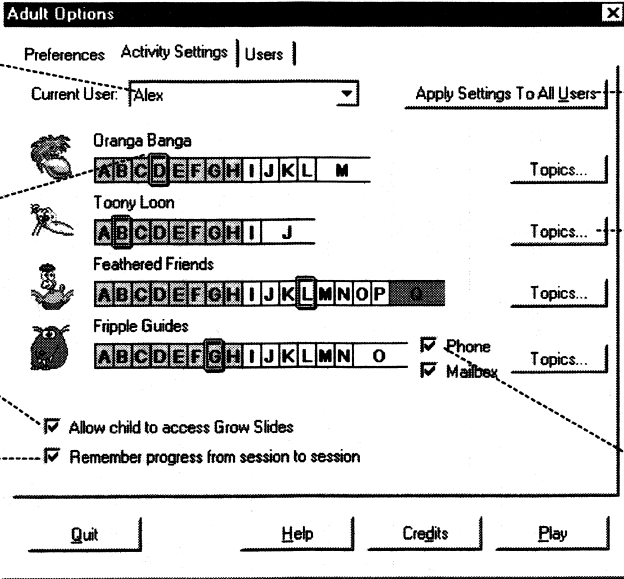
Grow Slide settings for this user. The drop-down menu bar lists all currently signed-in users.

Drag the Slider to adjust the difficulty level.
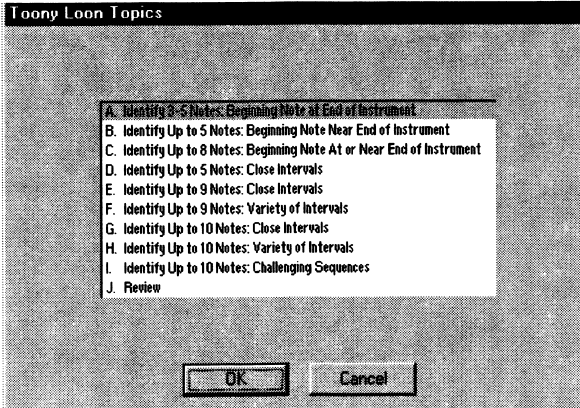
When checked, Grow Slide buttons appear in the activities.

When checked, play begins at the difficulty level attained during the previous session of play.

Adult Options

Preferences Activity Settings | Users |

Current User: Alex ▼   Apply Settings To All Users

Oranga Banga
A B C D E F G H I J K L M   Topics...

Toony Loon
A B C D E F G H I J   Topics...

Feathered Friends
A B C D E F G H I J K L M N O P Q   Topics...

Fripple Guides
A B C D E F G H I J K L M N O   ☑ Phone   Topics...
                                 ☑ Mailbox

☑ Allow child to access Grow Slides
☑ Remember progress from session to session

Quit   Help   Credits   Play

Click this button to change all users' settings to the currently displayed settings.

Turn the phone and mailbox options on and off in Fripple Guides.

Toony Loon Topics

A. Identify 3-5 Notes: Beginning Note at End of Instrument
B. Identify Up to 5 Notes: Beginning Note Near End of Instrument
C. Identify Up to 8 Notes: Beginning Note At or Near End of Instrument
D. Identify Up to 5 Notes: Close Intervals
E. Identify Up to 9 Notes: Close Intervals
F. Identify Up to 9 Notes: Variety of Intervals
G. Identify Up to 10 Notes: Close Intervals
H. Identify Up to 10 Notes: Variety of Intervals
I. Identify Up to 10 Notes: Challenging Sequences
J. Review

OK   Cancel

Click "Topics" to see a list of the topics for this activity. You can choose to target a specific critical-thinking topic by clicking it.

- Select "Remember progress from session to session" if you want *Thinkin' Things Collection 1* to save your students' progress in each activity when they exit the program. If this box is unchecked, *Thinkin' Things Collection 1* always begins at the currently displayed Grow Slide settings for this user. (To change the settings, you will need to open the Grow Slides and change them manually.)

- Select "Allow child access to Grow Slides" if you want students to be able to adjust the topic or the level of difficulty themselves. If this box is unchecked, the Grow Slide buttons do not appear within the activities.

Users

Click the "Users" tab.

- To remove a name from the User List, select the name and click **Remove**. (You cannot remove the current user or the "Guest" user.)

- To rename a user, select the name and click **Rename**.

- To add a name to the User List, click **Add** and type the name.

- If the "Allow New Users to Add Themselves" box is checked, students can add their names to the User List at the Main Menu. Uncheck this box if you do not want students to add their own names.

Scope and Sequence Chart

	Oranga Banga	Fripple Guides	BLOX-Flying Spheres	BLOX-Flying Shapes	Feathered Friends	Toony Loon
Develop auditory discrimination	X		X	X		X
Enhance visual and auditory memory	X					X
Create patterns	X		X	X	X	X
Remember and repeat patterns	X					X
Complete patterns	X				X	X
Recognize, compare, and contrast attributes		X			X	
Recognize relationships described by AND, OR, and NOT		X				
Develop skill in visual scanning		X			X	
Explore the illusion of depth			X			
Create and conduct experiments with motion, color, and shapes			X	X		
Create kinetic art, using shape, color, motion, and sound			X	X		
Increase creativity and musicality	X		X	X		X
Develop spatial awareness			X	X		
Discover similarities and differences in shapes				X		
Complete visual analogies					X	
Hypothesize and test a rule					X	

Thinking Skills Topics

A different Grow Slide in each Question & Answer Mode activity of *Thinkin' Things Collection 1* allows you to choose from dozens of thinking skills topics, shown below. (For details on setting the Grow Slides, see page 39.)

Feathered Friends

A. 1 Attribute Change in AB Pattern	J. 3 Attribute Changes, 1 Shared Attribute
B. 2 Attribute Changes in AB Pattern I	K. A→B : A→B Analogies
C. 2 Attribute Changes in AB Pattern II	L. A→B : C→D Analogies—2 Changes
D. 3-4 Attribute Changes in AB Pattern	M. A→B : C→D Analogies—3 Changes I
E. 1 Attribute Change in Set	N. A→B : C→D Analogies—3 Changes II
F. 2 Attribute Changes in Set	O. A→B : C→D Analogies—4 Changes I
G. 3-4 Attribute Changes in Set	P. A→B : C→D Analogies—4 Changes II
H. 1 Attribute Change, 3 Shared Attributes	Q. Review
I. 2 Attribute Changes, 2 Shared Attributes	
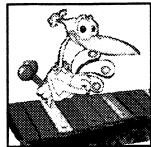
Toony Loon

A. Identify 3–5 Notes: Beginning Note at End of Instrument	F. Identify Up to 9 Notes: Variety of Intervals
B. Identify Up to 5 Notes: Beginning Note Near End of Instrument	G. Identify Up to 10 Notes: Close Intervals
	H. Identify Up to 10 notes: Variety of Intervals
C. Identify Up to 8 Notes: Beginning Note At or Near End of Instrument	I. Identify Up to 10 Notes: Challenging Sequences
D. Identify Up to 5 Notes: Close Intervals	J. Review
E. Identify Up to 9 Notes: Close Intervals	

Fripple Guides

A. 2–3 Unique Attributes with "and"

B. 2 Attributes with "and," 1 Shared Attribute

C. 3 Attributes with "and," 1 Shared Attribute

D. 2 Attributes with "not"

E. 2 Attributes with "not," 1 Shared Attribute

F. 3 Attributes with "and," 2 Shared

G. 3 Attributes with "and...not"

H. 3 Attributes with "and...not," 1 Shared

I. 2 Attributes with "or"

J. 2 Attributes with "or," 1–2 Shared

K. 4 Attributes with "and," 1 Shared

L. 4 Attributes with "and," 2–3 Shared

M. 3 Attributes with "and...not," 2 Shared

N. 3 Attributes with "and...not"— Challenge

O. Review

Oranga Banga

A. Identify 3-Note Pattern Played by 2 Instruments

B. Identify 3-Note Pattern Played by 3 Instruments

C. Identify 4-Note Pattern played by 2 Instruments

D. Identify 4-Note Pattern Played by 3 Instruments

E. Identify 4-Note Pattern Played by 4 Instruments

F Identify 5-Note pattern played by 2 Instruments

G. Identify 5-Note Pattern Played by 3 Instruments

H. Identify 5- or 6-Note Pattern Played by 4–6 Instruments

I. Identify 6-Note Pattern Played by 3 Instruments

J. Identify 7-Note Pattern Played by 3–4 Instruments

K. Identify 8- or 9-Note Pattern Played by 3–4 Instruments

L. Identify 10-Note Pattern Played by 3–4 Instruments

M. Review

Students with Special Needs

Thinkin' Things Collection 1 includes built-in features that make it an effective learning tool for a wide variety of students.

Access Options

Thinkin' Things Collection 1 offers several special access options, including direct selection and scanning.

Direct Selection with the TouchWindow

Thinkin' Things Collection 1 is fully compatible with the TouchWindow, a portable touch-sensitive screen that attaches to the computer monitor, allowing direct and natural touch input.

Scanning for Single Switch Users

Built-in scanning is available for single switch users in all activities on the Macintosh and all activities except BLOX-Flying Shapes and BLOX-Flying Spheres on PC (Windows) computers.

From Adult Options (see page 38), you can adjust the scanning speed and select automatic or switch-activated progression. When automatic progression is chosen, the selection arrow automatically advances from choice to choice on screen. When switch-activated progression is chosen, the student initiates the arrow movement and makes a selection by activating the single switch device.

You can use any of the following as a single switch device:

- **A specialized switch.**
- **The TouchWindow.** Remove the TouchWindow from the monitor, place it on a desktop or a lap, and touch any part of the screen to make a selection.
- **A mouse.** Click the mouse button to make a selection
- **Keyboard** (Windows users only). The Space Bar and the F1, F2, F3, F4 and F5 keys can be used as single switch devices. When the selection arrow points to the object or icon, pressing the Space Bar or one of the F1 through F5 keys selects the indicated object or icon.

Classroom Activities and Reproducibles

The following classroom activities, which are grouped according to the corresponding *Thinkin' Things Collection 1* activities, help reinforce thinking skills and learning opportunities found in the software. You can use the classroom activities as supporting materials in a variety of curricular areas (art, science, math, and language arts) and as stimulus for your own ideas. Reproducible activity sheets are also included. These can be used for student work or transparencies.

Many of the classroom activities work well as an introduction to the concepts practiced in the software. Others work well as follow-up experiences. Pick and choose specific classroom activities according to your students' needs as well as your computer equipment, facilities, resources, and schedule. While planning experiences for your students, you may also want to send home the *Together Time* activities found on pages 13, 17, 21, 26, 30, and 34. **Note:** Because some classroom activities require the use of small or sharp objects, close supervision is advised.

Computer Partner Play (pages 80–82) suggests activities students can play in pairs while using *Thinkin' Things Collection 1*. The partner play can be used to add variety to the computer experiences. Before students work together at the computer, however, give them opportunities for independent play to strengthen confidence and to build skills. As students explore the software throughout the school year, they will not only become increasingly competent and creative users, but also, more importantly, see their abilities and newly acquired skills develop and grow.
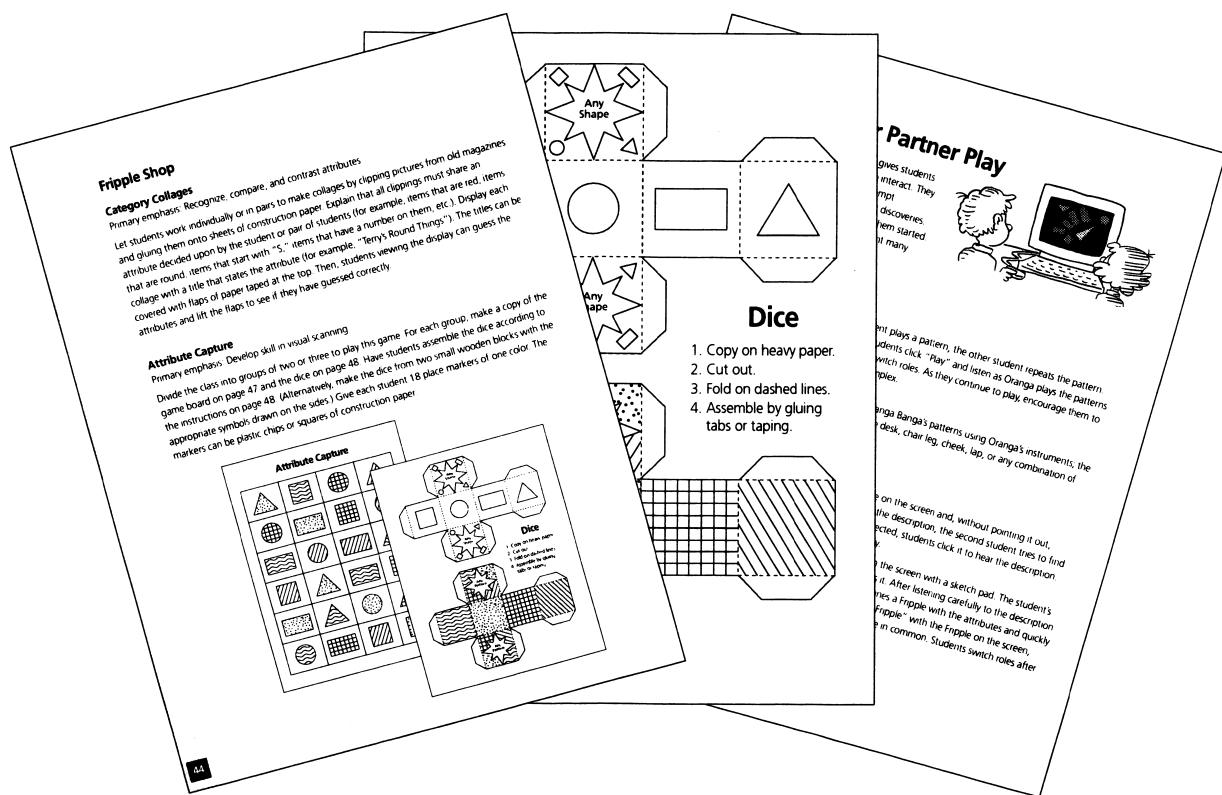
Oranga Banga

Shake It Up

Primary emphasis: Enhance visual and auditory memory

Make an assortment of shakers, using clean yogurt, cottage cheese, or film containers, two-piece plastic eggs, etc. The shakers should be made in pairs. Both shakers in the pair must sound alike (and be about the same size), but do not need to look alike. For example, a pair might consist of a lemon yogurt container and a strawberry yogurt container, each filled with three beans. Be sure that each pair of shakers has a sound that can be distinguished from all the other shakers. Below are some suggestions for the contents of different pairs of shakers:

paper clips	beans	marble
macaroni pieces	stones	rice
pennies	salt	checkers

Once the shakers are filled, tape them securely shut. Shakers can be used in many ways. The ideas below can be added to the ones you invent:

- Let small groups of students work with the shakers, shaking one and then trying to find the "audio twin." Later, the shakers can be set up at a station for students to continue experimenting on their own.

- Pairs of students can play a memory game by mixing up the shakers and then laying them on the floor or table. Players take turns shaking two of the shakers. If the sounds match, the player gets to "keep" the shakers. If not, the player returns them to their original location. Continue until all the shakers are paired.

- Shakers can be handed out randomly to the students. Play a rhythm pattern with one of the shakers and ask the students to repeat the same rhythm using their shakers. Let student volunteers take turns playing patterns for classmates to repeat. At the end of the activity, let students "mingle" as they play their shakers and try to find the classmates with matching shakers.

- Pair students to work together. Each pair of students uses four different shakers. One student uses the shakers to play a pattern. Then, the other student tries to repeat the pattern. At first, students can listen with their eyes open, later with their eyes closed.

What Do I Hear?

Primary emphasis: Develop auditory discrimination

Divide the class into groups of four or five students each. Have students close their eyes. One student in each group makes a sound or a series of sounds (for example, rubbing hands together or tapping a pattern on the chair leg). The other students in the group try to repeat the sound pattern. Then, another student takes a turn, making a sound pattern for the group to repeat. If a student manages to "stump" the group, that student can take another turn.

Memory Boards

Primary emphasis: Create, remember, and repeat patterns

Make a copy of page 50 for each student. Also, make a transparency from the same page. Students will need six place markers (cut up paper, checkers, small stones, etc.). Lay three markers anywhere on the grid on the overhead projector. Then, turn the projector on and have all students look at the markers on the grid for 10 seconds. Turn the projector off and ask students to duplicate the pattern on their grids. Turn the projector on again so students can check themselves. Then, ask a volunteer to come to the projector and lay out a pattern for classmates to copy. Continue the process with other volunteers.

As their ability to recall improves, students can try more challenging patterns on the memory boards. For example, use two or three markers for an easy game; use five or six markers for a harder game.

This game can also be played with partners. Paired students sit side by side. One student lays out a pattern on the grid. Then, the other student studies the pattern for ten seconds, covers it carefully to avoid shifting the markers, and duplicates the pattern on another grid.

Memory Board
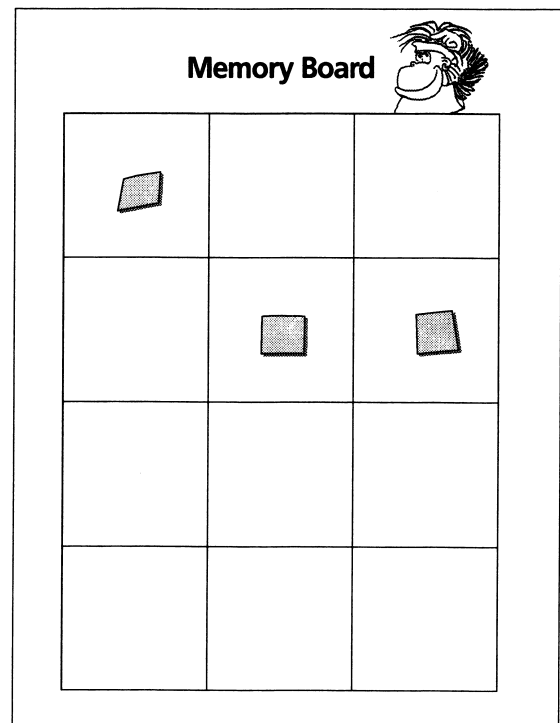
What Comes Next?

Primary emphasis: Create patterns

Make a copy of page 51. Cut the strips apart, and tape them onto the left end of a tabletop. Place a box containing rulers, crayons, paper clips, pencils, and rubber bands on the table. Using the objects from the box, students continue repeating the pattern shown on each of the strips. You can also ask students to use the objects to create their own tabletop patterns. Students can use this area as a learning station, working individually or in pairs.
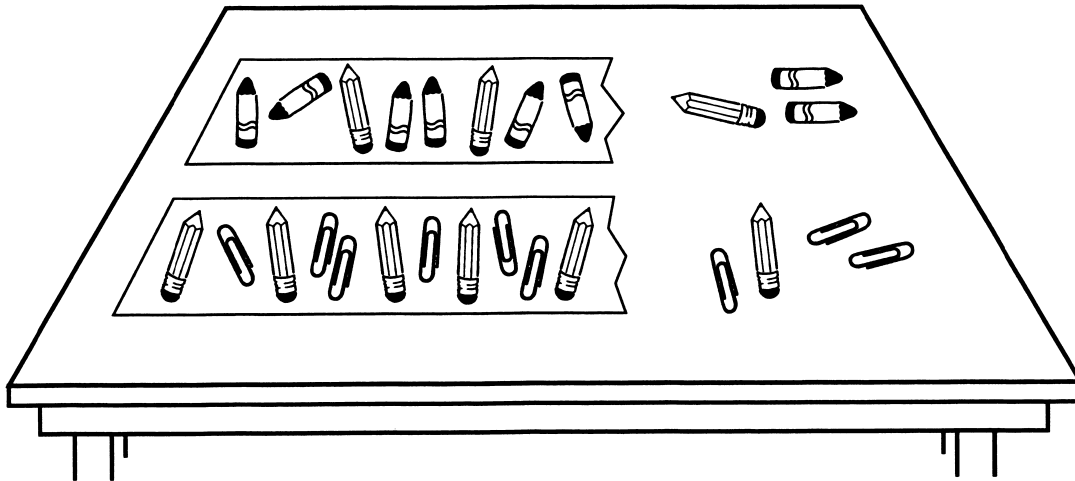
Draw a Tune

Primary emphasis: Create, repeat, and remember patterns

Cut four triangles and four circles from heavy construction paper. (It may be helpful for younger students if you cut the triangles from one color and the circles from a different color.) Place these shapes in a large paper bag.

Give each student either a drum or a triangle to play. (If instruments are not available, have students use their desks for drums and metal objects with pencils to simulate triangles.)

A volunteer draws five or six shapes out of the bag and lines them up where all students can see them (post with pins across a bulletin board or prop along the chalk rail). The volunteer then directs the class by pointing one by one to the shapes in order. Students with drums play when the director points to circles; students with triangles play when the director points to the paper triangles. Have the director continue pointing out the pattern three or four times, speeding up the tempo gradually. Then, put the shapes back in the bag. You might ask the director and the students to repeat the pattern from memory, if you think they are ready for this kind of challenge.
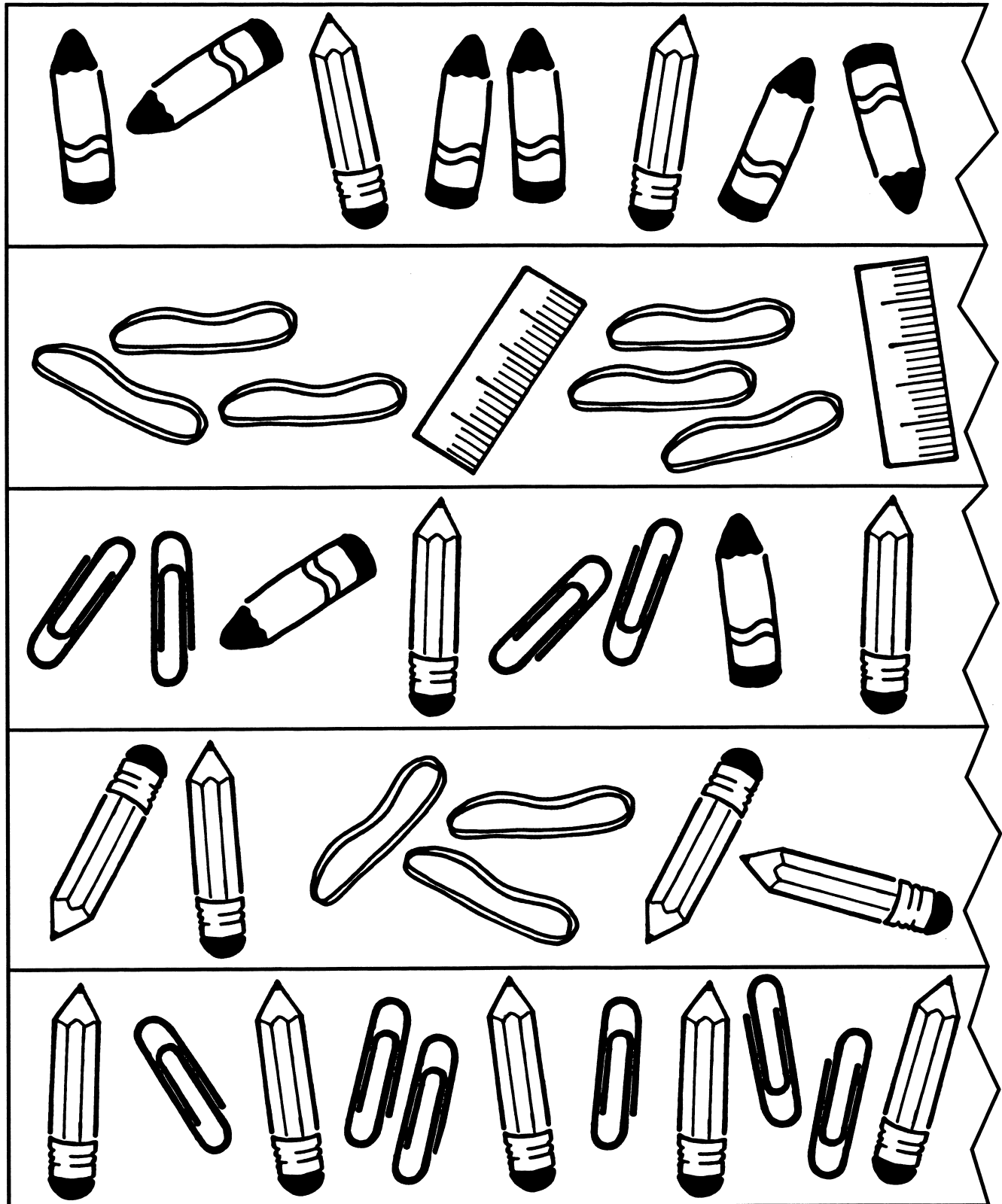
Computer Partner Play

For Oranga Banga partner play, see page 80.

Memory Board

Use with "Memory Boards" activity (page 48).

What Comes Next?

Cut strips apart. Tape at the left end of a table.

Fripple Guides

Category Collages

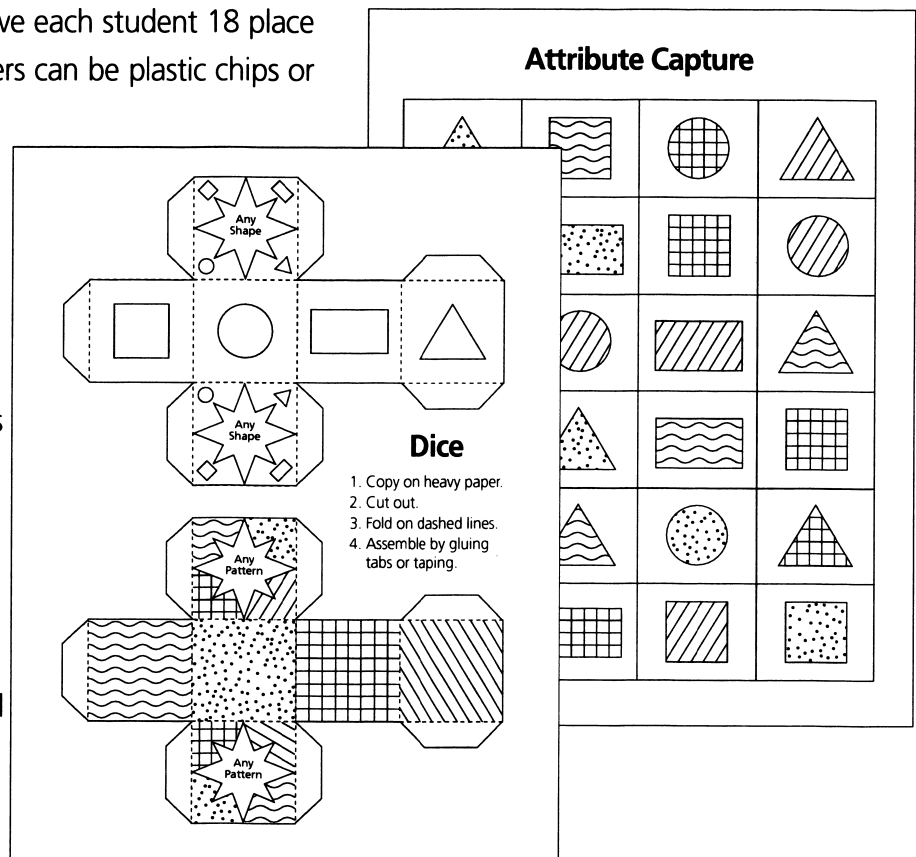Primary emphasis: Recognize, compare, and contrast attributes

Let students work individually or in pairs to make collages by clipping pictures from old magazines and gluing them onto sheets of construction paper. Explain that all clippings must share an attribute decided upon by the student or pair of students (for example, items that are red, items that are round, items that start with "S", items that have a number on them, etc.). Display each collage with a title that states the attribute (for example, "Terry's Round Things"). The titles can be covered with flaps of paper taped at the top. Then, students viewing the display can guess the attributes and lift the flaps to see if they have guessed correctly.

Attribute Capture

Primary emphasis: Develop skill in visual scanning

Divide the class into groups of two or three to play this game. For each group, make a copy of the game board on page 55 and the dice on page 56. Have students assemble the dice according to the instructions on page 56. (Alternatively, make dice from two small wooden blocks with the appropriate symbols drawn on the sides.) Give each student 18 place markers of one color. The markers can be plastic chips or squares of construction paper.

Players take turns rolling the dice. Rolling DOTS and TRIANGLE, for example, allows the player to capture a dotted triangle on the game board by covering it with a marker (unless all the dotted triangles have already been captured). Rolling STRIPES and ANY SHAPE allows the player to capture any one of the striped shapes on the game board. Students can play until all the shapes are captured, or they can set a time limit.


Attribute Capture

Dice

1. Copy on heavy paper.
2. Cut out.
3. Fold on dashed lines.
4. Assemble by gluing tabs or taping.

Fripples for Rent

Primary emphasis: Develop skill in observing details

Note: Students may need extra help and instruction in using permanent markers and balloons safely.

Using tagboard, make a copy of a foot pattern from page 57 for each student. (If your copier will not accommodate tagboard, you will need to glue the patterns to tagboard.) Let each student pick a set of feet to color and cut out, punching the hole as indicated. Blow up balloons (about six inches in diameter) and attach the feet. Help students use permanent markers to draw faces on the balloons. Make hair from short lengths of yarn and hats from lightweight paper. Tape them in place, making sure that the Fripple doesn't become off balance or too top heavy.
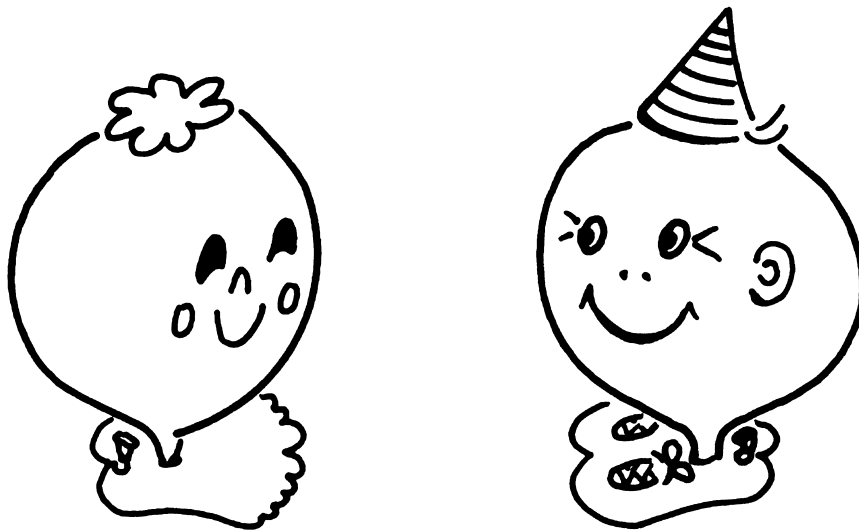
Then, have students set up a Fripple Guides Shop and take turns being shopkeepers and customers. A visitor looks at the Fripples and places a request (for example, "I'd like green with a big smile and a pointed hat."). The shopkeeper then finds the Fripple and gives it to the visitor. Students take their rented Fripples to their desks or set them at their feet until the activity is over. If desired, the Fripple Guides Shop can be left in place as a learning center where pairs of students can "play shop" throughout the day.

Group and Regroup

Primary emphasis: Recognize relationships described by AND, OR, and NOT (Boolean logic)

On the playground, in the gym, or other large area, ask students to gather in attribute groups according to whether or not they rode the bus to school. Give minimal help as the students group themselves as quickly as they can. Then, have a spokesperson for each group describe the group. For example, "We are the students who rode the bus to school." Have all students gather together again in the center of the area and divide according to other attributes (for example, students whose first name contains an "E" and students whose first name does not contain an "E").

Once the class understands the idea of grouping, add subgroupings:

- First, group according to whether or not students rode the bus today.
- Then, within each group, divide again based upon whether or not students are wearing belts.

Have a spokesperson state the subgroup's attributes. For example, the above groupings and subgroupings could result in the following four statements:

- "We rode the bus today AND we are wearing belts."
- "We rode the bus today AND we are NOT wearing belts."
- "We did NOT ride the bus today AND we are wearing belts."
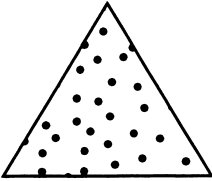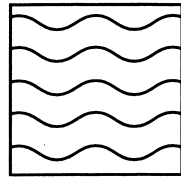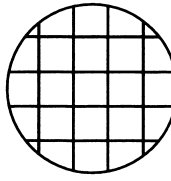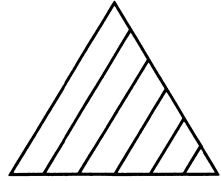- "We did NOT ride the bus today AND we are NOT wearing belts."
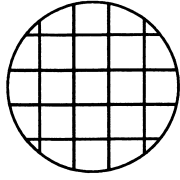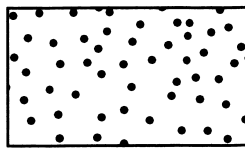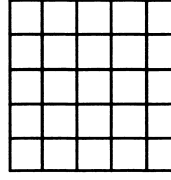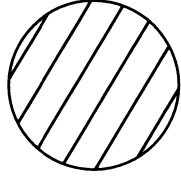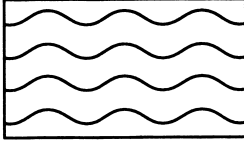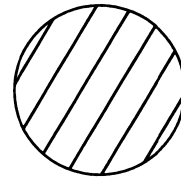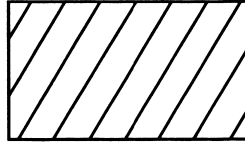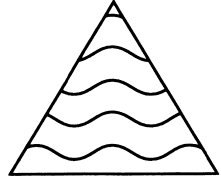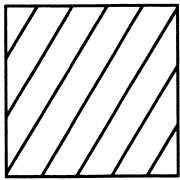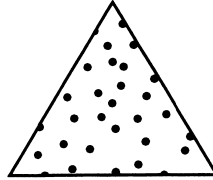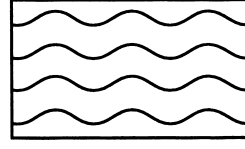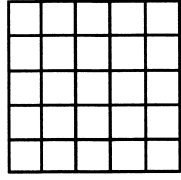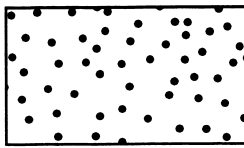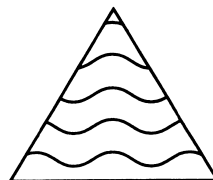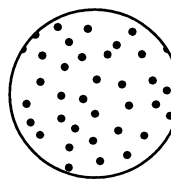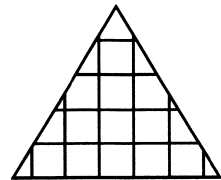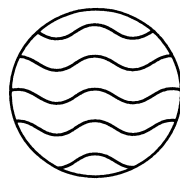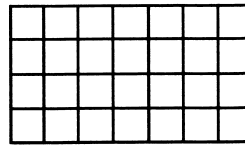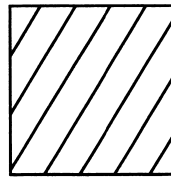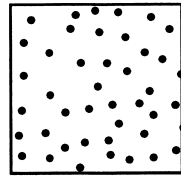
In selecting attributes, try to use common, well-defined attributes which help students group and subgroup easily. For example, students can group and subgroup according to whether they:

- prefer chocolate or vanilla ice cream
- prefer the color red or yellow
- like to swim or ride a bike
- have names that include the letter "O" (or not)
- looked at a book last night (or not)
- prefer spring or fall
- prefer sliding or swinging
- are wearing clothes with buttons (or not)
- prefer the zoo or the fair
- prefer dogs or cats as pets
- like reading better than math or math better than reading

Computer Partner Play

For Fripple Shop partner play, see page 80.

Attribute Capture

Any
Shape

Any
Shape

Dice

1. Copy on heavy paper.

2. Cut out.

3. Fold on dashed lines.

4. Assemble by gluing or taping tabs.

Any
Pattern

Any
Pattern
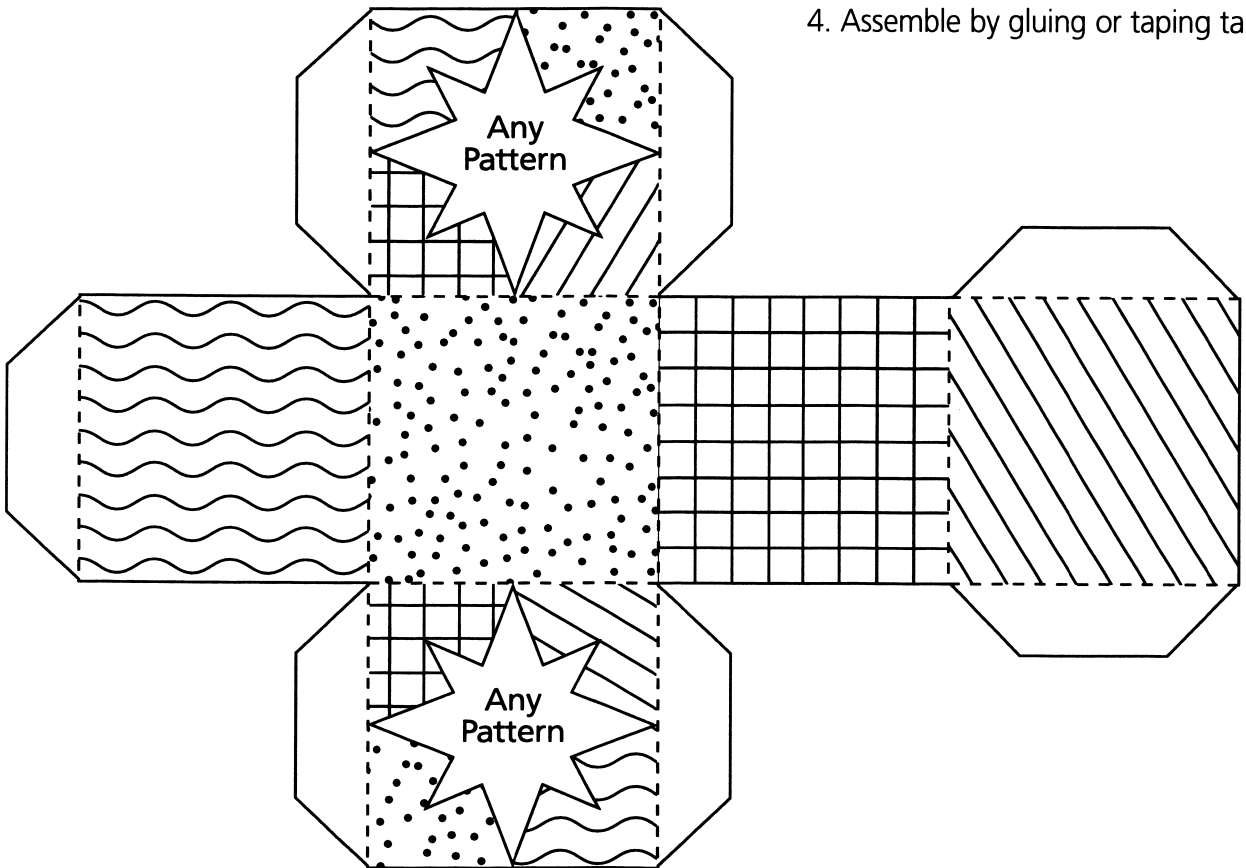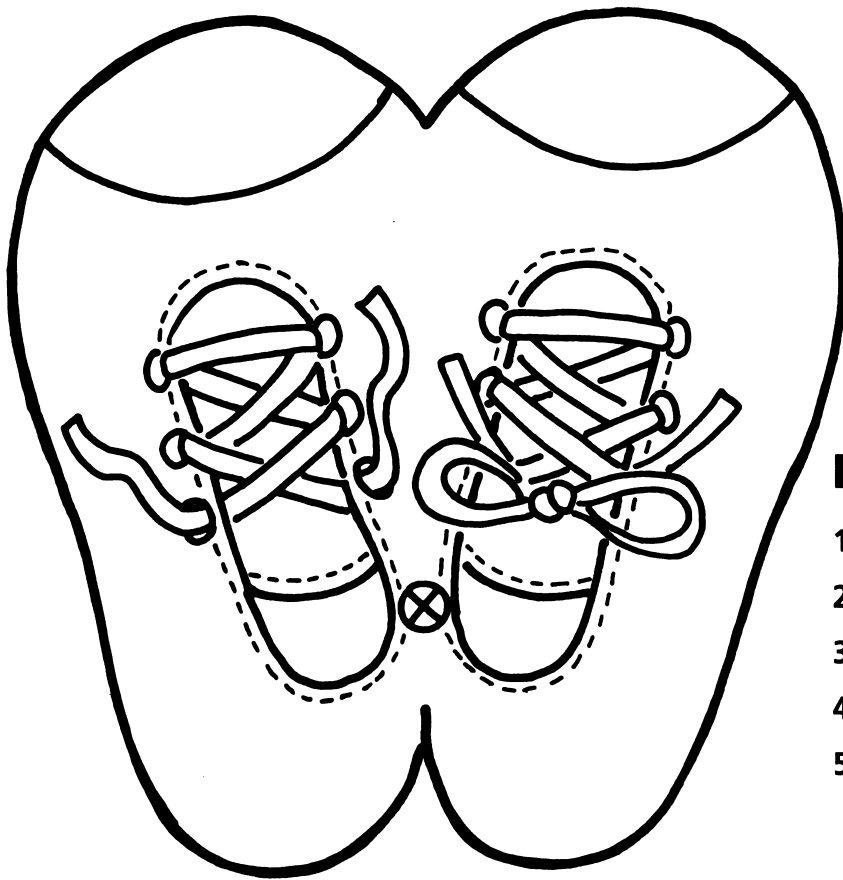
Fripple Feet

1. Copy on to tag board.

2. Color.

3. Cut out.

4. Punch hole.

5. Pull knot of balloon down through hole and hook up through slit (between heels).

Use with "Fripples For Rent" activity (page 53).
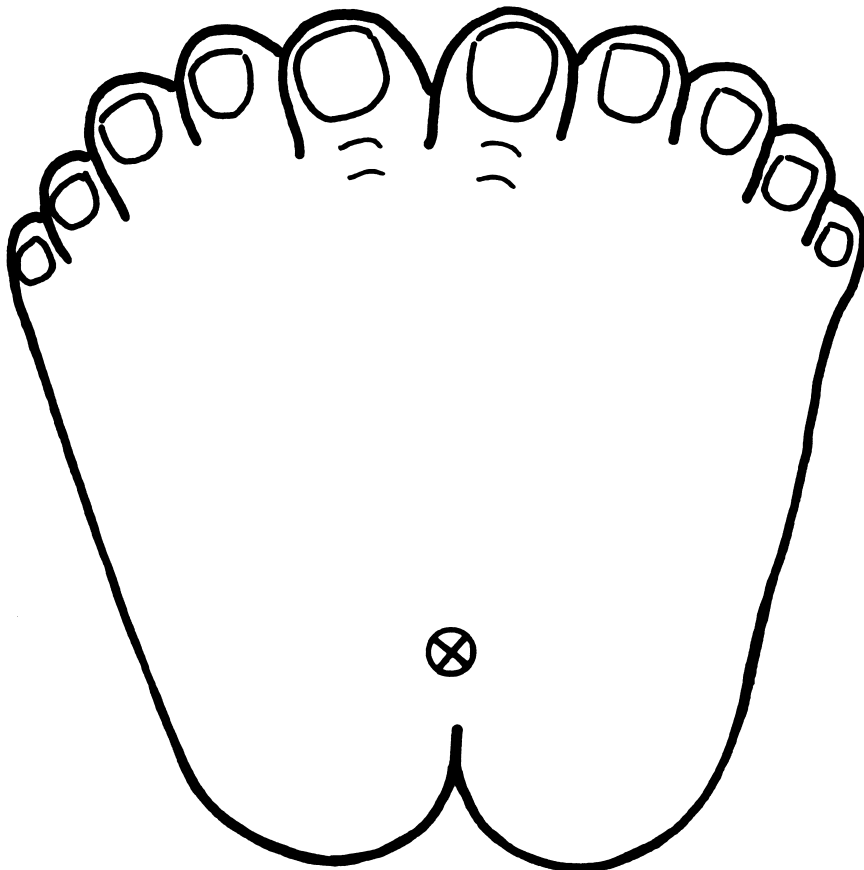
BLOX-Flying Spheres

Painting Marbles

Primary emphasis: Create and conduct experiments using color and motion

Divide the class into groups of two to four. Have each group lay a large piece of paper in a jelly roll pan or large box lid, securing it with removable tape. Let students experiment with placing marbles on various spots on the paper and flicking them softly or forcefully with their fingers, so the marbles roll in interesting patterns.

Then, give each group a container of water and two or three jar lids filled to a depth of about 1/4" with assorted colors of liquid tempera. Demonstrate how to dip a marble in the paint and flick it across the paper so a trail of paint is left. Rinse the marble and repeat with a different color. Encourage students to experiment with different quantities of paint on their marbles and with various rolling patterns and techniques as they make their designs. Finally, let each group repeat the activity with a piece of paper curved into a shoe box to form a trough.
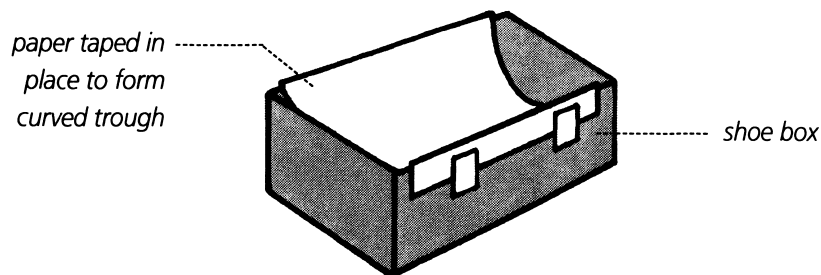

paper taped in place to form curved trough

shoe box

Bouncy Tunes

Primary emphasis: Choreograph moving balls to interpret music

Using familiar songs ("Row, Row, Row Your Boat", "Frère Jacques", "Mary Had a Little Lamb", "Three Blind Mice", etc.), let students create simple routines with balls to go with music. Begin by dividing the class into groups of four to six. You can either record a song for each group or let students sing their songs "live." Each group will need a ball measuring 6" or more in diameter. Have students in each group stand in a line or circle, face-to-face, or another arrangement as they design routines. They can use some of the following movements as well as their own original ideas for movements:

- Hold the ball with both hands. To the beat of the music, reach up with the ball, then down; reach to the left, then the right. (Pass the ball on until each student has a turn.)
- Practice BOUNCE, BOUNCE, BOUNCE, CATCH to the beat of the music.
- Send the ball down the line by bouncing it to the student on the right.
- Repeat, except roll the ball.

When the routines are "polished," let student groups perform for the class.

Twirl Art

Primary emphasis: Create kinetic art

For this activity, have each student bring a plastic lid from a margarine tub, yogurt container, cottage cheese container, or peanut can from home. Make a copy of the activity sheet on page 62 for each student. Have each student color one of the disks at the top of the page and cut it out. Center the disk on top of the plastic lid, and secure it with a small piece of tape. (The diameter of the disk and the diameter of the lid do not need to match.) Using a paper clip with one prong bent down, attach the plastic lid/paper disk to the eraser end of a pencil. Alternatively, use a push pin. The lid should be able to move freely.

Holding the pencil firmly in one hand, use the other hand to flick the disk so it spins around. Try spinning the disk at various speeds. Observe how the movement affects the designs on the disk and mixes the colors. Students can work individually or in pairs, using the remaining disks on their activity sheet to experiment with different colors and designs.
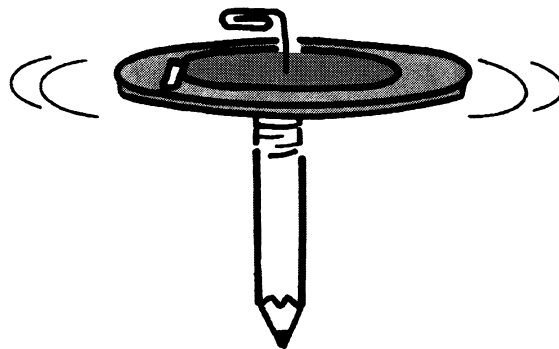
Bubbles, Bubbles!

Primary emphasis: Create and conduct experiments

Make a bubble solution from transparent liquid dishwashing detergent (not the lotion type), water, and glycerin (optional). Use at least 1/2 cup detergent per quart of water. For a higher quality solution, try one cup detergent, 1/4 cup glycerine, and a quart of water. Have students work individually or in pairs, making different blowers:

- straws
- paper towel tubes
- bottom of plastic berry basket
- funnels
- rim cut from plastic lid with a clip-on clothespin for a handle
- plastic bottle or paper cup with bottom cut off

remove end
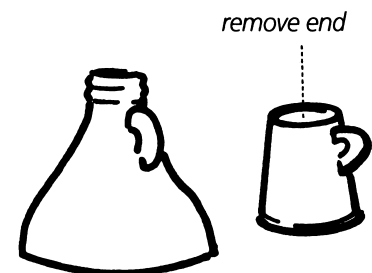
- tubes or straws taped together

- bent pipe cleaner

Suggest several of the following experiments and activities:

- Try various types of bubble blowers to find which are the most efficient, which make the biggest bubbles, which make multiple bubbles, etc.

- Try the impossible challenge: a square or triangular bubble. (Regardless of the blower's shape, the bubble will always be round.)

- Observe bubbles "getting smaller" as they go off into the distance.

- Pour a puddle of bubble solution on a stain-proof table. Using a straw, try to blow bubble domes, piggyback bubbles, bubble caterpillars, and bubble pyramids.

- In very cold weather, blow a bubble outside and watch as it crystallizes.

- On the playground, blow bubbles to music. If you take some pictures using slide film, you can produce a simple slide show set to music.

- Make three bubble solutions (for example: one part detergent to eight parts water; one part detergent to four parts water; one part detergent to two parts water). To test for the best bubble-blowing solution, blow a bubble dome in a puddle of solution. When the dome gets so big that it pops, measure the ring it leaves on the table. Which solution consistently leaves the largest rings?

Here and There Pictures

Primary emphasis: Explore the illusion of distance (depth)

Ask students to imagine themselves next to the school building, looking up at the top. Then, have them imagine looking at the same building but standing so far away that the building looks tiny like a dollhouse. Discuss the idea that all things appear smaller if they are in the distance.

Give each student two small pieces of drawing paper (about 5" x 7") and crayons. Explain that they will be making "here and there drawings." That is, they will draw the same object, but it will be large in the first picture (here) and small in the second (there). Suggest some simple objects, such as kites, snowmen, houses, birds, and boats. Mount the finished drawings side by side on a 9" x 12" sheet of colored construction paper with "Here" and "There" labels.

Here   **There**
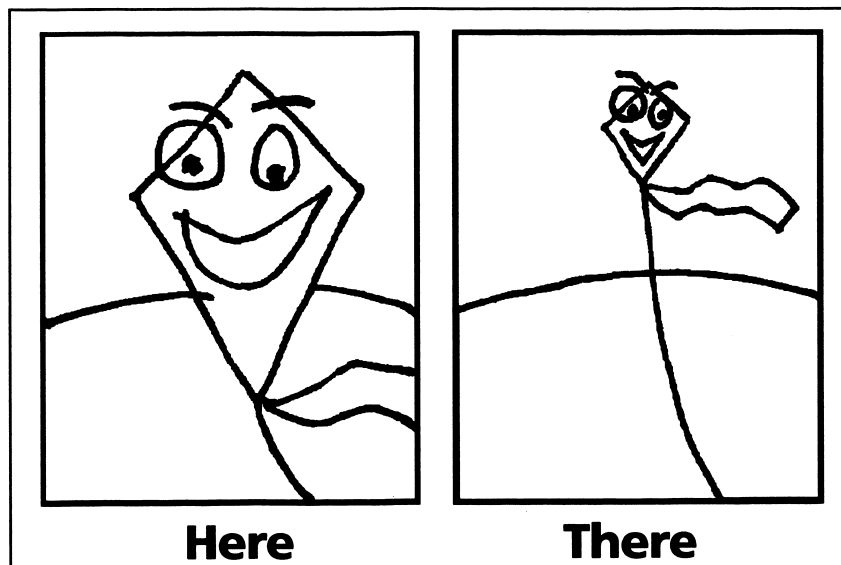
Computer Partner Play
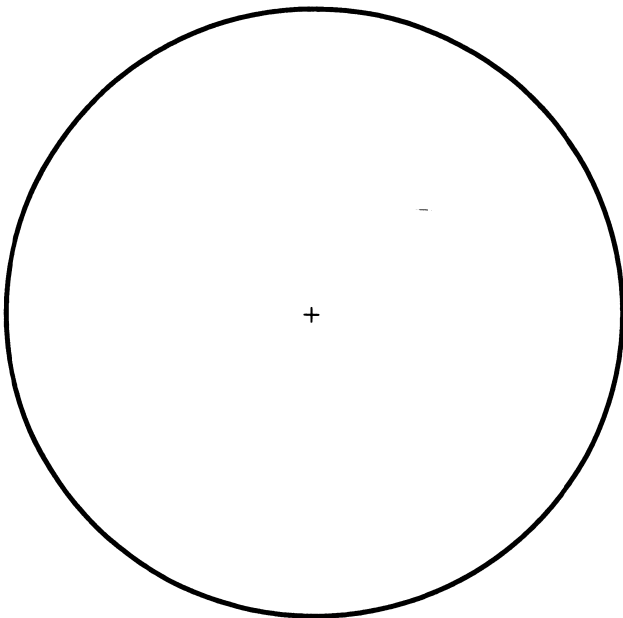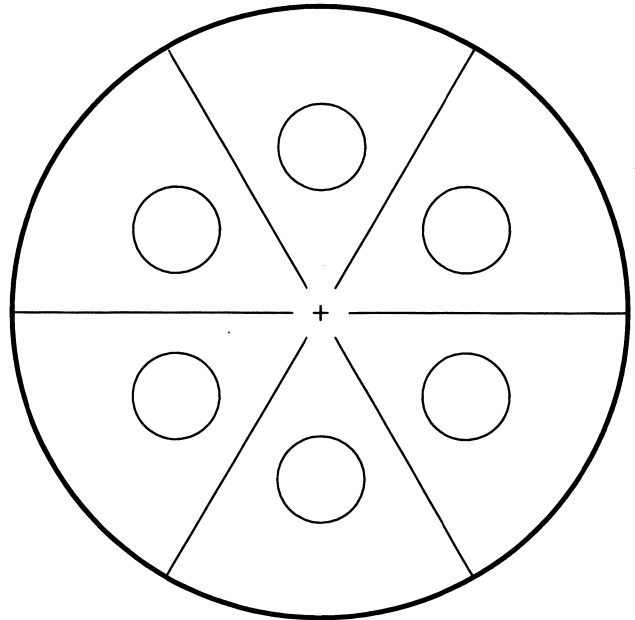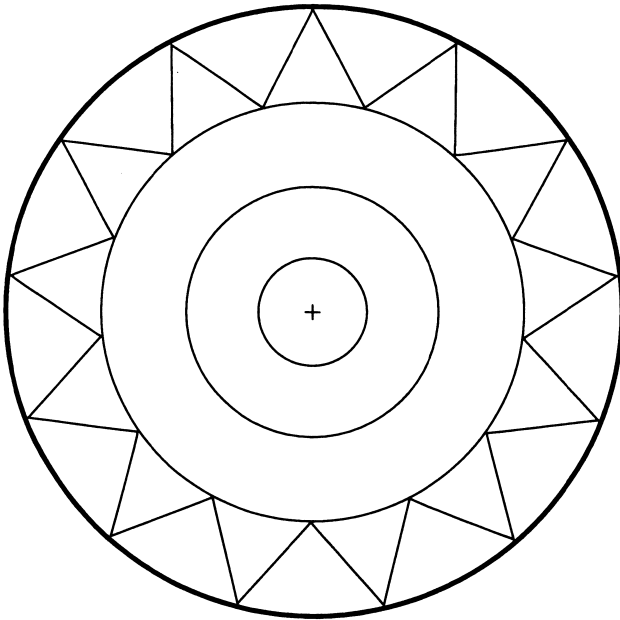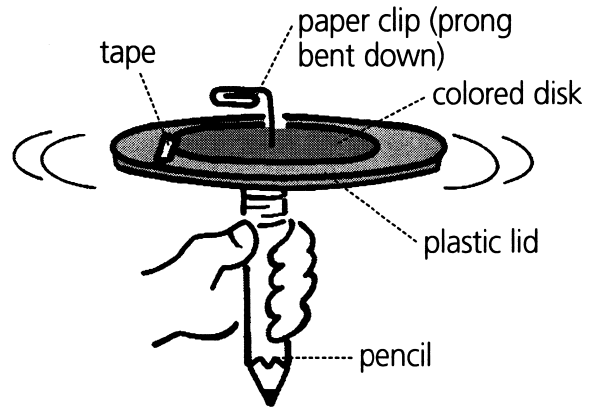
For BLOX-Flying Spheres partner play, see page 81.

Twirl Art

1. Color a disk.
2. Cut out.
3. Bend paper clip, assemble, and spin.

tape

paper clip (prong bent down)

colored disk

plastic lid

pencil

Use with "Twirl Art" activity (page 59).
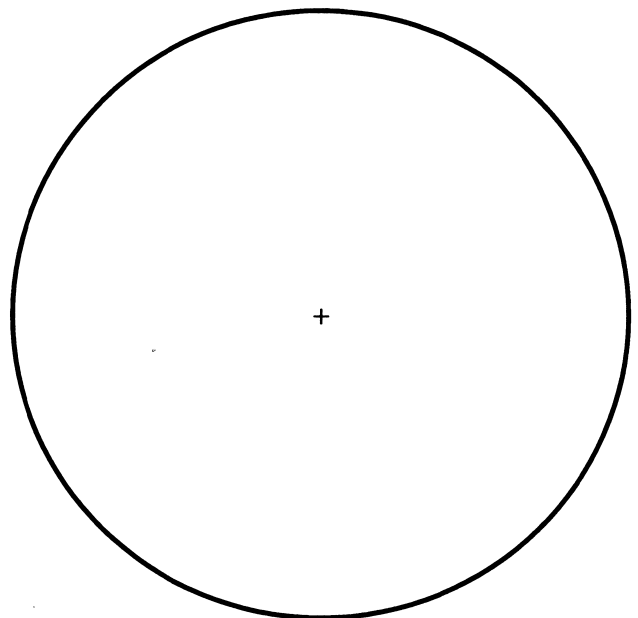
BLOX - Flying Shapes

This Way and That

Primary emphasis: Observe and compare shapes in various positions

Give students 3" x 5" index cards (or pieces of tagboard). Have each student draw the outline of a simple shape such as a triangle, hand, tulip, or leaf. Next, have students cut out the shapes and discard the scraps. Instruct students to place the cutout shapes on their desks and lay typing paper or other thin paper on top. Explain how to use the side of an old crayon to color evenly back and forth over the shape to produce a crayon rubbing of the shape. Have students add more crayon rubbings to their compositions by rotating their shapes or repositioning their paper. Allow time for students to experiment with a variety of colors and arrangements. Display the finished compositions.

One of a Kind

Primary emphasis: Discover similarities and differences

Make copies of the activity sheet on page 66 for your students. (**Note:** This activity sheet uses objects that have been rotated. You may want to do the first problem as a class.) As you look at the activity sheet with the students explain that, at first glance, all four objects in a row may look the same. However, only one object is different. The other three objects are the same, but they have been rotated into different positions. Students should find the object that doesn't belong and circle it.

Give students time to work individually on these "brainteasers." Then, discuss as a group, allowing students to complete any they were not able to solve on their own.

One of a Kind

Circle the one that doesn't belong.

Multicolor Magic

Primary emphasis: Create aesthetically pleasing designs using shape, color, and motion

Use rubber bands to hold crayons together in clumps of three, four, or five assorted colors. Instruct students to hold the crayons so that all of the crayon tips in the clump contact the paper at once. On large sheets of drawing paper or newsprint, have students experiment with drawing swirly lines, observing the interesting patterns produced as their hands move across their papers. Students may also enjoy drawing geometric shapes, writing words, drawing pictures, and creating abstract designs.

Design Time

Primary emphasis: Discover similarities and differences in shapes

Make copies of the activity sheet on page 67 for your students. Explain that the pattern on the page was originally drawn using formulas and instruments, such as a protractor, compass, and ruler. If students are not familiar with these instruments, they may enjoy watching you demonstrate, for example, how to use a protractor and ruler to draw a square corner.

Design Time

Encourage students to find patterns and color them however they choose. You may want to explain to students that there are several different ways they can color page 67. Three options follow:

- Look for hidden objects within the design. For example, color adjoining shapes to form snakes or jeweled pendants. (See illustration.)

- Create a color pattern. For example, color all hexagons red, all diamonds to the right of the hexagons green, all diamonds to the left of the hexagons yellow, and so on.

- Combine smaller shapes to form larger or different shapes. For example, color a diamond the same color as the two adjoining small triangles to make a large triangle. (See illustration.)
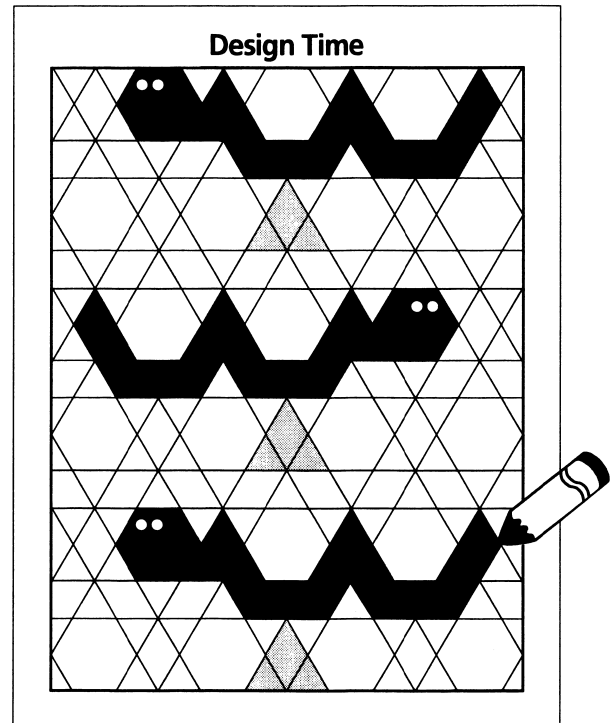
Continue by explaining that although each student is starting with exactly the same pattern, the designs will look different once they are completed.

When the designs are complete, display them together and talk about their uniqueness. Do some look bright and others dark? Do some look as though the hexagon is the center of the design while others look as though a diamond is the center? Do some look like identifiable objects while others appear to be made up of patterns?

Domino Dynamics

Primary emphasis: Build investigative skills by creating and conducting experiments

Collect and borrow as many dominoes as possible. In order to return dominoes to the correct owners, you may want to attach small squares of masking tape to the dominoes and write the owners' initials on the tape. If students help cut and attach the tape, this job goes quickly.

Clear a large area on a smooth floor, and divide the class into groups of about four. Give each group about ten dominoes. Let the groups experiment for a few minutes by setting up short lines of dominoes; then knocking down the first domino and watching the chain reaction. Have students try straight and curved lines as well as "Y" formations (in which the dominoes in the leg of the "Y" start simultaneous chain reactions in both arms of the "Y").

Next, explain that the class will be making one large domino construction—each group contributing one segment. Determine where each group's work will begin and end, allowing about eight inches from the beginning spot to the ending spot (or less, if you don't have many dominoes). Let students in each group decide what their segment will look like.

If students are very careful, a number of groups can work at once. To avoid accidentally knocking down multiple segments, leave a little space between the groups' segments. When all groups are done, carefully fill in each space with two or three dominoes. Then, start the chain reaction and enjoy watching your work of art!

If students want to continue creating with dominoes, suggest that they try the following ideas, or some of their own:

- Use rulers as ramps, so the dominoes can go uphill and downhill.
- Let the domino at the top of a ramp fall on a domino on the floor, continuing the chain reaction.
- Suspend a domino at the top of a ramp from a string. When it is pushed by another domino, it will swing like a pendulum and hit another domino.
- Arrange for the last domino to strike a bell when it falls.
- Let a domino slide down a tagboard ramp and hit another domino at the bottom to start a chain reaction.
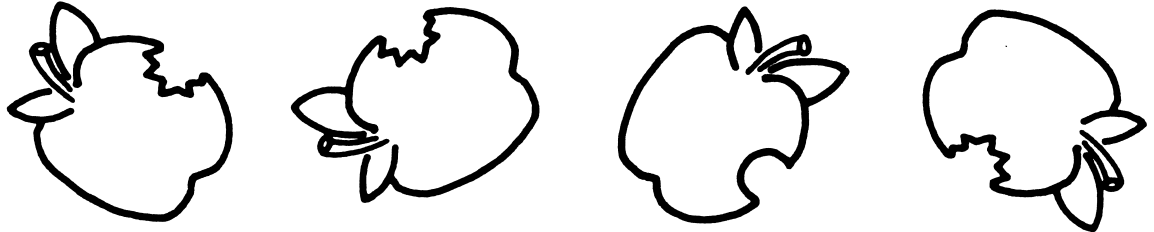
Computer Partner Play

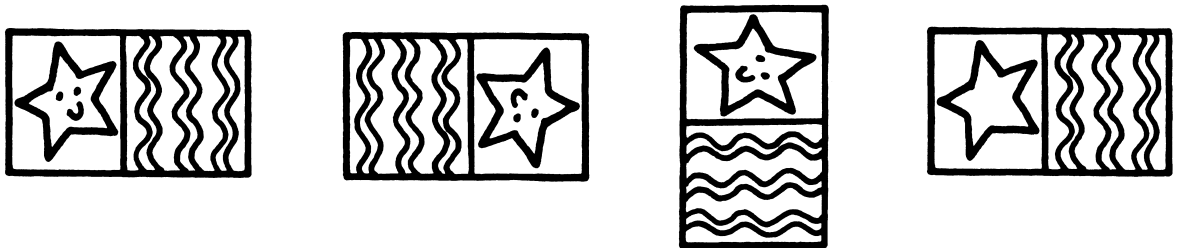For BLOX-Flying Shapes partner play, see page 81.
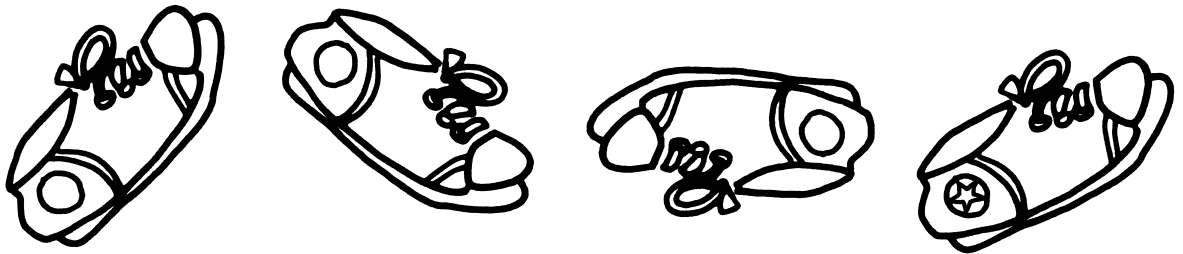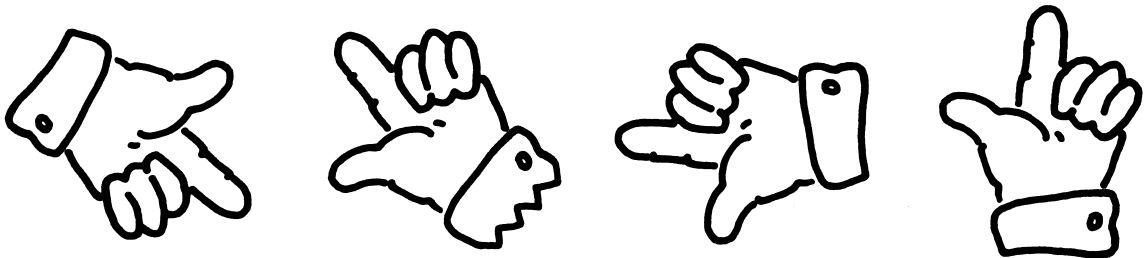
One of a Kind

Circle the one that doesn't belong.

1.

2.

3.

4.

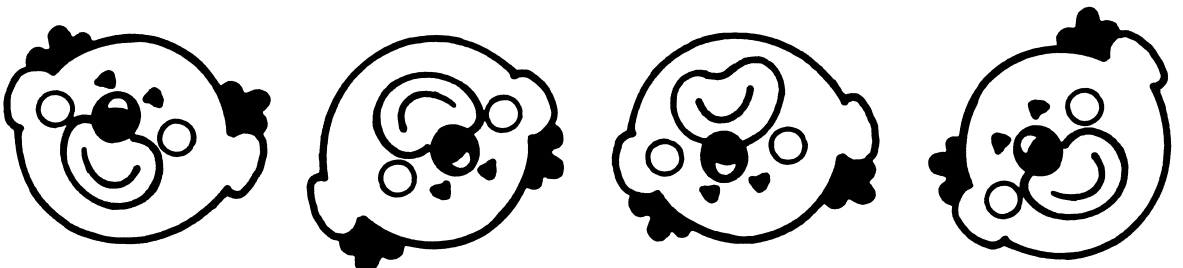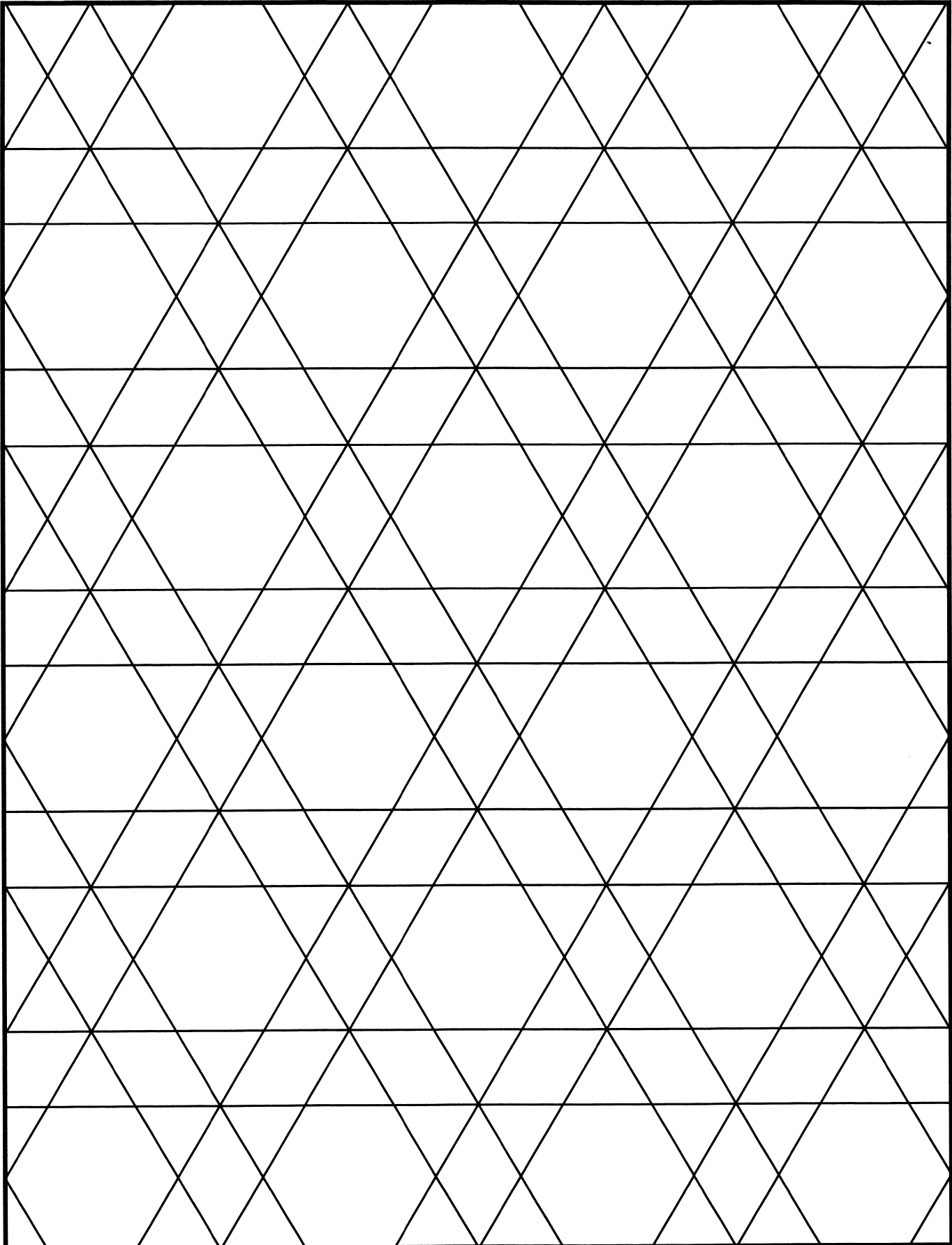**5.**

Use with "One of a Kind" activity (page 63).

Design Time

Feathered Friends

Patterns Poster

Primary emphasis: Recognize and compare attributes

Make a copy of page 72 for each student. Ask the students if all of the circles are exactly alike. Explain that several of the circles have matching circles somewhere on the sheet. Ask students to look carefully at the first circle and then try to find the one that is exactly like it. Once they have located a match, have them color the two circles exactly alike. Ask them why the last circle wasn't a match. (It has a dot in the middle, etc.) Let students continue to work on their own, finding and then coloring matching circles. Some circles will not have a matching circle.

Patterns Poster

Color the matching pairs alike.
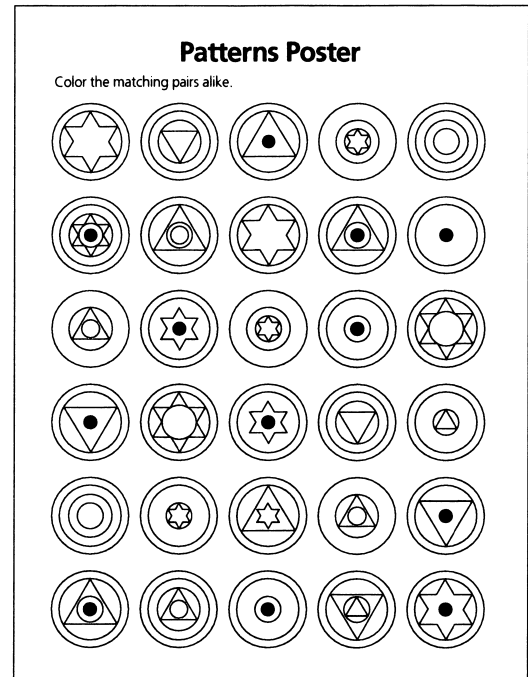
Stencil Decor

Primary emphasis: Complete patterns

As an introduction to stenciling, you might want to share something about its history. For example, in the late 1800's, stencilers went from house to house offering to decorate the walls with their stencils. They usually charged a small fee, in addition to receiving room and board while they worked. Sometimes they would stencil an attic wall with several sample patterns from which the homeowners could choose. They would usually stencil walls, but also did furniture, mirror frames, and curtains.

Using an art knife or a single-edged razor blade, cut stencils for your students from old file folders or tagboard. Older students may wish to cut their own stencils. Have them poke a hole in the middle of their stencil paper and use scissors to cut out the design. Some stencil design ideas are provided below:
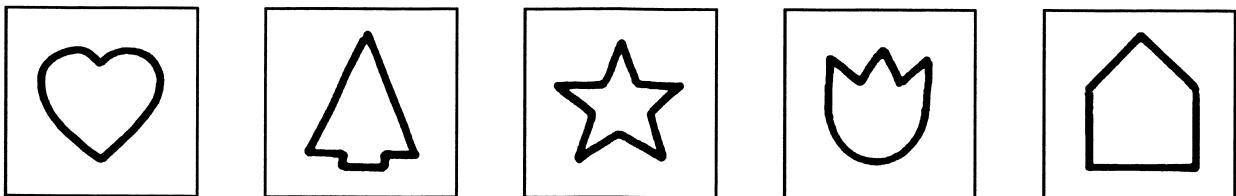
Pour a little paint into pie tins or sturdy paper plates. Students can dip sponges into the paint and "dab" through the precut stencils to create patterns on long strips of paper (for example, adding machine paper). By using more than one stencil, they can create repeating patterns (for example, heart, heart, star; heart, heart, star). These stenciled strips of paper can be taped to the front and sides of their desks or used as borders for bulletin boards.

Waste Not a Scrap

Primary emphasis: Use parts to create a whole

Provide each student with a 9" x 6" piece of colored construction paper, safety scissors, and glue or paste. Have students fold the paper in half horizontally and cut out a simple shape inward from the folded edge (step 1). Then, cut the paper and the shapes in halves along the folds (step 2). Each student now has two "half-scraps" and two "half-shapes". Next, give each student a 9" x 12" sheet of contrasting color construction paper. Have students arrange the shapes and scraps in patterns as illustrated below and glue them into place (step 3). Display these around the classroom and discuss the variety of shapes and patterns.
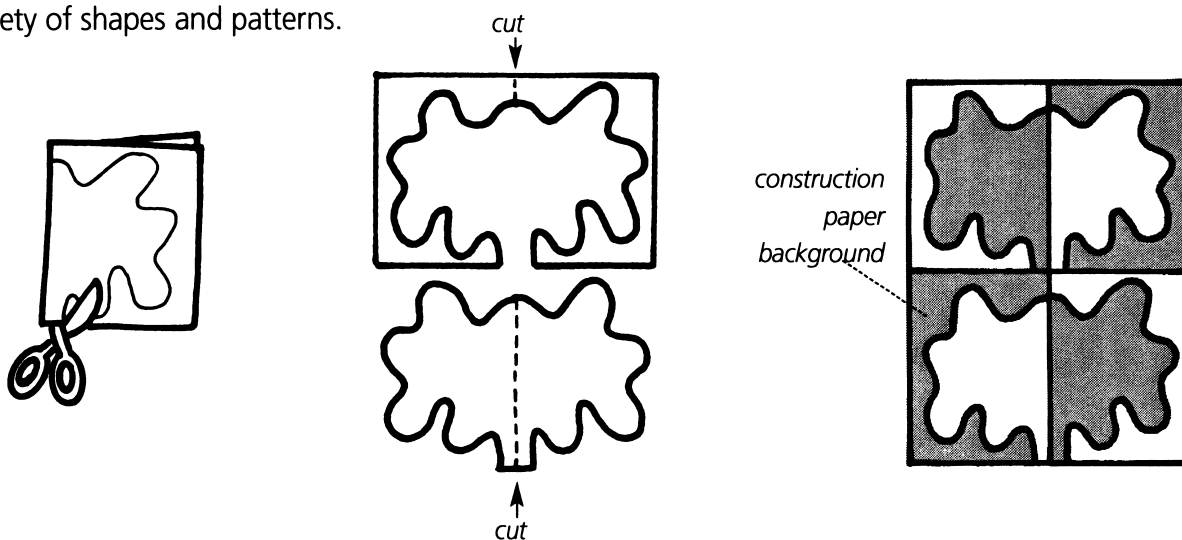
1. Fold and cut. Open pieces flat.

2. Cut along fold.

3. Arrange on contrasting background.

For the Birds

Primary emphasis: Recognize, compare, and combine attributes

On a table, display an assortment of bird food—popped corn, donut-shaped cereal, raisins, cranberries, waffle-type cereal, ball-shaped cereal. Hold up the foods one at a time and ask students to describe them. For example, "This is round and crumbly, has a hole in the middle, and is light brown." Then, sort the food according to a simple rule, for example, round and not round. Ask the class what rule you used to sort. Mix up the food, sort according to a new rule, and see if students can guess the new rule.

Divide the students into small groups or pairs. Provide them with an assortment of the same bird foods. Let them practice sorting according to rules they make up. Some suggestions for rules include the following:

grains/fruits   cereals/non cereals

regular/irregular shaped   firm/soft

round/not round   red/not red

smooth/bumpy

Finally, ask students to arrange a repeating pattern of these items and then string them for the birds, using a darning needle and string.

We Are Related

Primary emphasis: Complete visual analogies

Make a copy of page 73 for each student. Complete the first visual analogy as a class. Begin by finding the attribute that is different between the first and second characters. (The first character has its mouth open; the second has its mouth closed.) Then, discuss what kind of face the students should draw to make the two pictures on the right relate in the same way as the two pictures on the left. Students can then complete the rest of the sheet on their own. If you want students to continue verbalizing the reasons for their choices, they can work in pairs discussing the attributes and completing the analogies.

Activity Sheet (page 73)   Answer Key

Something is Missing

Primary emphasis: Recognize changes in attributes that create a pattern

Make a copy of page 74 for each student. If necessary, do the first example together. Students will first need to determine the pattern (moon, star; moon, star), then draw in missing attributes to complete the row of objects. Students may enjoy coloring the pictures after they have completed the activity sheets. This sheet may also be made into a transparency to guide a discussion of attributes and patterns with the class as a whole.
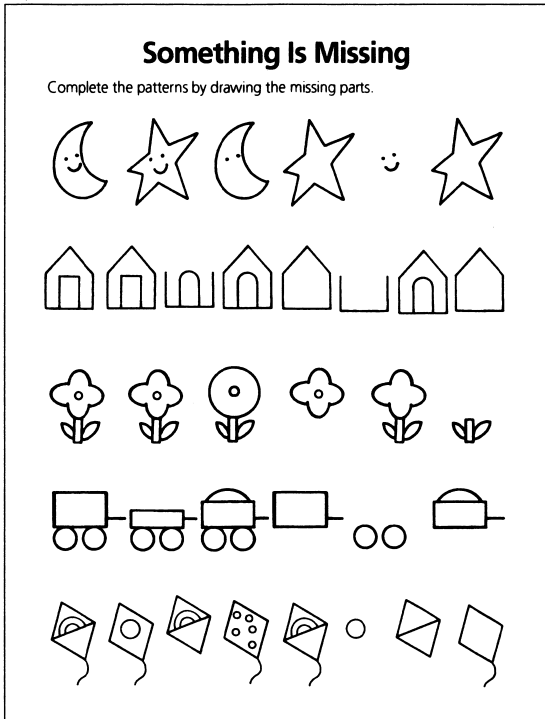
Activity Sheet (page 74)
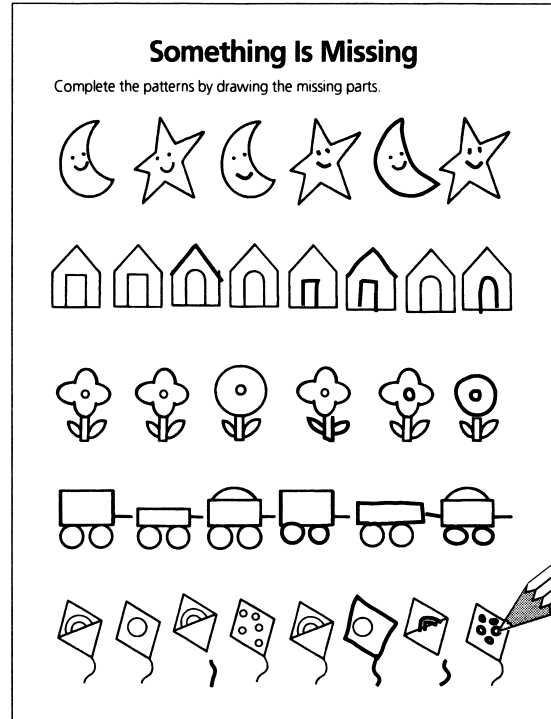
Answer Key

Computer Partner Play

For Feathered Friends partner play, see page 81.

Patterns Poster

Color the matching pairs alike.

Use with "Patterns Poster" activity (page 68).
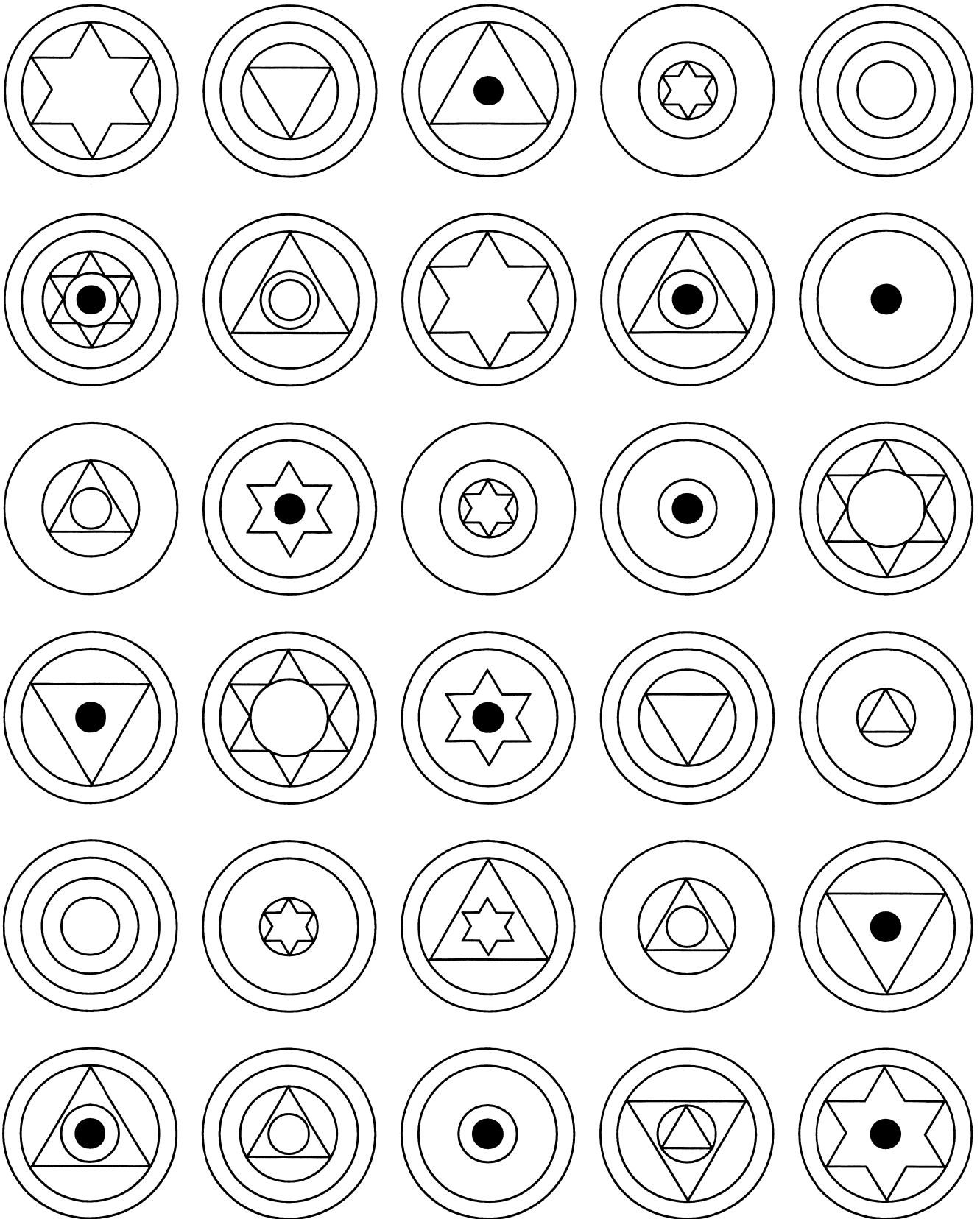
We Are Related

Draw what belongs in the empty spaces.
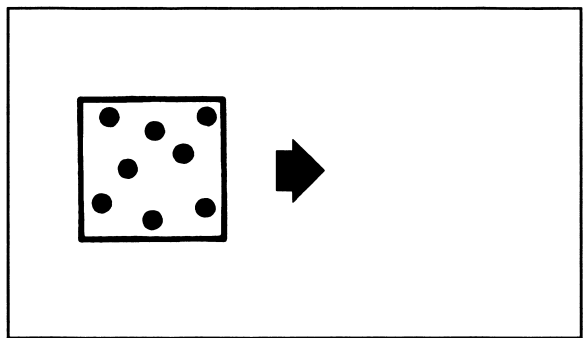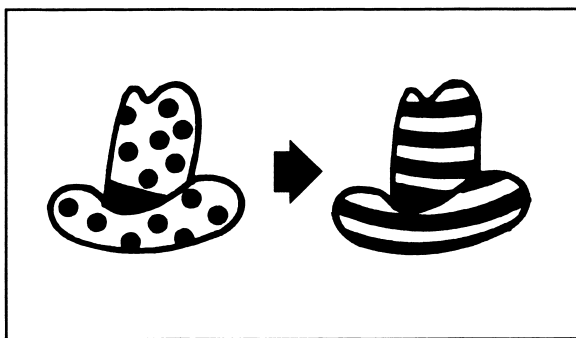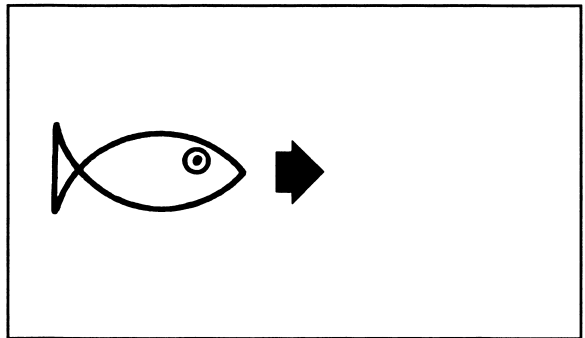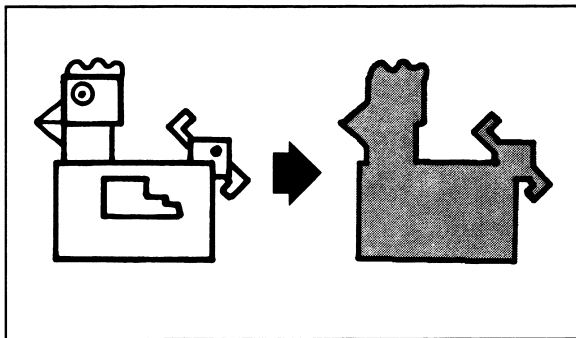
Something Is Missing

Complete the patterns by drawing the missing parts.

Use with "Something is Missing" activity (page 71).   ©Copyright 1995–99, Riverdeep Interactive Learning Limited.
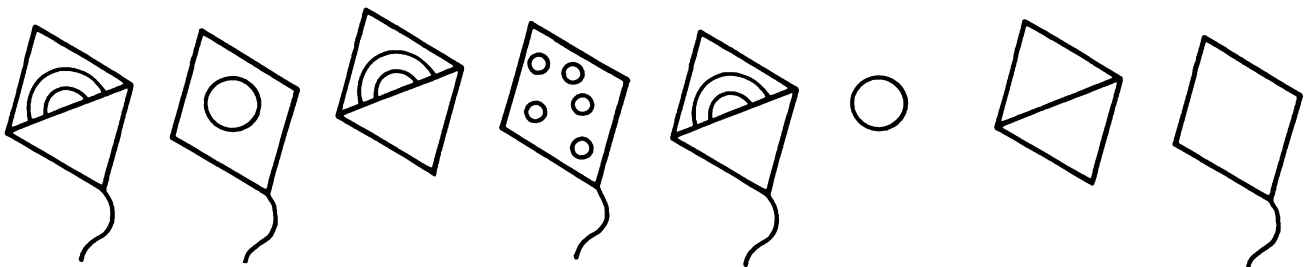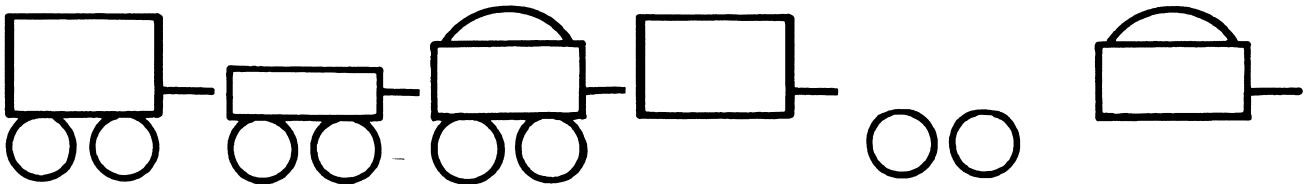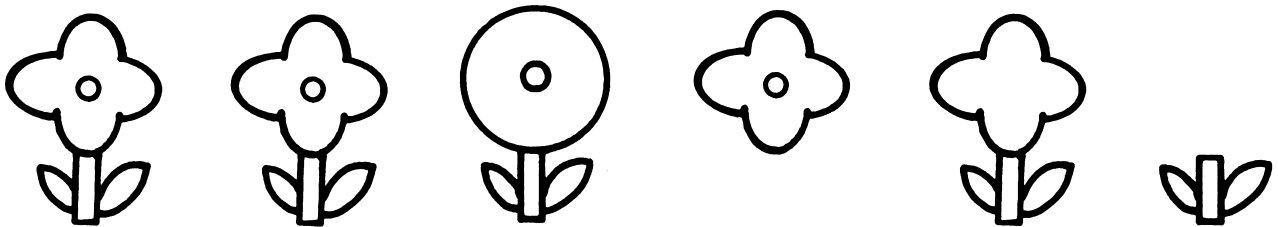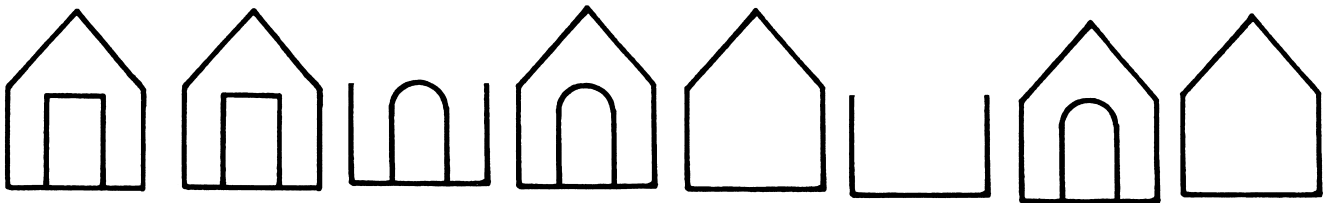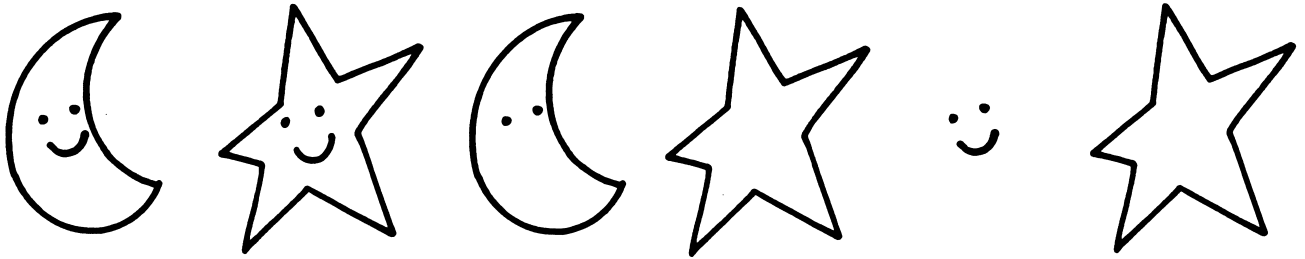
Toony Loon

Strum a Book

Primary emphasis: Create, remember, and repeat patterns

For this activity, each student will need a hardcover book, two pencils, and three similar-sized rubber bands. To make book guitars, ask students to stretch the three rubber bands over the book. (You may want the students to experiment with different sizes and thicknesses of rubber bands. The best results can be achieved by tightly stretching thick rubber bands.) Then, students slip pencils between the book cover and the rubber bands, as illustrated below.
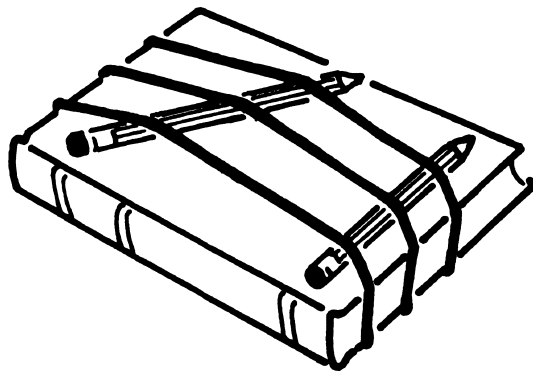
Give students time to experiment with their book guitars—strumming patterns with their fingertips. Next, pair students to work together. While one student plays a pattern on the book guitar, have the other student try to repeat the pattern (using the same guitar). Have students switch roles periodically and use the other student's guitar.

Peter and the Wolf

Primary emphasis: Develop auditory discrimination of pitch
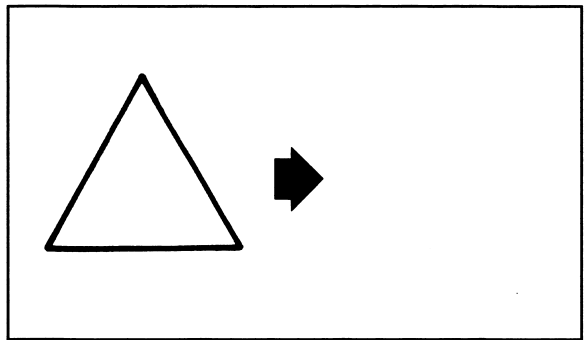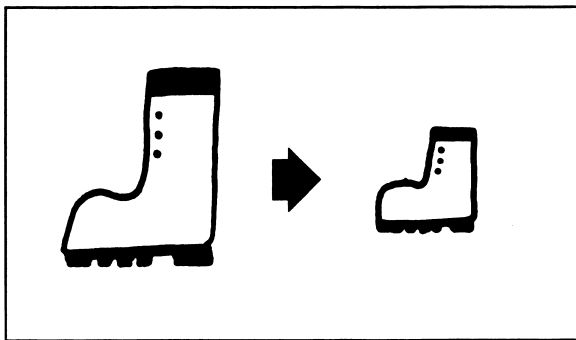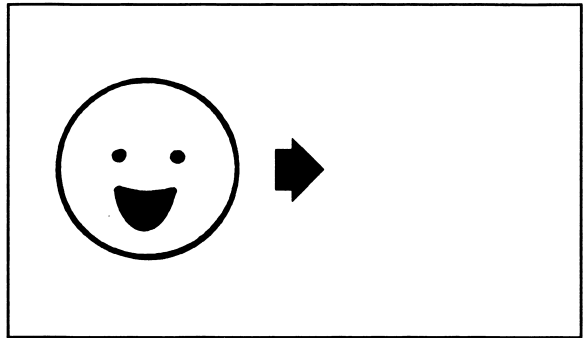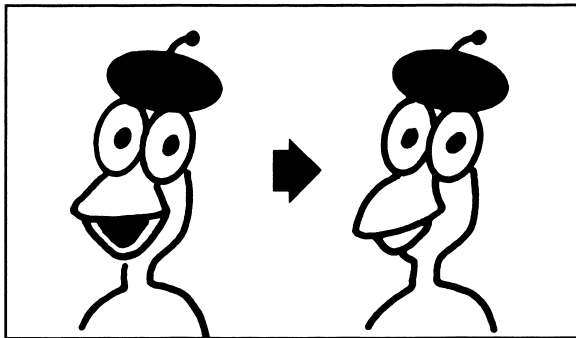
Read the story of *Peter and the Wolf* to your students. There are many different illustrated adaptations of the musical tale. (Two adaptations are *Peter and the Wolf*, retold by Ann King Herring, illustrated by Kozo Shimizu; and *Peter and the Wolf*, illustrated by Erna Voigt. The Voigt version contains photographs of the instruments.)

If possible, invite students who play instruments (flute, clarinet, bassoon, oboe, violin, French horn, and drums) into your classroom. Have them play their instruments for the class. Then, ask the class what instrument they feel would represent, for example, the nervous little bird in *Peter and the Wolf*. Discuss the reasons behind their choices. Next, ask what instrument might represent the grandfather. Continue the discussion, including all of the instruments that are available.

Listen to the music of *Peter and the Wolf*. Discuss what instruments the composer, Sergei Prokofiev, chose to represent the different characters in the story. Discuss how pitch relates to the characteristics of specific characters. For example, the flute's high pitch reflects the lightness of a bird, or the bassoon's low pitch helps us imagine the grandfather's deep voice. The list below is for your reference:

> Peter: violin
>
> Grandfather: bassoon
>
> bird: flute
>
> duck: oboe
>
> cat: clarinet
>
> wolf: French horn
>
> hunters' guns: kettle drums

Soundscope

Primary emphasis: Develop auditory discrimination of pitch

Note: Because this activity uses deflated balloons, students should be closely supervised. This activity is not appropriate for very young students.

Each student will need an empty yogurt container with the bottom removed, a deflated balloon with the stem cut off, a rubber band, a small piece of aluminum foil, scissors, and glue. Show students how to stretch the balloons over the open tops of their containers, securing them with rubber bands. Then, have students glue the small pieces of foil off-center on the stretched balloons.

bottom of container removed

balloon stretched over top and secured with rubber band

foil glued off-center
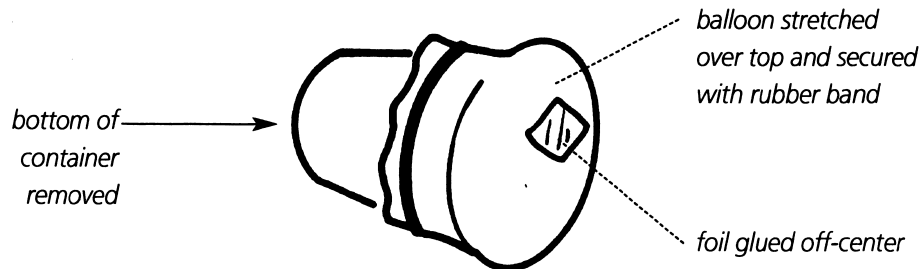
Once students have assembled their soundscopes, demonstrate how to use them. Hum a low note into the open end while a student lightly touches the balloon surface. Then, hum a high note and ask the student if there is any difference in the feeling of the balloon surface. (Usually, the high note will produce a "tickle" because the balloon surface is vibrating faster than with a low note.) Stand so the light reflected off the foil appears on a wall. Hold the open end over your mouth and hum. When the surface of the balloon vibrates, the reflected light bounces on the wall. Encourage students to hum high and low notes as they watch the reflections on the wall. Students may work together in pairs as they experiment.

Papel Picado

Primary emphasis: Create patterns

Ask students to discuss the meaning of the word "pattern". Have them find examples of patterns in the classroom (lines on the chalkboard, shapes in clothing or drapes, flooring layout, etc.). Explain that *Papel Picado* is a Spanish art form made by cutting patterns in paper. Make a transparency from page 79 or make a copy of page 79 for each student. Have them follow the instructions on the page as you demonstrate the steps to make *Papel Picado*. Emphasize to students that they should feel free to invent their own folding techniques and patterns to cut out.

Provide dark colored construction paper and safety scissors. Allow time for students to fold and cut their patterns. Then, distribute brightly colored tissue paper for students to glue onto the back of the paper cut-outs. If possible, mount these on the classroom windows. (Point out that they look like stained glass windows.)

Papel Picado

Fold in half — Fold up — Fold up again

Fold accordian style

Fold square diagonally — Fold diagonally again

folded edge
— circle
— curvy shapes
— rectangles
— triangles
— heart
— tulip
— boy
— flower
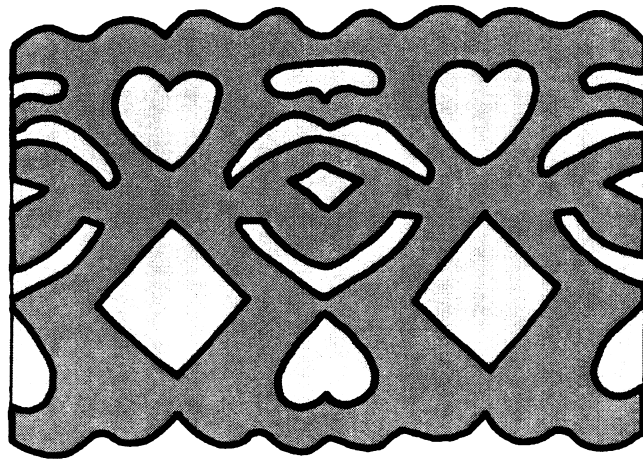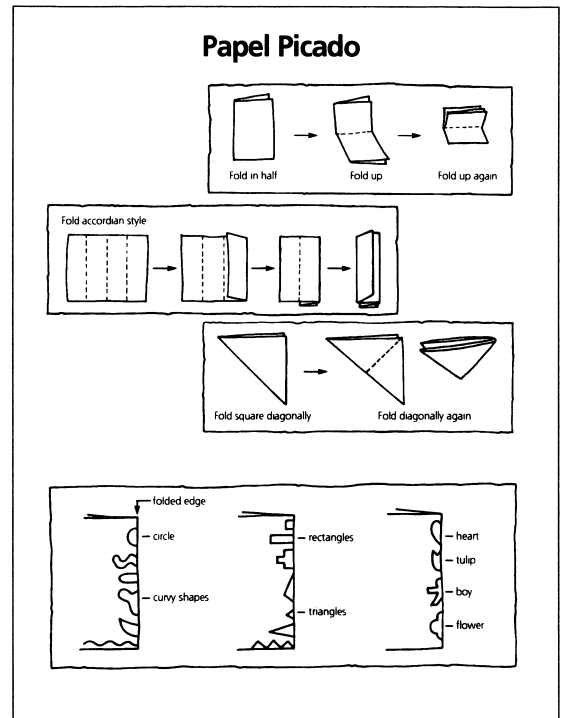
You may also wish to discuss repetition and variation in the patterns. For example, a heart shape may repeat itself in the pattern—appearing upright at the top of the *Papel Picado* and upside down near the bottom of the *Papel Picado*.

Aerobic Symphony

Primary emphasis: Strengthen auditory memory

Divide the class into three groups, and give each group a low, medium, or high "pitch assignment". On a xylophone, piano, or other tonal instrument, play a low note repeatedly while the students in the "low pitch" group squat down and hum the low note. Play a high note while the students in the "high pitch" group stand on their toes and hum the high note. Then, play a middle note while the students in the "middle pitch" group wiggle their bodies and hum the note.

Slowly play a pattern of the three notes. (For example: play middle, high, and low notes.) Then, point or nod to the class and have them repeat the pattern with each group humming and moving in the correct order. Next, try a four-note pattern. (For example: play high, low, middle, and high notes.) Once students are comfortable with the procedure, volunteers can play the note patterns for the class to follow. Also, the tempo can be increased gradually.

Tap a Tune

Primary emphasis: Develop creativity and musicality

Using a row of similar glasses, bottles, or jars, you and your students can make a water xylophone. Fill the first container almost to the top with water. As you fill the remaining containers, use less and less water. If you have a "good ear" and use eight containers, you can make a complete scale.

When the water xylophone is ready, have your students use a spoon to gently tap the containers going up and down the scale. Let them experiment with tones and patterns of tones. Later, this could be set up as a tone experimentation station. Students working in pairs can take turns making and then copying tone patterns.

Computer Partner Play

Papel Picado

Fold in half.   Fold up.   Fold up again.

Fold accordion-style.

Fold square diagonally.   Fold diagonally again.

folded edge

— circle

— curvy shapes

— rectangles

— triangles

— heart

— tulip

— boy

— flower

Use with "Papel Picado" activity (page 77).   ©Copyright 1995–99, Riverdeep Interactive Learning Limited.   **79**
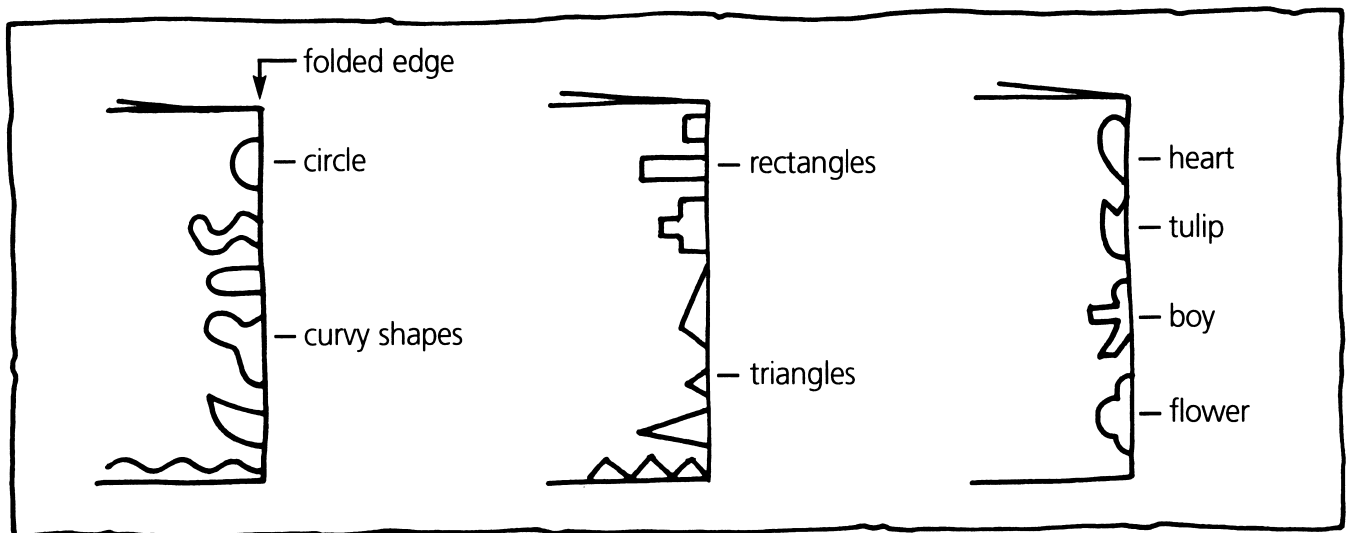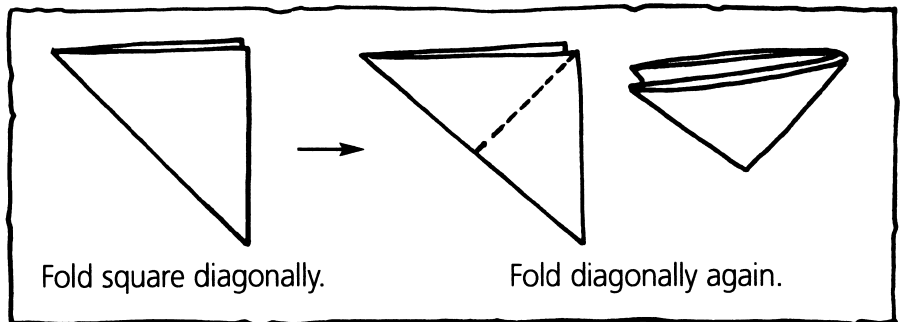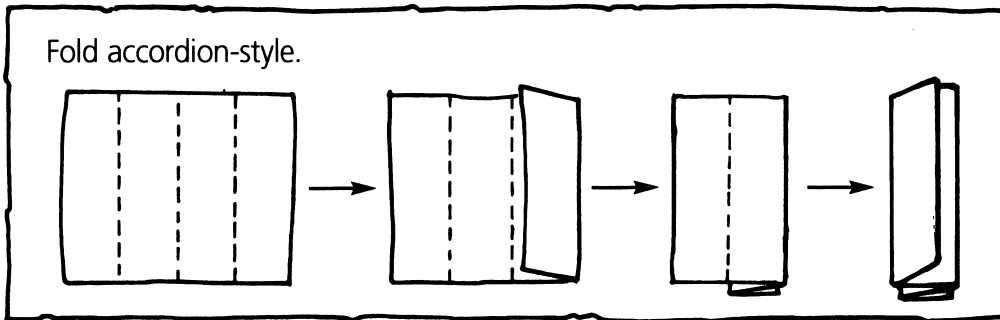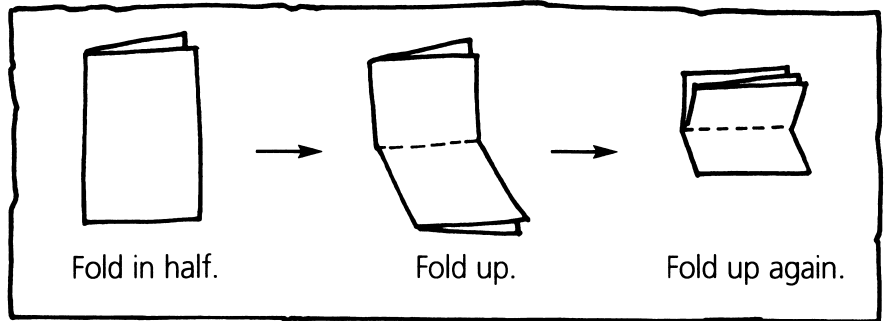
Computer Partner Play

Working at the computer gives students wonderful opportunities to interact. They encourage one another, prompt experimentation, and discuss discoveries. As students play, they will invent many other ways to use the program. Below are some ideas to get them started.
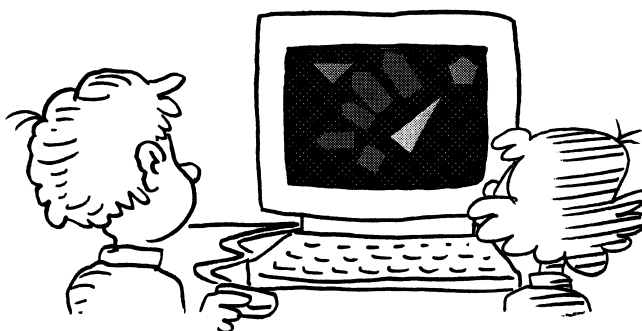
Oranga Banga

Explore Mode

- Matching Patterns: After one student plays a pattern, the other student repeats the pattern. To see if the two patterns match, students click "Play"and listen as Oranga plays the patterns, one after the other. Then, students switch roles. As they continue to play, encourage them to make patterns progressively more complex.

Question & Answer Mode

- Anything Goes: One student repeats Oranga Banga's patterns using Oranga's instruments; the other student taps the pattern out on the desk, chair leg, cheek, lap, or any combination of these "instruments".

Fripple Guides

- Which Fripple? One student selects a Fripple on the screen and, without pointing it out, describes its attributes aloud. After listening to the description, the second student tries to find the Fripple on the screen. Once the Fripple is found, students click it to hear the description. Then, students switch roles and repeat the activity.

- Fripple Fantasy: One student sits turned away from the screen with a sketch pad. The student's partner chooses any Fripple on the screen and clicks it. After listening carefully to the description of the Fripple, the student with the sketch pad imagines a Fripple with the attributes and quickly sketches it. Then, the students compare the "fantasy Fripple" with the Fripple on the screen, noting the attributes the Fripples have and do not have in common. Students switch roles after each sketch.

BLOX-Flying Spheres

- Big Bug: Partners take turns adding spheres to create a long, curvy caterpillar or big-eyed beetle. Students can try using the up/down or the left/right buttons to see what happens to their critter when these buttons are clicked. Students can also experiment with changing backgrounds for the bug. (Up to 20 spheres can appear on screen at one time.)

- Copy a Pattern: The first student makes a pattern using up to 10 spheres while the other student looks away. The second student views the pattern and tries to copy it. Then, students switch roles.

BLOX-Flying Shapes

- Patterns: One student begins by making a pattern with one of the shape sets (for example: blue diamond, orange triangle; or blue diamond, orange triangle). The other student continues the pattern. Then, they switch roles and repeat the activity. To increase the challenge, students can invent more complex patterns, or students can make "mirror images" of the patterns. (Up to 20 shapes can appear on screen at one time.)

- Shape Stumpers: While the partner looks away, the other student creates a large shape by combining several shapes of one color (for example: a large pink triangle made from four small pink triangles). Shapes should not overlap, but touch each other on their sides. Then, the other student uses another color of the same shape to reconstruct the pattern. Have students pull the shapes apart to see if the two shapes are made in the same way.

- How Did They Do That?: The first student selects an idea using the Ideas button. The second student hypothesizes about how the idea shown on the screen was created. Then, the first student "tests" the second's hypothesis by pulling the idea apart with the mouse, one shape at a time.

- How Did You Do That?: One student produces a simple "idea" (similar to those displayed with the Ideas button) as the student's partner looks away. The other student tries to figure out how the idea was produced.

Feathered Friends

Explore Mode

- Match This: One student makes a Feathered Friend and asks the other student to make a matching friend. Then, they switch roles.

- A Variety of Friends: One student makes a Feathered Friend and then asks the other student to make another Feathered Friend with one thing (attribute) different. Later, the student can request two, three, or four things (attributes) different. This can also be played using a die with tape over the five and six sides. The student rolls the die to see how many attributes to change.

Toony Loon

Explore Mode

- Play That Tune: After one student plays a series of notes, the other student tries to repeat the pattern. To see if the two patterns match, students click "Play" to hear the patterns one after the other. Then, students switch roles. As they continue to play, encourage them to make patterns progressively more complex.

- No Peeking: Students play the same activity as above, but this time, the "copier" will have eyes closed while the composer plays a tune. Then, with eyes open, the "copier" tries to repeat the pattern.

- Mood Matching: Students can try the different xylophones. Encourage them to discuss which ones are their favorites with their partners. They might enjoy deciding which xylophone would be appropriate for tunes with different themes (for example: a castle, the countryside, a scary night outside, a carnival, etc.). Students can also make up tunes on different xylophones to illustrate the themes.

Troubleshooting

Before You Call Technical Support...

Check to see if the CD is dirty. Use a soft, dry cloth to gently wipe the shiny side of the CD until it is clean. Wipe across the CD in straight lines. Do not wipe around it in a circular motion. After cleaning, place the CD (shiny side down) in the CD-ROM drive, then install or run the program.

Windows Users

Make sure your hardware drivers are up to date. Contact the manufacturer of your computer, video card, sound card, or CD-ROM drive to check for updated drivers. (Check the user's manual for phone numbers.) If you have Internet access, you can often download free updated drivers from the manufacturer's home page.

If you are receiving "Invalid Page Fault" or "Illegal Operation" errors, follow these steps:

1. Quit all applications and make sure no programs are running in the background.

2. Select **Start I Run** and then type **win.ini** at the prompt. Click **OK** to open the win.ini file. Make sure the **Load=** and **Run=** lines are blank. If they are not blank, type a semicolon (;) as the first character in each line (for example: **;Load=**). If you make changes to the file, select the **File** menu, then **Save**.

3. Restart Windows and launch your program.

If you need more assistance, please contact Riverdeep technical support.