Principles of Art and Design

K through 6

Ron De Long, M.Ed.
Janet B. McCracken, M.Ed.
Elizabeth Willett, M.Ed.
Acknowledgements

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Art and design are all around us—in the clothes we wear; in the architecture and interiors where we live, work, and play; and as evidence of our culture and human experience. Through the arts, we express who we are and what we see, think, and feel. Engaging students in the arts stimulates their curiosity, self-confidence, imaginations, and cognitive abilities. The arts enable them to become the innovators, leaders, and voices of our future. Crayola values the important role you play in children’s development. We hope that this guide provides you with new ideas to stimulate their dreams for careers and involvement in the arts.

Nancy A. De Bellis
Director, Education Marketing
Crayola

Crayola Dream-Makers is a series of standards-based supplemental curriculum resources that contain lesson plans for educators teaching kindergarten through 6th grade. Each guide uses visual art lessons to stimulate critical thinking and problem-solving for individual subject areas such as Math, Language Arts, Science, and Social Studies. Students demonstrate and strengthen their knowledge while engaging in creative, fun, hands-on learning processes.

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Crayola
Attn: Content Editor
1100 Church Lane
Easton, PA 18044-0431
www.crayola.com/educators

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**Art Elements**
- line
- shape
- form
- color
- texture

**Principles of Visual Organization**
- unity
- variety
- balance
- repetition, rhythm, & pattern
- emphasis
- proportion
- movement

Each Crayola Dream-Makers guide provides elementary classroom and art teachers with 24 arts-focused lessons that extend children’s learning and enhance academic skills. Align these lessons with your school district and state curriculum standards. Stay flexible in your teaching approaches with adaptations like these.

- **Be prepared.** Read through the lesson first. Create an art sample so you understand the process.
- **Discover new resources.** Each lesson contains background information, fine art and craft examples, representative student artwork, vocabulary builders, and discussion ideas. Use these suggestions as a springboard to find resources that address your students’ interests and are pertinent to your community. Search Web sites such as Google Image to locate fine art. Stretch student imaginations and their awareness of the world around them.
- **Seek creative craft materials.** Ask children’s families and local businesses to recycle clean, safe items for project use—and take better care of the environment, too. *Recycle, Reuse, Renew!*
- **Showcase student achievements.** Create banners to accompany curriculum project displays in your class, school, or community. Post the lesson’s standards-based objectives with displays to demonstrate broad-based student learning. Demonstrate how children’s accomplishments have personal meaning and promote life-long learning through portfolio documentation.
- **Make this book your own.** Jot down your own ideas as you plan and reflect on students’ learning experiences. Combine art techniques and lesson content to fit goals for your students and classroom. Substitute other transformative craft materials. With students, make content webs of possibilities for extending learning opportunities.
- **Build connections.** Collaborate with your students, other teachers, administrators, artists in residence, and community groups to plan lessons that are unique. Work together to promote creative thinking!
- **Write DREAM statements.** As part of the assessment process, students are asked to reflect on their work in a dream journal. Before the lesson, Dream statements are expected to capture children’s prior knowledge about each topic. After each lesson, students state in writing how they will use what they have learned and dream about possibilities for future exploration.
- **Funding resources.** Crayola Dream-Makers lesson plans have been used in school programs funded by a variety of federal, state, local, and private grants. For more information about grants and grant writing visit The Foundation Center at www.fdncenter.org.

The lessons in this book are intended to address content benchmarks and grade-level expectations in the visual arts, along with a heavy concentration of other key curriculum content areas. All lessons are teacher- and student-tested and follow a consistent format to support you in planning creative, fun learning opportunities for your students. This volume also includes careers in the arts that are related to each lesson. Brief descriptions of careers are adapted from Bromer and Gatto (1999).

**Benefits of Arts Integration**

The 2006 report *Critical Evidence—How the ARTS Benefit Student Achievement*, published by the National Assembly of State Arts Agencies in collaboration with the Arts Education Partnership, identifies a number of ways that arts learning experiences benefit students. Teachers who consciously integrate arts-based practice into their teaching bring these benefits to their students.

> “Certain arts activities promote growth in positive social skills, including self-confidence, self-control, conflict resolution, collaboration, empathy, and social tolerance. Research evidence demonstrates these benefits apply to all students, not just the gifted and talented. The arts can play a key role in developing social competencies among educationally or economically disadvantaged youth who are at greatest risk of not successfully completing their education.” (p. 14)

According to Diane Watanabe and Richard Sjolseth, co-directors of the Institute of Learning, Teaching, and the Human Brain, when there is joy in learning, student achievement soars.

> “When students find joy in their creative outlets, there is a positive carryover to school in general. Emotion, interest, and motivation promote learning and memory. Brain research shows the brain produces as least three pleasure chemicals when joy is present: endorphins, dopamine, and serotonin. These chemicals account for the emotional states produced by self-satisfaction, positive self-image, passion for one’s art, and joy in learning.” (2006, p. 20)
Children learn in many different ways

Howard Gardner has identified eight types of intelligences and may add others. Arts-integrated learning experiences enable children to more fully develop a wide range of skills and understandings.

- **Linguistic intelligence** involves sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals.
- **Logical-mathematical intelligence** consists of the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically.
- **Musical intelligence** involves skill in the performance, composition, and appreciation of musical patterns.
- **Bodily-kinesthetic intelligence** entails the potential of using one’s whole body or parts of the body to solve problems.
- **Spatial intelligence** involves the potential to recognize and use the patterns of wide space and more confined areas.
- **Interpersonal intelligence** is concerned with the capacity to understand the intentions, motivations, and desires of other people. It allows people to work effectively with others.
- **Intrapersonal intelligence** entails the capacity to understand oneself, to appreciate one’s feelings, fears, and motivations.
- **Naturalist intelligence** enables human beings to recognize, categorize, and draw upon certain features of the environment. (Gardner, 1999: pp. 41-43, 52)

Find More Resources at www.crayola.com/educators

Supplementary materials for Dream-Makers guides include:

- Printable certificates for recognizing children’s participation and adults’ support
- Thousands of images of children’s art
- Demonstration videos for teaching arts-integrated lessons
- Lesson-by-lesson correlations to California, New York, Texas, Illinois, and Florida standards
- Printable resource guides for educators and administrators
- More than 1,000 free, cross-curricular lesson plan ideas on wide-ranging topics, all developed by experienced educators. Sign up for free monthly newsletters to keep you abreast of the newest Crayola products, events, and projects.

Bibliography


So Many Ways to Form Pottery

Objectives
Students research various cultural attributes for clay vessels and identify factors that make these vessels desirable for purchase, use, display, and collection.
Students implement traditional hand-building form techniques used by Native American potters while making pottery with air-dry clay.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Bodily-kinesthetic</th>
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<tbody>
<tr>
<td>Naturalist</td>
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</tbody>
</table>

What Does It Mean?
Score: etch lines in flat surfaces that are to be joined
Slip: mix clay with water to join two surfaces

National Standards

Visual Arts Standard #4
Understanding the visual arts in relation to history and cultures

Visual Arts Standard #6
Making connections between visual arts and other disciplines

Social Studies Standard #7
Production, Distribution, and Consumption—experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services.

Social Studies Standard #9
Global Connections—experiences that provide for the study of global connections and interdependence.

Background Information
Although no one knows for sure when pottery-making began in the Americas, the art form seems to have developed around the year 50 BCE. Today, there is a thriving trade in undocumented pre-Columbian pottery among collectors. Many collections contain beautiful artifacts that have not been researched or recorded.

Each of the hundreds of Native American tribal traditions has some sort of pottery associated with it. The production of pottery was, in most cases, women’s work. The process of creating pots was complex. Clay had to be dug from the ground and cleared of debris by sieving and diluting. It was then dried and rehydrated. When the purified clay was worked to the right consistency, other materials were added to it to aid in expansion and contraction. Sometimes these materials, which were pulverized to a fine powder, included shells and other natural items. The clay was then wedged (kneaded and worked by hand) to evenly distribute the powdered tempering material and to remove any air bubbles. Air bubbles could cause the pottery to crack or even explode during firing.

Traditional Native pottery is hand shaped, using techniques such as coil construction, pinch pots, and slab building. Historically, pots were usually fired in open fireplaces rather than in enclosed kilns. They were buried in ash, wood, and animal dung, and heated to 1400 degrees Fahrenheit. Because of the variable nature of the firing materials, each pot looked different when it emerged.

Native nations used different finishes for their pottery. They continue to carry on their traditions as well as to experiment with new processes and designs. Some tribes paint the finished pieces. Others burnish the outside of each pot with a smooth stone until it has a high, glossy sheen. Pots have been found all around the world and have been used and traded for goods and services.

Resources
Making Native American Pottery by Michael W. Simpson
Step-by-step traditional methods for how to create several types of Native American pots. For adults.

Native American Art by David W. Penney and George C. Longfish
Organized by region, 290 color illustrations celebrate Native American arts and crafts. Includes clothes, baskets, Navajo weavings, Hopi kachina dolls, jewelry, quillwork, pottery, carvings, and ceremonial objects.

The Pot That Juan Built by Nancy Andrews-Goebel and David Diaz
Written for K-5 students. Tells the story of Juan Quezada, one of the best-known potters in Mexico. He used natural materials to create beautiful, vibrant pottery. Quezada was responsible for creating a folk-art economy in his small town of Mata Ortiz.

Vocabulary List
Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

- Air-dry clay
- Authentic
- Coil-pot
- Compound
- Container
- Create
- Demonstrate
- Fire

- Form
- Functional
- Kiln
- Native American
- Pinch-pot
- Pre-Columbian

- Score
- Shape
- Slab
- Slip
- Technique
- Texture
- Vessels

Elton Nampeyo
Decorating the Hopi wedding vase
Hopi Reservation, Arizona.
Photo by J. McCracken
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

• **Archeologist:** a person who works to uncover and identify objects from the past. Many actually go to ancient sites and stage digs to reveal and record objects.

• **Art educator:** a person who works with students of all ages to establish a foundation as well as specific skills in art.

• **Ceramist:** a person who works with clay to create constructions like pots by throwing them on a wheel, building them by hand, or by using molds and other tools.

Artwork by students from Bryant Elementary School, Arlington, Texas.
Teacher: Carolyn Sherburn
**So Many Ways to Form Pottery**

| Suggested Preparation and Discussion |  
|-------------------------------------|---
| Display authentic examples or reproductions of hand-built Native American pottery. Display them with photographs of similar work and children’s books on the topic. | 
| Create at least one example of pottery using the traditional techniques that students will use. Include various colors, textures, and forms for students to examine. | 
| If possible, ask local potters to visit the class to show their pottery vessels. Ask them to demonstrate how they make hand-built pottery. | 
| Encourage students to identify symbols and shapes they recognize in the authentic pottery and pictures. Compare and contrast pottery from different time periods and native peoples. | 
| Ask children why pottery is sometimes described as a vessel. Explain that a vessel is an object or form that carries other objects. Human blood vessels are called vessels because they carry the blood throughout our body. | 
| Explain that these beginning pottery techniques can be used to create containers to hold personal objects. Point out that this clay air-dries, unlike much pottery material that has to be fired in a kiln. Fine craftsmanship is critical to create a functional vessel. | 
| As children sculpt, ask them to reflect on questions such as these: How does clay feel in your hands? Is it cool? Smooth? Malleable? Easy-to-use? Would your ancestors have used similar clay? When? Where would they get it? | 

| Demonstrate how to make a basic pinch pot. Emphasize the importance of maintaining an equal thickness throughout the walls in your pot. | 
| Demonstrate how to make a basic coil pot with an armature. Emphasize the importance of maintaining an equal thickness throughout the walls. | 
| Demonstrate how to make a basic slab pot. Create a slab template by drawing and cutting out a rectangle on oak tag, or use a 3- x 5-inch index card as a guide. | 

**Crayola® Supplies**

- Air-Dry Clay
- Markers
- Paint Brushes
- Scissors
- Tempera Mixing Mediums
- Tempera Paint

**Other Materials**

- Construction paper
- Modeling tools (such as plastic dinner knives, craft sticks, paper clips, and wooden toothpicks)
- Paper plates
- Paper towels
- Recycled foam produce trays
- Recycled newspaper
- Sponges
- Water containers
- Clear plastic wrap
- Plastic bowls or similar armatures
- Recycled white paper
- Heavy cloth
- Oak tag
- Rolling pins

**Set-up/Tips**

- Cover sculpting surface with newspaper.
- Work with clay, and paint it, on paper plates.
- Air-Dry Clay dries quickly. Frequently dip fingers in water while working with it. Smooth over any cracks with a damp finger.
- Place paint and mixing mediums in foam trays.
- Cover the interior of containers used as armatures with plastic wrap to hold coiled forms until they dry.
- Put coiled forms inside the armature to avoid cracks due to shrinking.
- Join coils, edges, and slabs by scoring with a wooden toothpick, slipping, and pressing together. Smooth edges with a wet finger, both inside and out, to insure adhesion.
- Roll clay on heavy cloth such as canvas to reduce sticking.

Artwork by students from Bryant Elementary School, Arlington, Texas. Teacher: Carolyn Sherburn
### Process: Session 1
20-30 min.

**Create a pinch pot**
1. Roll Air-Dry Clay into a ball about the size of a large plum.
2. Push one thumb into the middle to begin shaping the vessel. Press with the other thumb to increase the size of the hole.
3. Begin pinching with thumbs and fingers to thin out the walls of the bowl. Keep turning the vessel so the walls become an even thickness.
4. Gently flatten the bottom of the vessel so it will sit flat.
5. Air-dry the vessel for at least 3 days.

**Create a coil pot**
1. Shape three or four pieces of Air-Dry Clay into balls about the size of large apricots.
2. Roll the clay to create coils about one-half inch thick. Roll all three coils.
3. Completely cover the inside of a small bowl or similar armature with clear plastic wrap.
4. Wrap one coil into a pinwheel. Place this disk in the bottom of the bowl.
5. Connect another coil to the end of the first one using the joining technique (see Tips). Continue wrapping coils inside the bowl until it is completely covered.
7. Air-dry the coil pot in the armature for at least 3 days.

**Create a slab pot with a base**
1. Roll Air-Dry Clay into a ball about the size of a baseball. Flatten with hands and fingers. Place on cloth. Roll clay into a half-inch thick rectangle that is a bit bigger than the template.
2. Place template on slab. Use a tool to cut off excess clay around template. Remove excess. Pull clay from cloth and set aside.
3. Repeat steps 1 and 2 three more times to create the vessel walls.
4. Create the base of the vessel the same way. Size the base to fit the four walls.
5. Carefully join the vessel walls and base (see Tips). Suggest that students work with a partner to help hold walls together for each other.
6. Air-dry the slab pot for at least 3 days.

### Process: Session 2
15-20 min.

**Create a pinch pot**
6. Paint the vessel. Add one or more mixing mediums—Pearl-It, Glitter-It, and/or Texture-It—into or on top of the paint for added decorative effects. Air-dry the paint.

**Create a coil pot**
7. Remove the vessel from the bowl. Crumple paper. Dab paper into paint. Gently apply color to the sides of the dried vessel.
8. Add one or more mixing mediums—Pearl-It, Glitter-It, and/or Texture-It—into or on top of the paint for added decorative effects. Air-dry the paint.

**Create a slab pot with a base**
7. Paint the vessel. Add one or more mixing mediums—Pearl-It, Glitter-It, and/or Texture-It—into or on top of the paint for added decorative effects. Air-dry the paint.

### Assessment
- Display all the student vessels. Ask students to look at all the forms carefully. Have students check to see if the vessel walls are equal in thickness throughout the form.
- Invite students to share their pottery experiences. Can they describe how easy or difficult it was to work with the clay, paint, and mixing mediums?
- Ask students to think about what makes a vessel valuable. Is it the size? Shape? Craftsmanship? Materials used? Purpose? Age? Students create a description of their vessels. Include artist information, imagine where it might have been found, and any other information. Include proposed purchase price. Display vessels with information cards.
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions
Invite children to model additional forms to apply to the original vessel. Create lids, handles, or bases, for example. These vessels make great containers for art supplies, dried flowers, and other items. Design wrapping paper and give them as gifts!

Some children with special needs may be averse to the tactile qualities of real clay. Substitute Crayola Model Magic® as needed so they, too, may participate in the experience.

Challenge gifted children to create different shapes. What about a square vessel? Triangular? Hexagonal? Organic shape?

Suggest that children create symbols on the vessel surface to give the viewer clues about what might be inside. If coins were stored inside the vessel, what symbols could indicate that? What colors might be suitable?

Research other materials used to make vessels, such as reeds, metal, wood, and stone. Identify the areas in which these local resources are found. Compare and contrast the different techniques and styles of decoration for vessels as reflected in various cultures around the world.
Stories Come Alive With Color!

**Objectives**

With entire class (grades K-2), small groups (grades 3-4), or as individuals (grades 5-6), students write and illustrate a book.

Students explore different ways to illustrate drawings with lines and color to create unity in their work.

Students present their book to the group and discuss their illustration process successes and challenges.

**National Standards**

<table>
<thead>
<tr>
<th>Visual Arts Standard #1</th>
<th>Understanding and applying media, techniques, and processes</th>
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</thead>
<tbody>
<tr>
<td>Visual Arts Standard #3</td>
<td>Choosing and evaluating a range of subject matter, symbols, and ideas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English Language Arts Standard #5</th>
<th>Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language Arts Standard #6</td>
<td>Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language and genre to create, critique, and discuss print and non-print texts.</td>
</tr>
</tbody>
</table>

**Background Information**

How does color bring illustrations to life? Many artists choose warm colors such as red, pink, yellow, peach, and orange for the most important parts of their illustrations. These colors seem to pop out and make the viewer notice those characters or objects first! Blue, green, purple, and other cool colors tend to have a calming effect and can even appear far away.

Illustrators use color to create unity in a book. They often use the same color on each page to draw attention to an important object. For example in the book *Swimmy* by Leo Lionni the little black fish pops out of the school of red fish on every page.

A great example of the use of warm and cool can be seen on the cover of *A Chair for My Mother* by Vera B. Williams. The cool Blue Tile Diner frames the warm people and action inside. Similarly, notice how the red fish pop out on the watery blue cover of *Swimmy*. And on the cover of *Why Mosquitoes Buzz in People’s Ears*, illustrated by Leo and Diane Dillon, bright bands of warm colors frame the cool green tree leaves and blue-winged mosquito.

**Resources**

*A Chair for My Mother (Un Sillon para Mi Mama)*
by Vera B. Williams
Caldecott Honor book. A young girl, her mother, and grandmother save coins to buy a comfortable chair. Love and caring are accented with beautiful watercolor illustrations.

*How a Book Is Made* by Aliki
Written for students in grades 2 to 5. Clearly describes the publishing process from conception of an idea to reading the finished book.

*Making Books That Fly, Fold, Wrap, Hide, Pop Up, Twist, and Turn* by Gwen Diehn
Step-by-step instructions about how to create various book bindings, pop-ups, and journals. Great for teachers and students.

*Swimmy* by Leo Lionni
Wonderful picture book about a little fish that is the lone survivor of a school of fish swallowed by a tuna.

*The Wonderful Wizard of Oz: A Commemorative Pop-up* by L. Frank Baum and Robert Sabuda
An exquisite pop-up book and masterful example of paper engineering. Includes a spinning cyclone, glittering Emerald City, and wizard floating away in his hot-air balloon.

*Why Mosquitoes Buzz in People's Ears* by Verna Aardema, Leo Dillon, and Diane Dillon
A retelling of a traditional West African tale. Beautiful illustrations. For students of all ages.

**What Does It Mean?**

**Cool colors:** hues such as blue, green, and purple that tend to have a calming effect and can even appear far away

**Crosshatching:** use of lines that cross each other to shade, emphasize, and make shadows

**Stipple:** use of dots for shading and emphasis

**Warm colors:** hues such as red, pink, yellow, peach, and orange that seem to pop out and make the viewer notice those characters or objects first

**Multiple Intelligences**

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Linguistic</th>
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**Vocabulary List**

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

- Binding
- Book fold
- Complementary colors
- Contrast
- Cool colors
- Cross-hatching
- Diagonal
- Focal point
- Horizontal
- Illustrator
- Landscape
- Point of view
- Pop-up book

- Portrait
- Shading
- Stipple
- Unity
- Vertical
- Warm colors
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

- **Author:** a person who writes stories or articles to be published for other people to read
- **Book designer:** a person who works with the editor and lays out the pages of a book including choosing the type style, chapter headings, margins, titles, and image placement
- **Children’s book illustrator:** artist who draws or paints pictures to match stories in children’s books

Artwork by students from Curlew Creek Elementary School, Clearwater, Florida.
Teacher: Nancy Rhoads
Display a variety of children's books with colorful illustrations, such as those by Vera B. Williams, Leo Lionni, Ezra Jack Keats, Leo and Diane Dillon, Jan Brett, Eric Carle, Donald Crews, Maurice Sendak, Marcia Brown, and Leonard Weisgard. Ask thought-provoking questions about well-illustrated children's books. What colors do you notice first? What colors are often used in the background? Do you think the artist painted with thick brushes or drew with a thin marker? Why? How does color add to your understanding of the story? How does it show unity from page to page?

Display and discuss a color wheel. Prepare and display a chart depicting different ways to use lines for shading, such as hatching and stippling. Display examples of these techniques and the use of cool and warm colors to add life to drawings.

Review with the class the parts of stories. Ask for suggestions about book topics, such as a school event, adventures of an imaginary character, or a collection of stories about their pets.

Demonstrate drawing and shading techniques. Point out the use of horizon lines. Ask students to look out the window. Would outdoor drawings (landscapes) look more real with grass all the way at the bottom of the picture and the sky all the way at the top—or when the grass and sky meet in the background?

Emphasize that color is the most important part of the pictures for this project.

Write a story in small groups or individually, depending on the ideas presented. Work with students to edit their material. Agree on the direction of the paper (landscape or portrait) so all book pages fit together.

Create an illustration
1. Together, sketch ideas for story characters, setting, and/or action in colorful pictures and designs. Individuals each choose a page.
2. Students carefully copy their parts of the story on white drawing paper with fine line markers. Make sure all of the words are spelled properly! Use color to make the text interesting.

Create a book plan
1. Small groups work together to lay out the book on drawing paper. Number and sketch pictures on each page. Group members choose pages for which they are responsible.
2. Individuals sketch ideas for their story sections. Show the characters, setting, and/or action in colorful pictures or designs.

Create a pop-up plan
1. Lay out the book on drawing paper. Number and sketch pictures on each page. Design a unified presentation.
2. Plan pop-ups and binding type.

Illustrate stories
3. Draw illustrations with markers (K-4) or colored pencils (5-6). Use hatching and stippling techniques to shade and highlight. Use complementary colors for lively effects (red/green, orange/blue, yellow/purple). Green hatching on a red truck, for example, adds even more pop to the picture!
4. Use colored pencils to color the drawings. If the scene is outdoors, think about where the horizon line would be. Add details, backgrounds, and fill the page with color!
5. Add mixing mediums and collage techniques to add interest. Air-dry illustrations.
### Process: Session 3 20-30 min. (may take several sessions)

6. Sketch designs for the book’s cover. Vote on which cover to use.
7. With classmates, bind the book in a creative way to share it with other students and families.

### Process: Session 4 20–30 min.

6. Create a design for the book’s cover.
7. Bind the book in a creative way to share it with other students and families.

### Assessment

- Students read their pages and share their illustrations with each other. Discuss the use of color and illustration techniques in each drawing.
- Do the text and illustrations match on each page? Are words spelled properly?
- How well did group exhibit unity throughout their work?

### Extensions

- Create books in small groups or individually.
- Use a variety of materials and techniques to illustrate books including photographs, collage, paint, and/or mixed media.
- Add books to the class or school library.
- Collect and categorize various writing and illustration styles. Mimic them in drawing or writing.

- Students read their pages and share their illustrations with the class. Discuss the use of color and design elements in each drawing.
- How well did the small group cooperate? Did they exhibit unity throughout their work?

- Students read books and share their illustrations with the class. Discuss book-making process and the use of color.
- What elements did the student use to exhibit unity in the book?

- Display books and share with younger students.
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions

- Use a variety of materials to create illustrations including photographs, collage methods, paint, or mixed media techniques.
- Create individual books.

- Research various illustrators. How do they develop their styles? Do they always work in the same way?
- Research the history of pop-up books. Discover their origins and how they are made to sell to large numbers of people. Go to http://www.library.unt.edu/rare-books/exhibits/popup2/default.htm

- Use a variety of materials and techniques to illustrate more books including photographs, collage, paint, and/or mixed media.

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**Miniature Books**

*Artist: Ron De Long*

*Paper, mixed media*
Objectives

Students become more familiar with art by Keith Haring and focus on the elements of line and visual organization principles of pattern and repetition.

Students experiment with bold lines and flat colors to create their own art designs.

Students create background patterns that are relevant to their work and recognize that patterns are all around in everyday life.

Multiple Intelligences

| Logical-mathematical | Spatial |

National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #1</th>
<th>Understanding and applying media, techniques, and processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Arts Standard #3</td>
<td>Choosing and evaluating a range of subject matter, symbols, and ideas</td>
</tr>
<tr>
<td>Visual Arts Standard #4</td>
<td>Understanding the visual arts in relation to history and cultures</td>
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| Mathematics Standards
<table>
<thead>
<tr>
<th>Geometry</th>
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<tbody>
<tr>
<td>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</td>
</tr>
<tr>
<td>Connections</td>
</tr>
<tr>
<td>Recognize and apply mathematics in contexts outside of mathematics</td>
</tr>
</tbody>
</table>

Background Information

Keith Haring was from Kutztown, Pennsylvania. This is the city where Kutztown University is located, which has a very strong program in art and art education. He made his debut into the art world with simple chalk drawings on blank ad spaces in New York City subway stations. He was even arrested for graffiti in the beginning! Today Keith Haring is an internationally known artist and has art hanging in many famous museums around the world.

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

- Contour
- Secondary colors
- Contrast
- Shape
- Line
- Symbols
- Primary colors
- Repetition

Resources

*Keith Haring: I Wish I Didn’t Have to Sleep!* by Keith Haring

Showcases Haring’s many talents, reflected by bold lines, bright colors, symbols, and an unmistakable style. Pictures for all ages are about fun, friendship, and imagination.

*Ten* by Keith Haring

Rich in language, color, and style. Appeals to both young and old. Words for each number are printed in English, Spanish, French, and German.

Artwork by students from Bryant Elementary School, Arlington, Texas. Teacher: Carolyn Sherburn
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

- **Crafter**: a person who creates, designs, and/or markets art projects for fashion, interior design, and other uses

- **Museum educator**: a person who works with the public to educate them about the art work on display. They also design special programs and tours to focus on a specific artist or exhibit in the museum.

- **Street artist**: in the past this job was often called a muralist. A street artist often paints very large works on the sides of buildings. The design must be planned carefully because the artist works on scaffolding and cannot step back to look at the work.

Artwork by students from Mount Prospect School, Basking Ridge, New Jersey. Teacher: Susan Bivona

Artwork by students from Bryant Elementary School, Arlington, Texas. Teacher: Carolyn Sherburn
Where Can a Line Lead You?

<table>
<thead>
<tr>
<th>Suggested Preparation and Discussion</th>
<th>K-2</th>
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<th>5-6</th>
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<tbody>
<tr>
<td>Display images and resources about Keith Haring. Research background information about Haring’s history. Gather other images with line that are very different from Haring’s art. Create a sample or two of crayon drawings to inspire students. Initiate a discussion about what a line is (incorporate this with a geometry unit) and challenge children to find as many lines as they can. Keep a list of lines. Find words to describe the lines such as wavy, thick, or energetic. Discuss non-Haring artworks. Ask students to identify how each piece uses line. Point out how line is used in Haring’s art: bold, black outlines around shapes; simple shapes with no detail inside; only a few images on each piece; very clean background, sometimes with dots or simple patterns.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

| Crayola® Supplies | • Construction Paper™ Crayons | • Markers | • Glue • Markers • Oil Pastels |
| Other Materials | • Dark construction paper • Paper towels | • Objects to use as models for drawing such as recycled containers, books, a hand, shoe | • Construction paper |
| Set-up/Tips | • Students draw in pairs. Non-drawing student uses paper to cover drawing student’s line of sight to drawing hand with paper so artist cannot look at art work but must focus on object being drawn. Students who are comfortable do so take turns serving as models. Student model is placed in center of room and high enough for all students to see. Change models after each pose. Encourage students to focus on drawing the negative space around the student, not the student. Focus on the shape, not on the details. |

Crayola bag
Artist: Mavis
Private Collection.

Mola designs
Artist: unknown
Private Collection.
### Process: Session 1
**20-30 min.**

#### Make a line!
1. Think about how Keith Haring’s lines are really bold (and black) and how they go around simple shapes. Choose a theme such as a person, animal, letter, or number. Begin with a line! Make it come back to meet itself so it forms a shape.

2. Look closely at the line. Many of Haring’s lines are thick and bold. Carefully go over the line, making the shape outline thick and solid.

#### Add details & symbols
3. Look at the space around the shape. Decide whether to make any other figures and/or add a simple background. Think about where figures would be. What important shapes are needed so other people can understand the scene?

### Process: Session 2
**15-20 min.**

#### Make one-line contour drawings
1. With a partner, choose an object to draw.

2. Non-drawing partner blocks the drawer’s view of the drawing. Draw object without lifting the marker from the paper or looking at the paper for reference. Look carefully at the object being drawn and follow the outline of the object with the eyes. Work slowly.

3. Partners take turns practicing this type of drawing.

#### Complete 16 one-line contour figure drawings
1. Fold drawing paper into eight equal rectangles. Number them for easy reference.

2. Student model strikes a pose while others quickly draw the contour (in 60 seconds or less). Emphasize capturing the pose, not details.

3. Second student becomes model. Repeat process until all sections of the paper are filled. Use back of paper as well.

### Process: Session 3
**20-30 min.**

#### Plan colors to use with each object or figure and background.
Neatly color in these areas to keep the color even and flat.


#### Select a new object to draw.
Draw it carefully and slowly. Notice inside details as well as the outline of the object such as wrinkles, ridges, or reflections.

7. Display drawings on the walls, ceiling, and even floor to emulate the atmosphere in Haring’s New York City Pop Shop.

### Assessment
- Students will be successful if they create a strong design with a bold line, complete with flat areas of bright colors.

- Discuss patterns selected to create background. Does the pattern add to information about the object drawn?

- Do drawings suggest action? How does color affect the artwork? How does pattern and repetition in the work change its feeling?

- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions

- Continue to explore the process of contour drawing. Select more complicated objects such as a tree trunk or an object with a great deal of interior detail.

- Try drawing with the less-dominant hand.

- Create life-size figures in the same style. Use paint to create giant murals.
Objectives
Students recognize the work of artist Henri Matisse and can describe its attributes.

Students experiment with the processes of printing with paint on paper and various collage techniques.

Students explore organic and geometric shapes using a variety of examples in their own work.

Students explore how an artist’s work may change over time.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Naturalist</th>
<th>Spatial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td>Relief</td>
</tr>
<tr>
<td>Organic</td>
<td>Repetition</td>
</tr>
<tr>
<td>Organic</td>
<td>Shape</td>
</tr>
<tr>
<td>Organic</td>
<td>Still life</td>
</tr>
</tbody>
</table>

What Does It Mean?

Organic shapes: irregular shapes, often like those in nature
Still life: inanimate objects portrayed in art

Background Information
The artist Henri Matisse succeeded in many different media. He started working as a painter and traveled the countryside painting many things. He often painted landscapes as well as still lifes and portraits. His art evolved through the beginnings of realism with darker colors, to basic shaped sculptures, to his bright use of color and pattern and also to the simple and free cut-outs in his later life. His paper collages are possibly some of the most intriguing artworks he created, in that they are somewhat of a cross between a painting AND a (very relief) sculpture.

As Matisse grew older his art work changed. He created a device in his studio to help him create very large works of art. The device held very large canvases on wheels, so he could roll sections up and down to reach very high or low sections without having to climb on a ladder.

Resources

Henri Matisse (Art for Children) by Ernest Raboff
Brief biography accompanies reproductions and descriptions of several of this French artist’s works.

Henri Matisse: Drawing With Scissors by Keesia Johnson & Jane O’Connor
Examples of Matisse’s work. Photos as well as a brief biography. Useful for children in grades 1 through 3.

Matisse: Painter of the Essential by Yolande Baillet
Designed for students in grades 5 to 9. Filled with color reproductions of paintings, photographs of Matisse, and cartoons related to the artist and his work. Gives specific facts about Matisse as well as lots of fictitious situations and conversations.

Artwork by students from Shoemaker Elementary School, Macungie, Pennsylvania. Teacher: Alison Panik
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics www.bls.gov/k12

- **Art historian**: a person who conducts research on a specific artist, period, or topic in art and writes about the findings. Many become teachers or work with others to share their knowledge.
- **Stencilmaker**: the person who cuts out patterns and stencils for carpet manufacturers. Stencilmakers create designs for large rugs and carpets.

Artwork by students from Shoemaker Elementary School, Macungie, Pennsylvania. Teacher: Alison Panik
Ask students to create a collage using found objects and magazine pictures that coordinates with a classroom lesson so they are familiar with the collage process.

Display a variety of appropriate images and resources about Henri Matisse. Provide students with background information about him. Prepare two or three samples of collages made with the process outlined here.

Talk about the printing process. What familiar objects are printed? How does the process work? Experiment by printing with stamps. Ask children to look closely at the design on the stamp and to notice that it prints backwards.

Look at examples of Matisse’s art that show lots of patterns and designs, such as on fabrics. Ask students to point out repeated designs. Show examples of Matisse’s paper collages. Some of his shapes are variations on simple geometric shapes and others are more specific. His very simple, organic shapes often represent plants and people. Demonstrate the steps to make printing plates.

**Crayola® Supplies**
- Glue
- Paint Brushes
- Scissors
- Tempera Paint
- Markers
- Tempera Mixing Mediums
- Model Magic®

**Other Materials**
- Construction paper
- Foam produce trays
- Paper towels
- Recycled newspaper
- Sponges
- Water containers
- Modeling tools

**Set-up/Tips**
- Cover printing surface with recycled newspaper.
- Ask families to provide clean produce trays.

**Process: Session 1 20-30 min.**

**Print shapes**
1. Cut large, organic shapes out of produce trays.
2. Brush paint on the pieces. Press, paint side down, onto construction paper.
3. Print several shapes with different colors. Air-dry the shapes.

**Create decorative papers**
3. Fill paper with various shapes and colors. Create multiple decorative sheets. Use mixing mediums to enhance effects. Air-dry papers.

**Simply Shapes Collages**

<table>
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<td><strong>Crayola® Supplies</strong></td>
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</tr>
<tr>
<td><strong>Other Materials</strong></td>
<td>• Construction paper • Foam produce trays • Paper towels • Recycled newspaper • Sponges</td>
<td></td>
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<tr>
<td><strong>Process: Session 1 20-30 min.</strong></td>
<td><strong>Print shapes</strong> 1. Cut large, organic shapes out of produce trays. 2. Brush paint on the pieces. Press, paint side down, onto construction paper. 3. Print several shapes with different colors. Air-dry the shapes.</td>
<td><strong>Create decorative papers</strong> 3. Fill paper with various shapes and colors. Create multiple decorative sheets. Use mixing mediums to enhance effects. Air-dry papers.</td>
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</table>

**Animal Mola**
- Fabric
- Artist unknown
- Private Collection.

**Swimming Fish Mola**
- Fabric
- Panama
- Artist unknown
- Private Collection.
### Process: Session 2
**15-20 min.**

<table>
<thead>
<tr>
<th>K-2</th>
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</tr>
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<tbody>
<tr>
<td>Assemble collages</td>
<td>4. Cut out the shapes. Share shapes with other students.</td>
<td>5. Think about the background. Objects in a colorful collage stand out on white paper. Achieve other effects with a color background.</td>
</tr>
<tr>
<td></td>
<td>7. Orally describe collages and the shapes chosen to create it.</td>
<td>7. Add limited details and patterns with markers. Keep primary focus on shapes and colors.</td>
</tr>
<tr>
<td></td>
<td>8. Present a clear, detailed description of the collage to classmates.</td>
<td>8. Press a handle by pressing or gluing an hourglass-shaped piece of modeling compound to the opposite side of the flat surface.</td>
</tr>
</tbody>
</table>

### Process: Session 3
**20-30 min.**

| 7. Roll a Model Magic ball into a golf ball size. Press one side flat. Carve, press, or add detail to flat surface to create a stamp. |
| Add limited details and patterns with markers. Keep primary focus on shapes and colors. |
| Present a clear, detailed description of the collage to classmates. |

### Process: Session 4
**20-30 min.**

| Press stamp onto collage, creating a repeating pattern with stamped shapes. Try alternating colors. Use mixing mediums for added interest. |
| Air-dry collage before presenting it for review by classmates. |

### Assessment
- Students will be successful if they create a collage using the shapes they print, cut out, and arrange. Display collages with objectives from lesson.
- Ask students to describe their artwork similar to the manner in which they talked about Matisse’s work in the class discussion. Include the language of art, such as repetition, shape, variety, balance, emphasis. Describe shapes, classify colors, identify patterns, and overall feeling collage represents.
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions
- For children who have difficulty with cutting, encourage them to tear out the shapes for an added textural component.
  - Focus on the patterns in Matisse’s paintings. Add patterned wrapping paper or wallpaper as an extra element to project.
  - Instead of organic shapes, focus collages on geometric shapes of increasing complexity.
- Using an object as a model, create a shaped abstraction using Matisse’s collage techniques (such as the shape of a tree, house, or other familiar item).
- Create large group collages to simulate Matisse’s stained glass windows.
  - Use the printing technique to create wrapping paper for handmade gifts.
  - Gifted students could make finely cut paper sculptures in Matisse’s style.

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**Crayola Dream-Makers**

Building fun and creativity into standards-based learning

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Principles of Art and Design
Objectives

Students examine collage and assemblage techniques by collecting various simulated textures for reassembly in original works of art.

Students research artists such as Grant Wood who used details in their work to create balance and symmetry while adding information about their settings.

Students compare the principle of visual organization of balance while they explore tactile surfaces around them.

Students incorporate their appreciation for texture and pattern in symmetrical, asymmetrical, and radial collage compositions that also include architectural elements.

Multiple Intelligences

<table>
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<th>Bodily-kinesthetic</th>
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<tbody>
<tr>
<td>Logical-mathematical</td>
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</table>

Background Information

Grant Wood loved drawing from a very early age, although his father did not approve of such a frivolous hobby for a farm boy. His teachers encouraged him and helped him practice his art.

Several times in his life, Wood was encouraged to go to Paris and paint like the artists there (Impressionism was popular then). He did try to paint like that, but ended up creating his own stylized manner of painting for which he is now famous. In addition to “American Gothic,” Wood created several other paintings, such as “Stone City, Iowa” and “Young Corn.” These paintings are very different in style from his most famous painting, and depict his most-loved scenes and his truly unique style.

Resources

Architects Make Zigzags: Looking at Architecture from A to Z by Diane Maddex

Beautifully illustrated alphabet book that uses architectural terms and their definitions.

Artist in Overalls: The Life of Grant Wood by John Duggleby

Written for grades 4 and up. An Iowa farm boy who loves to draw and paint and eventually goes to France and Germany to learn his craft. Filled with color reproductions, anecdotes, descriptions, and conversations.

Fun With Pattern by Fifi Weinert

Illustrates and describes art, activities, and puzzles. Also contains a stamp kit to create patterns.

Grant Wood: The Artist in the Hayloft by Deba Foxley Leach


National Standards

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<tr>
<td>Understanding the visual arts in relation to history and culture</td>
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<th>Mathematics Standard</th>
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<td>Geometry</td>
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</table>

| Apply transformations and use symmetry to analyze mathematical situations |

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

- Architectural
- Asymmetry
- Balance
- Buildings
- Centered
- Challenge
- Combine
- Composition
- Correlate

Design
- Facades
- Features
- Horizontal
- Match
- Mirror
- Movement
- Off-center
- Radial

Rectangles
- Rubbing
- Spiral
- Squares
- Symmetry
- Texture
- Typical
- Vertical

What Does It Mean?

Asymmetrical design is typically off-center or created with an odd or mismatched number of disparate elements. Uneven elements present more possibilities for arranging the space and creating interesting designs. Asymmetrical layouts are generally more dynamic. By intentionally ignoring balance, the designer can create tension, express movement, or convey a mood such as anger, excitement, joy, or casual amusement.

Balance: the visual effect of creating an equilibrium of art elements

In radial design, the center of the design radiates from the center of the object. The effect is almost one of spiraling down into the center of the design.

Symmetrical balance is easiest to see in perfectly centered compositions or those with mirror images. In a design with only two elements, they would be almost identical or have nearly the same visual mass. If a smaller image replaced one element, it could throw the look out of symmetry. To reclaim perfect symmetrical balance, add, subtract, or rearrange the elements so that they evenly divide the space. When a design can be centered or evenly divided both vertically and horizontally, it has the most complete symmetry. Symmetrical balance generally is found in more formal, orderly layouts. These layouts often convey a sense of tranquility, familiarity, elegance, or serious contemplation.

Career Possibilities

Exploring Career Information From the Bureau of Labor Statistics

www.bls.gov/k12

- **Architect**: a person who designs houses and buildings, and may be involved in all stages of construction
- **Architectural drafter**: a person who designs, draws blueprints, and constructs models of buildings
Artwork by students from St. John Neumann Regional School, Palmerton, Pennsylvania. Teacher: Patricia Passick
### Suggested Preparation and Discussion

With students, design a bulletin board titled *Balance*. Add these subtitles: *Symmetrical, Asymmetrical, Radial*. Find and classify examples in magazine ad layouts, and images of flowers, people, and architecture.

Explore radial, asymmetric, and symmetric design and their differences among these design principles. With students create three displays that show layouts of squares, rectangles, and spiral paper shapes. Arrange the rectangles and squares in orderly rows and columns to illustrate symmetry and asymmetry. Show how the spiral shape moves student eyes around in a circular or spiral path.

Our bodies need a balance of nutrients to keep us healthy but every now and then it’s OK to feast on chocolate and ice cream. Balance in design is much the same. Much of the time our eyes and minds are most comfortable with evenly balanced layouts where the graphics don’t overpower the text and the page doesn’t seem to tilt to one side or the other. Other times a design that’s just a little out of kilter or totally lopsided adds excitement. Ask students to identify which of the displayed images are balanced and which are not. Challenge them to find examples of perfect or near-perfect symmetry in the pictures.

Explain the three types of balance in design. Fold paper to show examples. Prepare a sample of the type of art children will create to inspire their creativity.

### Crayola® Supplies

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<td>• Model Magic®</td>
<td>• Construction Paper® Crayons</td>
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<tr>
<td>• Glue</td>
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<td>• Scissors</td>
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### Other Materials

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<tbody>
<tr>
<td><strong>Other Materials</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Craft items such as beads, feathers, raffia</td>
<td>• Construction paper</td>
<td>• White paper</td>
</tr>
<tr>
<td>• Modeling tools such as plastic dinner knives, craft sticks, and wooden toothpicks</td>
<td>• Textured surfaces such as bricks, sink mats, or rubbing plates</td>
<td></td>
</tr>
<tr>
<td>• Natural, found materials such as twigs, stones, leaves</td>
<td>• Oak tag</td>
<td>• Oak tag</td>
</tr>
</tbody>
</table>

### Set-up/Tips

- Children could glue raised stacks of bits of corrugated cardboard pieces to figure illustrations to add a 3-D element.
- Ask families to collect textured surfaces for students to use.
- Display work with lesson objectives and standards.

### Process: Session 1

**Create building facades**

1. Students decide what architectural feature will be the center of their artwork and the type of balance to depict (symmetric, asymmetric, or radial).
2. Create Model Magic® shapes for building features. Press on oak tag. Add texture by pushing various objects into Model Magic surface such as marker caps, beads, and sticks. Add shapes to complete balance.
3. Air-dry the sculptures for 24 hours.

**Make texture rubbings**

1. Students decide what architectural feature will be the center of their collage and what the people in it will look like to portray symmetric balance.
2. Peel paper off several crayons. Use textured surfaces to make several rubbings that are suitable for clothing, a building façade, and other design features.

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*St. George Rotunda*  
4th Century  
Sophia, Bulgaria  
Photo by Erica Simon-Brown
<table>
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<tr>
<td><strong>Process:</strong>&lt;br&gt;Sesion 2&lt;br&gt;15-20 min.</td>
<td><strong>Process:</strong>&lt;br&gt;Sesion 3&lt;br&gt;20-30 min.</td>
<td><strong>Process:</strong>&lt;br&gt;Sesion 4&lt;br&gt;20-30 min.</td>
</tr>
<tr>
<td><strong>Embellish facades</strong>&lt;br&gt;4. Glue any loose Model Magic pieces to the oak tag.&lt;br&gt;5. Add background details and color Model Magic pieces with markers.</td>
<td><strong>Assemble collage background</strong>&lt;br&gt;3. Cut or tear pieces of the rubbings for the building. Place the building in the center of the paper to achieve symmetry. Glue pieces in place.&lt;br&gt;4. On separate paper, outline two people. Color their skin and hair. Add crayon-rubbing pieces for clothing, skin, and accessories. Glue pieces on people. Air-dry the glue.</td>
<td><strong>Add people</strong>&lt;br&gt;5. Cut out people. Experiment with their placement on the architectural background. Remember, the goal is symmetry! Glue to collage. Air-dry the glue.</td>
</tr>
<tr>
<td><strong>Assessment</strong>&lt;br&gt;Children identify elements of symmetry in their work. Students classify their work as symmetrical, asymmetrical, or radial.</td>
<td><strong>Place the works side by side and compare how they are different and how they are similar.</strong>&lt;br&gt;<strong>Classify works. Define various architectural devices used.</strong></td>
<td><strong>Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.</strong></td>
</tr>
<tr>
<td><strong>Extensions</strong>&lt;br&gt;With younger children and those with disabilities, consider using unit or table blocks to explore the three types of symmetry.&lt;br&gt;Some children may be more successful if they draw their building first, and then sculpt it.&lt;br&gt;Paint the Model Magic façades with watercolors.&lt;br&gt;Create 3-D Model Magic models of the building. Consider using armatures to add stability to the structure.</td>
<td><strong>Challenge teams of students to combine their individual designs together to create a community collage that depicts several crayon-rubbing architectural features and figure illustrations. Display how symmetry, asymmetry, and radial elements can be combined into one large collage mural.</strong></td>
<td><strong>Examine architecture as a career. What education and skills are necessary? What is the process to design a building? What is a schematic? A blueprint? How are they alike? How are they different? Invite a local architect to share insights with the class.</strong>&lt;br&gt;Gifted students could analyze blueprints or photos of famous buildings around the world to determine the type of symmetry they reflect.</td>
</tr>
</tbody>
</table>
Objectives

Students learn about various styles, embellishments, and design choices while exploring other artist’s illustrations of similar objects.

Students explore the visual organization principle of variety as they construct a model hat (K-2) or contemporary chair (grades 3-6).

Students work with various modeling techniques as they create original sculptures.

Students in (grades 3-6) create an advertisement that showcases and helps to market the chair variation they created.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Linguistic</th>
</tr>
</thead>
</table>

What Does It Mean?

Designer: someone who thinks about and draws out plans for things

Background Information

Fun hat facts (Grades K-2)

Why do we say “mad as a hatter”? Years ago, felt-making used toxic mercury, which drove hat makers to madness.

What kind of hats did baseball umpires wear in the 1850s? Top hats! What is the design significance of the chef’s hat? Each pleat represented a way that a master chef had to prepare eggs.

Hats have been around for a very long time. An early type of straw hat is shown in tomb drawings. Later, “liberty caps” were given to slaves in Greece and Rome when they were freed from slavery. Also in ancient Greece people began wearing the first known hats with brims. Women began wearing structured hats around the 16th century, although many women had been required to cover their heads with various items including veils, hoods, or scarves for centuries before.

Hats provide protection from the sun, rain, wind, and other harmful elements. They often designate membership to a group such as a scout troop or club. Some hats provide protection from falling things, such as a firefighter’s helmet or a construction worker’s hardhat. Other hats show rank, such as a chef’s hat. The taller it is, the more experience that person has in the kitchen.

Chair facts (Grades 3-6)

The Vitra Design Museum in Germany has one of the largest collections of modern furniture design in the world, with objects representing all of the major eras and stylistic periods from the beginning of the 19th century to the present. Special areas of the collection include early industrial bentwood furniture, turn-of-the-century designs by Viennese architects, Gerrit Rietveld’s experiments, tubular steel furniture from the 1920s and ’30s, key objects of Scandinavian design from 1930 to 1960, Italian design, and contemporary developments. A further area of special interest is American design, ranging from Shaker pieces to the postmodern seating of Robert Venturi.

The Museum Collection also holds work from several prominent estates, including those of Charles Eames, Verner Panton, Anton Lorenz, and Alexander Girard.

Resources

Designing for Children by Catherine Fishel

Teacher resource divided by age level. Good insight into design choices related to children’s needs and interests.

Fancy Nancy by Jane O’Connor

Nancy wants it all. Excellent example of embellishment through pictures and words. For grades K to 2.

Goldilocks and the Three Bears by Valeri Gorbachev

Large, bright, colorful, and funny illustrations of a classic tale. For all ages, especially the grades 3 to 6 lesson.

Hats, Hats, Hats by Ann Morris

Vivid photographs show people of all ages and ethnic backgrounds in hats. For K-2 lesson.

The Art of Construction: Projects and Principles for Beginning Engineers and Architects by Mario Salvadori

How-to book on basic principles of building all types of structures. Diagrams help explain concepts and projects. For grades 3 to 6 lesson.

The Three Bears by Byron Barton

Pared-down version of the story for ages 3 to 6. Perfect for grades 3 to 6 lesson.
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics [www.bls.gov/k12](http://www.bls.gov/k12)

- **Furniture designer:** a person who designs furniture
- **Industrial designer:** a person who designs things for use in industry
- **Toy design engineer:** a person who envisions, invents, and designs products for children’s play

**Vocabulary List**

<table>
<thead>
<tr>
<th>Advertising</th>
<th>Illustrate</th>
<th>Prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy</td>
<td>Innovation</td>
<td>Sell</td>
</tr>
<tr>
<td>Construction</td>
<td>Model</td>
<td>Text</td>
</tr>
<tr>
<td>Create</td>
<td>Observe</td>
<td>Theme</td>
</tr>
<tr>
<td>Design</td>
<td>Product</td>
<td>Variation</td>
</tr>
<tr>
<td>Differences</td>
<td>Promote</td>
<td>Variety</td>
</tr>
</tbody>
</table>

**Artwork by students from**

- Fredon Township School, Newton, New Jersey. Teacher: Beth Delaney
- Bryant Elementary School, Arlington, Texas. Teacher: Carolyn Sherburn
- St. John Neumann Regional School, Palmerton, Pennsylvania. Teacher: Paula Zelienka
### Suggested Preparation and Discussion

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display a variety of children’s books about hats.</strong> With children, create a bulletin board titled <em>Design With Variety in Mind</em>. Think about what delights, informs, and satisfies people when they see a hat. List ideas on the display. Display different types of hats. Create a simple model with Model Magic compound. Read stories about hats. Describe hats in each story. Chart details that illustrators used to make the hats interesting. Students identify how the stories and illustrations differ. **Collect children’s books with the same title such as <em>Goldilocks and the Three Bears</em> by different authors and illustrators. Create a bulletin board titled <em>Design With Variety in Mind</em>. Think about what delights, informs, and satisfies people when they sit in a chair. List ideas on the bulletin board. Challenge students to share what they know and love about <em>Goldilocks and the Three Bears</em>. Look at the illustrations and read stories in different versions. Identify how the stories and illustrations are different and which they prefer. Display different types of chairs. Create a simple, whimsical Model Magic model. Design an ad that points out the features and benefits that would make someone want to buy that chair. Consider variety, fun, safety, health, and intended users. Why does the model chair appeal to students? How is it different from their favorite chairs? Jot down responses for future discussion.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Crayola® Supplies

- Glue
- Model Magic®
- Paint Brushes
- Watercolors
- Markers
- Watercolor Pencils

### Other Materials

- Decorative craft materials such as feathers, chenille stems, and raffia
- Modeling tools such as plastic dinner knives, craft sticks, and toothpicks
- Natural, found materials such as twigs, stones, and leaves
- Paper towels
- Watercolor Pencils
- Recycled newspaper
- Drawing paper
- White paper

### Set-up/Tips

- Ask volunteers to collect recycled materials such as buttons, ribbons, chenille stems, yarn, paper towel tubes, cardboard, foam produce trays and shapes, wooden toothpicks, clear plastic containers, beads, and other objects.
- Review increasingly advanced modeling techniques, such as kneading marker color into white modeling compound to create one-of-a-kind hues.
- Cover painting space with newspaper.

### Process: Session 1

**30-45 min. or more**

#### Create hat prototypes

1. Students describe what tickles their fancy about the hats on display.
2. Combine Model Magic® compound with craft and recycled items to create a simple variation of a hat.
3. Use modeling tools to add texture and shape. Air-dry hats 24 hours.

#### Create chair prototypes

1. Students describe what tickles their fancy about the displayed model chair.
2. Children combine Model Magic compound with recycled and found objects to create a unique chair that is a variation of the model. Impress objects to add texture. Knead two or more colors together to marbleize or create new hues.
3. Air-dry chairs for 24 hours.

---

**Painted Cardboard Chair**  
Artist: Scott Atiyeh  
Tempera paint, cardboard  
18” x 18” x 36”  
Private Collection.

**Ceramic Chair**  
Artist: Patricia Passick  
Glazed ceramic  
4” x 4” x 6”  
Collection of the artist.
| Process: Session 3 10-15 min. | 5. Glue on decorative materials to highlight the models. Air-dry the glue. |
| Process: Session 5 20-30 min. | Write chair ads 9. On separate paper, write three or four unique features and benefits of chairs that will encourage customers to want to buy them. Consider text that has a sense of humor and a wonderful appreciation of absurdity. 10. Compare models and ads. Discuss how they are similar and different. 11. Edit and write text on ad, using a combination of block letters and simple, clear printing. |

**Assessment**
- Display hats. Children discuss various functions of hats. They group hats according to function.
- Create additional categories for hats. Categories could include sizes, colors, materials, decorative vs. functional, or other qualities.
- Students compare each other’s chair models or artwork that show design variation such as sculpted snails along with ads to make sure that their artwork illustrates variation in design when compared to other works of art by classmates. Check to see if ads are appealing and convincing. Discuss variations observed.
- Students identify which ads helped convince them to buy a specific chair.
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

**Extensions**
- Together, list jobs for which hats are worn. What features do hats need for these jobs? Design new hats that meet the criteria.
  - Students pretend they lost their hats. Write and illustrate lost and found notices. Use descriptive language.
  - Together, read and act out stories about hats such as Esphyr Slobodkina’s *Caps for Sale*. Create hats, sets, and programs to present to younger children.
- Encourage pairs or teams of students to follow the variation design process to create a shopping bag ad for a second model chair that they design.
  - Visit a design studio to learn more about the design process for furniture, clothing, or other objects.
  - Work with a carpenter-in-residence to build replica (or life-size) wooden chairs.
  - Advanced students trace the history of chairs and present their findings on an illustrated time line.
  - Ask students to invent their own new products, sculpt the items, and write ads to promote their benefits.

*Design Variations of Snails*  
Artists unknown  
Private Collection.
Objectives
Students identify and implement ways in which rhythm applies to music, poetry, physical movement, and visual arts.

Students develop an understanding of and respect for diversity in the rhythms of various cultures.

Students use shape and color to create rhythmical prints or paintings.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Bodily-kinesthetic</th>
<th>Linguistic</th>
<th>Logical-mathematical</th>
<th>Musical</th>
<th>Spatial</th>
</tr>
</thead>
</table>

What Does It Mean?

Rhythm: a movement or procedure with uniform or patterned recurrences of a beat or accent

Syncopated: to place the accents on beats that are typically unaccented

Background Information

Rhythm is found in the music, art, language, and physical movement of every culture. The rhythm of music is its beat. When the rhythm is fast, it is exciting and reminds people of a racing heart or pounding feet. Slow music can be quiet and gentle or deep and mournful. Latin cultures are famous for the tango, the culture of Vienna led to the formal waltz, and African tribes and Native Americans dance to the throbbing beat of drums.

In art, the elements of color, line, and texture work together to create rhythm. Patterns of shapes lead the eye across a page, and color adds accents. Language also has a rhythm. Some languages are sharp and staccato while other are deep and guttural. Some are high pitched while others are almost melodious. Poetry is an especially rhythmical form of language. In published materials, illustrators often work closely with authors to integrate the rhythms of art and text.

Even physical movements are rhythmical. People walk, run, and dance to rhythms.

Resources

* Ben’s Trumpet by Rachel Isadora
  Showcases the syncopated rhythms of Harlem during the Jazz Age with black and white Art Deco-style illustrations.

* Bud, Not Buddy by Christopher Paul Curtis
  Older children enjoy this story of a 10-year-old boy in Depression-era Michigan who is certain that a great jazz bandleader is his father.

* Caribbean Counting Book by Faustin Charles
  A collection of songs and rhymes from Caribbean countries.

* I See the Rhythm by Toyomi Igus
  From the first slave chants to contemporary hip-hop, this book celebrates the rich history of African American music.

* The Blues of Flats Brown by Walter Dean Myers
  A junkyard dog escapes from an abusive master and makes a name for himself playing the blues on his guitar.

National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #1</th>
<th>Social Studies Standard #1</th>
<th>Music Standard #8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding and applying media, techniques, and processes</td>
<td>Students give examples of how experiences may be interpreted differently by people from diverse cultural perspectives and frames of reference.</td>
<td>Students explore and understand relationships between music, the other arts, and disciplines outside the arts.</td>
</tr>
<tr>
<td>Visual Arts Standard #4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding the visual arts in relation to history and culture</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vocabulary List

- Art vocabulary
  - Animation
  - Continuity
  - Deco
  - Decorative
  - Expressive
  - Figure
  - Flow
  - Form
  - Gesture
  - Hues
  - Motion
  - Pattern
  - Perspective
  - Proportion
  - Regularity
  - Repetition
  - Rhombus
  - Stamping
  - Technique

- Social studies vocabulary
  - African American
  - Caribbean
  - Diversity
  - Respect

- Music vocabulary
  - Accent
  - Beat
  - Count
  - Jazz
  - Melody
  - Pattern
  - Repetition
  - Rhythmic
  - Syncopated

Artwork by students from College Oaks Elementary School, Lake Charles, Louisiana.
Teacher: Bobbi Yancey
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

- **Graphic designer**: a person who creates visual art, usually not paintings, often for print or electronic media
- **Social anthropologist**: a person who studies the origins, behaviors; and physical, social, and cultural development of humans

Artwork by students from College Oaks Elementary School, Lake Charles, Louisiana. Teacher: Bobbi Yancey
### Suggested Preparation and Discussion

Ask students to explain what the word *rhythm* means. Besides music, where else does rhythm occur? Discuss rhythm in art, poetry, and movement. Prepare lists of vocabulary words from various subject areas related to rhythm.

Clap out a simple rhythm. Encourage students to imitate several simple rhythmical patterns, including their own inventions.

Collect and display reproductions of artwork that illustrate rhythm, such as those shown here. Discuss how line, shape, color, pattern, and movement all contribute to rhythm in art.

Demonstrate how to use a stamp to make a simple print illustrating a rhythmical pattern.

### Crayola® Supplies

- Model Magic®
- Paint Brushes
- Scissors
- Tempera Paint
- Slick Stix™ Crayons

### Other Materials

- Drawing paper
- Freezer paper
- Paper plates
- Paper towels
- Recycled newspaper
- Rulers
- Textured surfaces such as sink mats and bricks
- Water containers

### Set-up/Tips

- Freezer paper, found in grocery stores, makes excellent stencils.
- Demonstrate how to mold a Model Magic stamp with a handle.
- Use paper plates as painting palettes.

---

Textiles that show pattern/repetition/rhythm in their design

Fabric
Artists unknown
Private Collection.

---

*Produce Market*  
Guangzhou, China  
Photo by J. McCracken
<table>
<thead>
<tr>
<th>Process: Session 1</th>
<th>30-45 min.</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create stamps</td>
<td>1. Form Model Magic compound into a printing stamp with a handle.</td>
<td>2. Gently push the face of the stamp against a highly textured surface. Air-dry 24 hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cut stencils</td>
<td>3. Cut a 6- x 9-inch rectangle of freezer paper. Fold it in half.</td>
<td>4. Draw a simple figure on the paper using at least two basic shapes such as squares, circles, triangles, rectangles, ovals, or a rhombus.</td>
<td>5. Snip into the center of the shape with scissors. Cut away the interior to create a stencil.</td>
<td></td>
</tr>
<tr>
<td>Create a rhythmic pattern</td>
<td>6. Create a stamp pad by folding and dampening a paper towel and placing it on a paper plate. Spread a tablespoon of tempera paint evenly over the damp surface using a paint brush.</td>
<td>7. Fold drawing paper into thirds. Press the paper open. Lay a stencil on one section of the drawing paper. Press the textured side of the stamp into paint. Press it on the paper that is visible through the stencil opening. Repeat stamping.</td>
<td>8. Wipe stencil clean before creating similar images in the other two sections of the paper. Place the stamps to create a rhythmic repetition of the figure design. Air-dry the paint.</td>
<td></td>
</tr>
<tr>
<td>Process: Session 2</td>
<td>20-30 min.</td>
<td>9. Cut out additional details around the perimeter of the stencil opening so that the cuts enhance the figure image.</td>
<td>10. Overlap and repeat stenciling and stamping to create multi-layered images of textured figures. Air-dry the paint.</td>
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</tr>
<tr>
<td>Process: Session 3</td>
<td>30-45 min.</td>
<td>11. Add Slick Stix hues to the background of the stenciled figure design to complete the work.</td>
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<tr>
<td>Process: Session 4</td>
<td>20-30 min.</td>
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<tr>
<td>Process: Session 5</td>
<td>10-20 min.</td>
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</tr>
<tr>
<td>Assessment</td>
<td></td>
<td>• Is each stencil figure composed of at least two basic shapes?</td>
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<tr>
<td></td>
<td></td>
<td>• Display everyone’s prints. Identify and discuss the rhythmic patterns in each. How do certain colors contribute to the rhythm? How does the placement of the figures on the page contribute to the sense of rhythm?</td>
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<tr>
<td></td>
<td></td>
<td>• Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.</td>
<td></td>
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</tr>
<tr>
<td>Extensions</td>
<td></td>
<td>Encourage students to identify visual rhythms in patterns and textures in the environment. Make rubbings from these textures. Use them to create original art with rhythmic patterns.</td>
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<tr>
<td></td>
<td></td>
<td>Students with strong mathematical skills investigate relationships between mathematics and music, especially in terms of rhythms. Share findings with the class.</td>
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<tr>
<td></td>
<td></td>
<td>Play music with various distinctive rhythms and encourage students to create works of art inspired by the rhythms. Display and discuss results.</td>
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<tr>
<td></td>
<td></td>
<td>Share poetry with the class, focusing on rhythmic language. Examine anthologies with illustrations that display particularly rhythmic use of line and color. How are art and text integrated?</td>
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<tr>
<td></td>
<td></td>
<td>Invite a cheerleader to teach some cheers to students, especially those with special needs, to enhance their understanding of rhythm. Talk about the experience afterwards. How did students feel when they were cheering? Did they picture any colors or shapes? Create works of art inspired by the experience.</td>
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<tr>
<td></td>
<td></td>
<td>For even more textured surfaces, add Crayola Tempera Mixing Mediums to the paint.</td>
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</tr>
</tbody>
</table>

Danny and His Dogs
Artist: Ray Leight
Wood, paint
Private Collection.
**Objectives**

Students examine samples and reproductions of woven materials and learn the basic technique for weaving using a warp and weft.

Students understand and use mathematical measurements and processes to create a woven design.

Students demonstrate an understanding of the weaving process and how texture enhances the design by creating simple tabby weavings combining hand-painted, textured papers with other materials.

**Multiple Intelligences**

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Logical-mathematical</th>
<th>Spatial</th>
</tr>
</thead>
</table>

**What Does It Mean?**

**Low relief:** short 3-D projections on a surface, as in sculpture or weaving

**Warp:** threads that run lengthwise

**Weft:** horizontal threads that are woven over and under the warp threads

**National Standards**

<table>
<thead>
<tr>
<th>Visual Arts Standard #2</th>
<th>Mathematics Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using knowledge of structures and functions</td>
<td>Algebra</td>
</tr>
<tr>
<td>Visual Arts Standard #5</td>
<td>Students will understand patterns, relations, and functions</td>
</tr>
<tr>
<td>Reflecting upon and assessing the characteristics and merits of their work and the work of others</td>
<td>Geometry</td>
</tr>
<tr>
<td></td>
<td>Specify locations and describe spatial relationships using coordinate geometry and other representational systems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science Standard</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unifying Concepts and Processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systems, order, and organization; form and function</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Background Information**

Weaving is an ancient art that probably developed in western Asia around 6000 BCE. At first people wove palm leaves and natural grasses to create rugs or mats. Later, when they learned how to pull and twist plant or animal fibers to produce threads, they wove these threads to produce narrow bands of fabric. Eventually they made looms for creating wider pieces of cloth.

Weaving involves passing threads or strands of material under and over each other in a pattern to create a larger, sturdier whole. The threads that are stretched vertically on a loom are called the **warp** and those that are woven horizontally through the warp are called the **weft**.

As weaving skills advanced, people learned to integrate colors to create various patterns, designs, and even pictures.

**Resources**

*How Artists Use…Pattern and Texture* by Paul Flux
Addresses the concepts of color, shape, line, tone, pattern, and perspective as they relate to children’s art.

*Women Work: The First 20,000 Years: Women, Cloth, and Society in Early Times* by Elizabeth Wayland Barber
New discoveries about the textile arts that reveal women’s influential role in ancient societies. Background information for teachers.

*World Textiles: A Concise History* by Mary Schoeser
Covers the history of weaving. Describes how textiles are made and from what. Includes information about the functions, value, and meaning of textiles. Good teacher resource.

*You Can Weave! Projects for Young Weavers* by Kathleen Monaghan
An excellent weaving resource for students of any age.

**Vocabulary List**

*Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.*

**Art vocabulary**
- Border
- Coarse
- Decorative
- Embellishment
- Enrich
- Fabric

**Science vocabulary**
- Analyze
- Compare
- Connect
- Contrast

**Math vocabulary**
- Functions
- Measure
- Relationship

**Low relief:** short 3-D projections on a surface, as in sculpture or weaving

**Warp:** threads that run lengthwise

**Weft:** horizontal threads that are woven over and under the warp threads

Artwork by students from Gayman Elementary School, Plumstead, Pennsylvania. Teacher: Cara Lucente
Career Possibilities
Exploring Career Information
From the Bureau of Labor
Statistics www.bls.gov/k12

- **Textile engineer**: an artist/mathematician who imagines, designs, and calculates the processes involved in weaving complex fabric designs
- **Weaver**: a person who designs and creates textiles made on looms
**Texture Weaving—Warp and Weft**

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suggested Preparation and Discussion</strong></td>
<td>Create a display that shows and labels the simple technique of over and under tabby weaving using simple strips of paper. Research the origins and development of woven cloth. Display various weaving samples. Provide books that showcase reproductions of weavings from around the world.</td>
<td></td>
</tr>
<tr>
<td><strong>Crayola® Supplies</strong></td>
<td>• Colored Pencils • Glitter Glue • Markers • Paint Brushes • School Glue • Scissors • Tempera Mixing Mediums • Watercolors</td>
<td></td>
</tr>
<tr>
<td><strong>Other Materials</strong></td>
<td>• Construction paper • Oak tag paper or recycled file folders • Paper towels • Raffia • Ribbon • Rulers • String • Water containers • Yarn</td>
<td></td>
</tr>
<tr>
<td><strong>Set-up/Tips</strong></td>
<td>• Periodically check student weavings to ensure that weft is kept tight. • Weft materials may be secured to warp with small dots of glue to ensure they stay in position.</td>
<td></td>
</tr>
</tbody>
</table>

### Hands-on Project

- **Handwoven Mayan Bird Pattern**
  **Artist unknown**
  **Natural fibers**
  **24” x 46”**
  **Panajachel, Guatemala**
  **Private Collection.**

- **Rapid I Movement**
  **Artist: Barbara Schulman**
  **Acrylic, canvas, brass grommets**
  **33” x 23”**
  **Private Collection.**
<table>
<thead>
<tr>
<th>Process: Session 1 10-15 min.</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Create decorative papers</strong></td>
<td>1. Wet two 12- x 18-inch sheets of drawing paper with water.</td>
<td>2. Wet two 12- x 18-inch sheets of drawing paper with water.</td>
<td>3. Wet two 12- x 18-inch sheets of drawing paper with water.</td>
</tr>
<tr>
<td>2. Drop or brush watercolor paint over the paper. Air-dry.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process: Session 2 10-20 min.</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Create the warp</strong></td>
<td>3. Embellish the painted papers with additional lines, shapes, and patterns using paint or markers. Add mixing mediums to or on top of the paint to enrich the surfaces. Air-dry the papers.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process: Session 3 20-30 min.</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weave with the weft and warp papers</strong></td>
<td>4. Fold one decorated paper in half with the decorative part on the inside. Lay it flat. Measure and draw one-inch borders on all sides of the paper EXCEPT the folded edge. Print DO NOT CUT inside the three borders.</td>
<td>5. Place the folded edge at the bottom. Mark off the upper margin line in one-inch segments. Place one-inch marks along the lower, folded edge as well. Open the paper. Connect the marks with straight (K-2) and/or curved (3-6) lines.</td>
<td>6. Carefully cut on the lines, starting from the fold and cutting toward but not into the border.</td>
</tr>
<tr>
<td>7. Open the paper warp and place it paint-side up.</td>
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<td></td>
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</tbody>
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<thead>
<tr>
<th>Process: Session 4 30-45 min.</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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</thead>
<tbody>
<tr>
<td><strong>Analyze weavings</strong></td>
<td>8. Cut a second sheet of decorative paper into strips of varying widths. These are the weft strips.</td>
<td>9. Using the strips and a variety of other decorative weaving materials, weave the weft into the paper warp. Weavings should be increasingly intricate when made by older children. Go over and under the warp paper strips to create a simple tabby weave. Keep weft strips close together to create a tight weave. Continue the process until the paper warp is filled.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Process: Session 5 10-15 min.</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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</thead>
<tbody>
<tr>
<td><strong>Assessment</strong></td>
<td>10. Display weavings. Ask students to compare and contrast the works in terms of color, pattern, texture, and tightness of weave. What do they like best about their own weavings? What do they admire in the weavings produced by others?</td>
<td>11. Ask students with the most tightly woven work to explain how they were able to accomplish this.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Extensions</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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</thead>
<tbody>
<tr>
<td><strong>Use larger warp and weft measurements and materials such as fabric that is not as likely to tear with students whose special needs or ages make small motor coordination difficult.</strong></td>
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<tr>
<td><strong>Attempt the same weaving process using large sheets of craft paper to make wall hangings for display. Teams of students can work on these together.</strong></td>
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</tr>
<tr>
<td><strong>Create a large simulated class weaving through movement. Eight students form a straight line by standing side by side, one foot apart. These students form the warp of the weaving. Ask for a volunteer to be the weft weaver. The weft weaver carries a 30-foot long rolled paper streamer and places one end securely in the hands of the first warp person in line. The weft weaver then passes in front of the first warp person and behind the second warp person to simulate tabby weaving. Continue weaving through the weft until the end of the line. Turn and weave back through the line in an opposite pattern. As many students as possible play the role of the warp weaver.</strong></td>
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<tr>
<td><strong>Students with a special talent for weaving might enjoy experimenting with various patterns using colored yarns and a small hand loom.</strong></td>
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<tr>
<td><strong>Celebrate May Day with a Maypole. Show students how to weave in and out as they dance in a specified pattern while holding crepe paper streamers. Admire the woven results.</strong></td>
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<tr>
<td><strong>Invite a weaver to school to show how weaving is done on various types of looms.</strong></td>
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</tbody>
</table>
Unity—It’s Not Just a Theorem!

Objectives

Students explore stenciling techniques to see how different shapes can be combined to create new, unified images.

Students read books illustrated with theorem paintings to see how art and text are integrated to enhance a literary experience.

Students create replica theorem paintings with oil pastels to demonstrate their understanding of an early American decorative art technique.

Multiple Intelligences

Interpersonal

Linguistic

Spatial

National Standards

Visual Arts Standard #1
Understanding and applying media, techniques, and processes

Visual Arts Standards #4
Understanding the visual arts in relation to history and cultures

Mathematics Standard
Connections

Students should be able to recognize and use connections among mathematical ideas; understand how mathematical ideas interconnect and build on one another to produce a coherent whole; and recognize and apply mathematical contexts outside of mathematics.

English Language Arts Standard #12
Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Background Information

Theorem painting began in England and became popular in North America sometime around 1800. It was a decorative art involving the use of stencils, or theorems, to create detailed oil paintings on velvet or paper. Multiple stencils were used in order to align shapes and apply individual colors. The subject matter was usually a still life with fruit, flowers, baskets, and bowls. Although stencils were used, artists added shading and fine details such as leaf veins and stems. The craft was popular for only about 50 years, so not many original, antique examples remain.

Resources

Finding Fido the Feline by Barbara A. Palmer
A flip book with an American Sign Language component as well as theorem painting illustrations. Story of a family of cats searching for Fido, the youngest cat. Appeals to young elementary school students.

The Art of Theorem Painting by Linda Carter Lefko
Examines the development, techniques, and applications of theorem painting.

The Complete Stenciling Handbook by Sandra Buckingham
Excellent resource for teaching stenciling. Includes directions for flat 2-D template application to fabrics, floors, glass, and paper.

The Journey of the Cattail by Barbara A. Palmer
A children’s picture book with theorem painting illustrations.

Trompe l’Oeil Stenciling by Jocelyn Kerr Holding
Offers information on perspective, color, and stenciling techniques for beginners.

What Does It Mean?

Theorem painting: paintings typically created on velvet rendered with the use of stencils. Theorem paintings were produced in many female academies during the early 1800s.

Trompe l’Oeil: artwork that is portrayed realistically so that people think they are looking at something real; visual illusion such that 2-D paintings appear to be 3-D

Vocabulary List

Some of the vocabulary listed below may be helpful, but most important for this lesson is to use vocabulary from recent classroom lessons appropriate to the ages and ability levels of the students.

- Art vocabulary
  - Dab
  - Effects
  - Shade
  - Shadow

- Mathematics vocabulary
  - Coherent
  - Dimension
  - Equation
  - Formula
  - Interconnect
  - Parameter
  - Rhombus
  - Sequence
  - Series
  - Shape
  - Unit
  - Unity
  - Whole

- Stencil
- Theorem
- Tint
- Trompe l’Oeil

38 Principles of Art and Design
**Career Possibilities**

Exploring Career Information
From the Bureau of Labor Statistics [www.bls.gov/k12](http://www.bls.gov/k12)

- **Theorem painter**: a person who creates, designs, and makes art using techniques that involve geometric shapes and stencils
**Principles of Art and Design**

**K-2**

**Suggested Preparation and Discussion**

Display reproductions of theorem paintings as well as picture books illustrated with this style of art. Research information about theorem painting.

Read aloud a story illustrated with theorem paintings. Encourage children to examine the illustrations and discuss how the paintings relate to the story. Why do they think the artist chose this art form to illustrate this story?

Create and display a simple example of a theorem image that clearly illustrates how several stencil designs can be combined to create a whole.

**Crayola® Supplies**

- Colored Pencils
- Glitter Glue
- Scissors
- Paint Brushes
- Tempera Paint
- Oil Pastels

**Other Materials**

- Masking tape
- Recycled file folders
- White drawing paper or flocked paper
- Paper clips
- Paper towels
- Recycled newspaper
- Water containers
- Freezer paper

**Set-up/Tips**

- Encourage younger children to use only large, simple shapes for their designs to make it easier to apply color.
- Gently apply small loops of masking tape to the underside of stencils to hold them in position while applying color. With younger children, use paper clips as well.

**Process: Session 1 15-20 min.**

Create a simple design for a theorem painting

1. Students choose a simple object with no more than two or three parts, such as an apple with a leaf, a sun circle with simple triangle rays, or a boat with two triangle sails. Plan shapes to fit within a 4- x 6-inch block.

2. Draw the image on a recycled file folder so the parts of the object create a whole but are not connected and do not overlap. Cut out the interior shapes to make a template.

**Process: Session 2 20-30 min.**

Apply color

3. Place tape rolls between the template and drawing paper. Apply color to one stencil opening at a time. Air-dry paint.

4. Carefully remove stencil to reveal finished work. Add details such as leaf veins and stems if desired.

5. Use Glitter Glue to enhance painting. Air-dry.

Make stencils for individual images

3. Cut freezer paper into several 4- x 6-inch pieces. Place the template on one piece of freezer paper. Trace around the outer edge and then trace one of the images. Place the template on a second sheet of freezer paper. Again trace the outer edge carefully and then a second image. Continue making stencils for different images.

4. Cut away the traced shapes from the freezer papers to create stencils. Gently fold the freezer paper in half and with scissors, snip at the fold inside the drawn shape to begin each cut (see diagram).

5. Lay stencils one on top of the other, lining up outer edges exactly. Hold to light to be sure all stencil parts coincide to create the intended image.

---

**Unity—it’s Not Just a Theorem!**

**Wood Chime**

Artist unknown

Wood, paint, wire

10” x 12” x 3”

Crayola Decorative Art Collection.

**Decorative Tin Watering Can**

Artist: Nancy Bateman

Tin, paint

12” x 18” x 8”

Crayola Decorative Art Collection.
<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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</thead>
</table>
| **Process: Session 3**  
30-45 min. | **Identify shapes**  
6. Students identify at least one basic shape that appears in their art. Write those words on the back.  
7. Display art so students can look for basic shapes in classmates’ work. | **Apply color**  
6. Position one stencil on top of a sheet of drawing or flocked paper with masking tape rolls. Trace around the outer edge with a colored pencil.  
7. Apply oil pastel color to the stencil opening. Vary pressure to create darker or lighter shades. Lift the stencil and carefully add details such as shadows and highlights. Keep edges of images sharp.  
8. Lay a second stencil on the paper, lining up the outer edges exactly with the outline. Apply color as before. Continue with each different stencil until all parts have been added.  
9. Look at the full picture. Do all parts work together to create a whole image? Apply other colors to the original shapes as desired to create tints and shades. Add glitter glue for special effects. Air-dry the glitter glue. |
| **Process: Session 4**  
5-10 min. | **Identify shapes and write directions**  
10. Display art. Identify basic shapes within the works. Discuss the process of making stencils that interconnect to produce a coherent whole.  
11. Students write step-by-step instructions for the process they used to make the theorem work. Exchange directions and create one stencil following a classmate’s directions. | |
| **Assessment** | • Does each work include at least two stenciled images?  
• Do separate images work together to create a whole image?  
• Does the word written on the back accurately identify one shape that appears on the front? | • Do individual parts combine to create a recognizable whole? Does each image have a sharp edge? Was color applied in such a way as to create the illusion of shadows and highlights?  
• Could students identify basic shapes within their works?  
• Are directions clearly written and easy to follow? |
| | • Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned. | |
| **Extensions** | Provide cutting help for younger children and those whose small motor skills are not yet fully developed. Older students or family members may be willing to assist. Consider using a Crayola Cutter or Ultimate Cutter™ to make interior cuts.  
If there is a local folk art museum nearby, contact it about any theorem paintings on exhibit. If they have any, arrange for a visit.  
Invite students with strong research skills to find out more about the German American cultures known for creating theorem paintings. Ask them to share their findings with the class.  
Invite a local theorem painter to demonstrate how theorem paintings are created. Show the art in display cases.  
Suggest that students who enjoy theorem painting demonstrate the craft at a school or community folk festival. | |
Objectives

Students demonstrate an understanding of the concept of proportion by identifying objects in surreal paintings that appear to be out of proportion.

Students create a surreal work of art by contrasting two or more objects in such a way as to present an unrealistic sense of proportion.

Students use written language to describe an imaginary experience portrayed in an original work of art.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Naturalist</th>
<th>Linguistic</th>
<th>Spatial</th>
</tr>
</thead>
</table>

What Does It Mean?

**Proportion:** relative size between two or more objects

**Surrealism:** art that unites dreams or fantasies with realistic subjects, usually in surprising, incongruous ways

---

**National Standards**

**Visual Arts Standard #1**
Understanding and applying media, techniques, and processes.

**Visual Arts Standards #3**
Choosing and evaluating a range of subject matter, symbols and ideas

**English Language Arts Standard #12**
Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

**Mathematics**

**Geometry**
Use visualization, spatial reasoning, and geometric modeling to solve problems

---

**Background Information**

Surrealism, often referred to as a world of dreams, is an art form that was founded in Paris in 1924 by Andre Breton. Some of his most famous followers were Salvador Dali, Max Ernst, and Joan Miro. Surreal art is marked by distortions of shape, proportion, and texture. It defies reason and relates to dreams.

Surrealism flourished in Europe between World Wars I and II. Some surrealist artists had the belief that a world far better than the real world exists in the world of dreams, fantasy, and imagination. Surrealism was an attempt to delve into the subconscious using fantastic imagery and an unreal juxtaposition of subject matter.

---

**Vocabulary List**

* Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

- **Art vocabulary**
  - Contrast
  - Dimension
  - Painting
  - Proportion
  - Shape
  - Space
  - Technique
  - Watercolor

- **Language vocabulary**
  - Dreams
  - Dream-like
  - Evaluate
  - Imagine
  - Investigate
  - Object
  - Opposites
  - Real
  - Relationships
  - Understand
  - Unreal
  - Size

- **Mathematics vocabulary**
  - Object
  - Proportion
  - Relationship
  - Scale
  - Size
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics
www.bls.gov/k12

- **Painter**: an artist who uses liquid media to create pictures and decorate other surfaces
- **Set designer**: an artist who imagines, plans, and makes models for stage plays and movies
### Dreaming About Proportion and Contrast

<table>
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<tr>
<th>Suggested Preparation and Discussion</th>
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</thead>
<tbody>
<tr>
<td>Explain that some artists paint pictures that look very real, and others paint pictures that look like something from a dream. These are called surreal paintings.</td>
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<tr>
<td>Show reproductions of some surreal art such as Dali’s Persistence of Memory. Ask students to identify objects in the paintings and then explain what seems unreal about them. Consider both subject matter and setting. Discuss form, contrast, and proportion.</td>
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<tr>
<td>Create simple graphic examples of contrasting objects. Consider contrasting colors as well as contrasting sizes such as a small circle next to a large circle or a tiny white square next to a gigantic black square. Also show contrasts in proportion such as a tiny person next to a huge bug.</td>
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</table>

### Crayola® Supplies

- Colored Pencils
- Paint Brushes
- Tempera Paint
- Watercolors
- Watercolor Colored Pencils

### Other Materials

- White drawing paper
- Paper towels
- Recycled newspapers
- Water container
- White paper
- White watercolor paper

### Set-up/Tips

- Cover painting area with newspaper.
- Rinse brushes in water and blot on paper towels to keep colors fresh, vibrant, and clean.
- Dip watercolor pencils in water to achieve dark colors for outlining and adding detail.

### Process: Session 1

**30-45 min.**

1. Students think of a person and a thing.
2. First, draw the person. Then draw the other object so that it appears much larger or much smaller than it would be in real life in comparison to the person.
3. Write a sentence describing the two items in the drawing as if they appeared in a dream. (“Last night I dreamed that I was taller than my house.”)

### Process: Session 2

**10-20 min.**

4. Enrich drawings by filling areas with washes of watercolor. Brush portions of the watercolor pencil drawing to add softness. Create a dream-like effect. Air-dry the art.

### Process: Session 3

**10-20 min.**

5. Add contrasting details to the soft dream-like images to define them more clearly despite their surreal appearance.

### Assessment

- Display and discuss all the drawings. Can students identify objects in classmates’ drawings? In what ways are the objects out of proportion in comparison to their real-life sizes? How does contrasting one object with another establish a discrepancy in proportion? If there were only one object in the painting would people feel it was out of proportion? Why or why not? How does contrast add meaning?
- Students read their sentences aloud. Discuss how they relate to the drawings.
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.
Extensions

Make word lists of things students remember from recent dreams. Illustrate recent dreams and explain them if students wish to do so.

Encourage students with special needs to share their ideas with the class. Work with them individually to help them grasp the concept. Use magazine pictures as needed to help them visualize the assignment.

Students with strong research skills might find out more about the science of sleep and dreams to share with the class.

Collect examples of visual illusions based on contrasting proportion. Observe and discuss them.

Create a class mural in which each student adds two objects out of proportion to each other.

---

The Wisdom of Trees
Artist: John Thomas
Acrylic on board
24" x 32"
© 2007 John Thomas

Block Head
Artist unknown
Cardboard, paint, raffia, plush animal
Private Collection.
Emphasize Your Personality

Objectives
Students create symbols to represent elements of their ethnicity.

Students create a clothing design with a focal point that symbolizes their cultural or personal heritage.

Students identify the focal point in various works of art.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Linguistic</th>
<th>Spatial</th>
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</thead>
</table>

What Does It Mean?

Emphasis: stress or importance

Ethnic: belonging to a particular racial or cultural group

Focal point: primary area of interest in a work of art

Background Information
A focal point in a work of art is the part of the work that catches the eye of the viewer first. The focal point is sometimes called the “center of interest” and generally emphasizes an area of importance. Often emphasis is placed on the focal point by way of color, texture, line, shape, signs, and symbols. Great artists use focal points to make the viewer’s eyes move around works of art. Many works of art have several focal points to guide viewing.

Resources

Aprons—Icons of the American Home by Joyce Cheney
Large, colorful photos of apron designs. Useful resource for children making their own designs.

Get Along by George Abrahams and Sheila Ahlbrand
Emphasizes how gender shapes who we are, what we want, and how we get along.

Monograms and Ciphers by A.A. Turbayne
Examples of 1,200 two- and three-letter monogram graphics. Wide variety of styles including Art Nouveau, Victorian, rustic, script, and block letter. Excellent reference for art projects.

Symbols, Signs, and Sigets by Ernst Lehner
Inspiring ideas for all ages. Includes thousands of black and white symbols, signs, marks, inscriptions, and engravings.

National Standards

| Visual Arts Standard #3 |
Choosing and evaluating a range of subject matter, symbols, and ideas |

| Visual Arts Standard #5 |
Reflecting upon and assessing the characteristics and merits of their work and the work of others |

| English Language Arts Standard #12 |
Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information). |

| Social Studies Standard #1 |
Culture—experiences that provide for the study of culture and cultural diversity |

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

Art vocabulary
Center of interest  Monogram  Signets
Contrast  Pattern  Symbol
Focal point  Shape  Texture
Line  Sign

Social studies vocabulary
Artifacts  Diversity  Interpret
Background  Ethnicity  Multicultural
Characteristics  Heritage  Unique
Cultures  Icon
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics www.bls.gov/k12

- **Fashion designer**: a person who designs, creates, and/or markets clothing or apparel
- **Textile designer**: a person who creates fabric patterns, colors, textures, and styles

Artwork by students from Clearview Elementary School, Clear Lake, Minnesota. Teacher: Kathy Gerdts-Senger
### Suggested Preparation and Discussion

Collect and display cultural artifacts and photographs representing a variety of ethnicities. Include flags, maps, clothing, dolls, crafts, and other representations.

Ask children what the terms *multicultural* and *diverse* mean to them. In what ways is the United States of America one of the most diverse nations in the world? Ask those who wish to share something about their own cultural heritage to do so. In addition to their cultural heritage, what are some other characteristics the children or their families have that make them unique? Encourage children to contribute ideas.

Collect and display examples of art that have a definitive focal point (posters, photographs, clothing). Include an example of an apron or T-shirt similar to those the children will make. Ask children to point out the things that attract their attention first. Where is the emphasis? Explain that this is called the *focal point*. Ask what it was about each focal point that drew their attention. Discuss color, line, contrast, and other art elements.

Tell children they will design a piece of clothing with a focal point that emphasizes their cultural heritage or personal interests. Brainstorm ideas either orally or by asking each student to list possible signs or symbols.

### Crayola® Supplies

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<tr>
<th>K-2</th>
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<tbody>
<tr>
<td>• Construction Paper™ Crayons</td>
<td>• Fabric Markers</td>
<td>• Markers</td>
</tr>
<tr>
<td>• Glitter Glue</td>
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<tr>
<td>• Slick Stix™ Crayons</td>
<td>• School Glue</td>
<td>• Scissors</td>
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### Other Materials

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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<tbody>
<tr>
<td>• Brown paper grocery bag</td>
<td>• Clothes dryer (adult use only)</td>
<td>• Oak tag</td>
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<tr>
<td>• Clean recycled sheets</td>
<td>• T-shirts</td>
<td>• Sandpaper, medium grade</td>
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### Set-up/Tips

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<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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<tbody>
<tr>
<td>• Ask parents to collect brown paper grocery bags.</td>
<td>• Ask parents to provide T-shirts in their children’s sizes.</td>
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<tr>
<td>• Ask parent volunteers to collect and cut clean, flat recycled bed sheets into 5-foot long, 3-inch wide strips.</td>
<td>• Recruit parents who can heat-treat T-shirts in clothes dryers.</td>
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</tbody>
</table>

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*Vietnamese embroidered apron
Artist unknown
Private Collection.*

*African Buba and Sohoto
Artist unknown
Cotton brocade with embroidery
Private Collection.*
### Process: Session 1 30-45 min.

#### Design an art apron with a focal point

1. Show students how to cut away the bottom part of a brown grocery bag and lay it flat on a work surface.
2. Fold the paper in half. Reopen the paper and glue along the fold. Center a fabric strip over the glue. Add more glue. Fold the paper to create an apron with the sash firmly glued inside.
3. Students identify a focal point for their designs. Draw personal symbols on the front of the apron. Use color, line, and/or shape to highlight the focal point.

### Process: Session 2 30-45 min.

#### Emphasize the focal point

4. Glue additional decorative items such as feathers, ribbon, or other craft materials to the face of the design to capture attention and emphasize the focal point.

### Process: Session 3 30-45 min.

#### Display aprons

5. Display aprons. Students take turns describing their symbols and what they mean. Classmates identify the focal point of each design.

#### Exhibit T-shirts

5. Exhibit T-shirts as a museum display. Write an accompanying paragraph on oak tag explaining the symbols and techniques used to create a focal point. Cut oak tag to size and post paragraphs next to T-shirts.

### Assessment

- How well do designs demonstrate an understanding of the use of symbolism in relation to cultural heritage and/or personal interests?
- How effectively have children used line, shape, and/or color to create definitive focal points in their designs?
- How well do students use words to express the thinking behind their designs?
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions

- Encourage students with special needs to create designs that reflect their personal and family interests. Consider using this lesson as a family project.
- Invite students who are gifted in language arts to write commentary about the project designs. Hold a class fashion show where the text is read as the students model their work.
- Explore in depth the languages, customs, traditions, cuisine, and other elements of cultures represented in the classroom or community. Invite family members or others to share artifacts, stories, music, and other diverse cultural information.
- Invite a local fashion designer to talk about creating clothing designs.
- Create posters that display costumes from various cultures.
- Encourage students to use vocabulary learned during this lesson in other assignments.

---

**Silk Scarves**  
*Artists unknown*  
*Silk*  
*Private Collection.*
Create an Art Movement

Objectives
Students create spinners to observe the effects of movement on colors, lines, shapes, and/or patterns.

Students draw conclusions based on observations and communicate their conclusions either orally or in writing.

Students create a “class art movement” performance art project.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Linguistic</th>
<th>Logical-mathematical</th>
<th>Spatial</th>
</tr>
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</table>

Background Information
The human eye uses a combination of rod and cone cells for vision. The cone cells are the ones that perceive color. Although white light appears colorless, it actually contains all colors in the visible spectrum. When two differently colored paints are mixed on a palette, a new color is created. Yellow and blue paint mixed together make green. Even when pigments are not physically mixed, under certain circumstances, people’s eyes “mix” colors to create the illusion of new ones. When a decorated top is spun, the motion creates the illusion of new colors and designs. When the top stops, the illusion ends.

Tops have been used throughout history and have been redesigned often. Some ancient civilizations even used tops as gifts to honor Gods or as an item for the dead to carry into the afterlife. People in China created the whip top, and the Japanese designed the string-powered throwing top. Tops are used for simple pleasure throughout Europe and the United States. China and Japan however, maintain top spinning as a true skilled art form.

Resources
Action! Movement in Art by Anne Civardi
Exploration of the techniques artists use to capture movement in paintings and sculptures. Includes works by Seurat, Delacroix, van Gogh, Monet, Hokusai, Turner, Pollock, Escher, Vasarely, Delauney, and Munch.

Animation: The Mechanics of Motion by Chris Webster
Clear, understandable explanation of the science of animation.

Tops: Building and Experimenting With Spinning Toys by Bernie Zubrowski and Roy Doty
An introduction to toy construction and experimentation. Includes information about the physics of rotating bodies and optics.

What Does It Mean?
Movement: suggestion of motion in art

National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #1</th>
<th>English Language Arts Standard #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding and applying media, techniques, and processes</td>
<td>Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.</td>
</tr>
</tbody>
</table>

Science Standards

- Science as Inquiry
  Understanding about scientific inquiry

- Physical Science
  Position and motion of objects

- Life Science
  Structure and function of living systems

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

- Art vocabulary
  Color
  Line
  Movement

- Language vocabulary
  Art movement
  Distraction
  Illusion

- Science vocabulary
  Acceleration
  Affect
  Characteristics
  Deceleration
  Effects
  Exertion
  Mechanics

Patterns
Shape
Texture
Visual
Pastime
Spinning
Tops
Whip top
Motion
Properties
Speed up
String-powered
Throwing
Unison
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics [www.bls.gov/k12

- **Graphic designer**: a person who creates visual art, usually not paintings, often for print or electronic media
- **Performance artist**: a person who is part of a group that creates art in various forms
- **Product designer**: a person who is aware of trends and enjoys doing research and experimenting with new concepts and ideas
- **Toy design engineer**: a person who envisions, invents, and designs products for children’s play

Artwork by students from Landmark Elementary School, Little Rock, Arkansas.
Teacher: Mignon Hatton
### Create an Art Movement

**With students, create a bulletin board that shows photos of people in motion—runners, dancers, climbers, and swimmers. Discuss the effects that speeding up and slowing down have on the motion of objects. Observe and describe what happens to the design on a top when it is spun. Why do they think this happened?**

**Research performance art. Talk about how performance art often requires the involvement of several people and is different from artwork created by one individual. Make a list of some of the types of performance art that involves several people. Examples might be orchestras, mural art, bands, dance troupes, and choruses.**

<table>
<thead>
<tr>
<th><strong>Crayola® Supplies</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Colored Pencils</td>
<td>• Markers</td>
</tr>
<tr>
<td>• Model Magic®</td>
<td>• School Glue</td>
</tr>
<tr>
<td>• Scissors</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Other Materials</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dowel sticks (1/2” in diameter)</td>
<td>• Pencil sharpener</td>
</tr>
<tr>
<td>• Plastic cup</td>
<td>• White tag paper</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Set-up/Tips</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• For best visual effects on the surface of the paper disc, make the lines, shapes, and patterns large, bold, and colorful.</td>
<td></td>
</tr>
<tr>
<td>• Ask parent volunteers to cut dowel sticks so they are no longer than 4 inches long. Recycled pencils that have rounded barrels can be substituted for dowels.</td>
<td></td>
</tr>
</tbody>
</table>

---

*Egyptian top*
*Artist unknown*
*Private Collection.*
Process: Session 1
30-45 min.
Create a decorative disc
1. Trace around a plastic cup or similar object to create a circle on white tag paper.
2. Draw a bright, unique design on the top of the circle. Use simple lines, shapes, colors, and patterns. Some possibilities to alternate: yellow and blue pie-shaped wedges; closely packed dots of red and blue; spirals of blue and orange.
3. Cut out the disc so it is perfectly circular.

Process: Session 2
20-30 min.
Assemble a spinner
4. Sharpen one end of the dowel stick using a pencil sharpener. Push the pointed end of the dowel through the center of the disc.
5. Apply little Model Magic spheres to both ends of the dowel to hold the spinner in place. Air-dry the spinner overnight.

Process: Session 3
15-20 min.
Observe an object in motion
6. Hold the spinner in one hand and spin the disc with the other hand. Observe what happens to the design and colors as it spins. Observe other students’ spinners.
7. Students write or dictate a few words or a simple sentence to describe their observations.

Process: Session 4
15-20 min.
Draw conclusions
8. Discuss observations about what happened when each spinner was spun. What conclusions can students draw about color, shape, and motion?

Assessment
• Did students construct spinners according to directions? Were spinner designs varied enough to result in multiple observations?
• Did students clearly explain their observations? Did they draw reasonable conclusions about what they saw? Did students incorporate new vocabulary words related to this project in their descriptions?
• Display all the spinners. Mix up the descriptions. Challenge students to match spinners with descriptions.
• Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

• Were all students in each team able to spin all the spinners at the same time in one location as a performance art movement?

Extensions
Encourage students with special needs to create paintings that use shapes, colors, lines and patterns similar to what they saw on the moving spinners.
Invite students with a strong interest in science to research visual illusions, especially those involving color and/or movement. Ask them to share examples of interesting visual illusions with the class.
Have teams of students practice and perfect spinning performance art. Record the performance art movement spinning activity. Show the recording at the end of the year school art exhibition or at community venues.
Visit a science museum and explore the relationships between color and light.
Invite a local artist to class to talk about the impact of color and motion in art.
Objectives

Students demonstrate an understanding of the concept of tessellations by using congruent shapes to create tessellation designs.

Students (3-6) create 3-D shapes from modeling compound to add texture and dimension to tessellation designs.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Logical-mathematical</th>
<th>Linguistic</th>
<th>Spatial</th>
</tr>
</thead>
</table>

What Does It Mean?

**Congruent**: shapes coincide exactly when superimposed; in tessellations shapes align exactly when laid down in design

**Tessellation**: a pattern formed by shapes or spaces that fit together exactly in a checked or mosaic pattern

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National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #1</th>
<th>Understanding and applying media, techniques, and processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Arts Standard #6</td>
<td>Making connections between visual arts and other disciplines</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science Standards</th>
<th>Unifying Concepts and Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Systems, order, and organization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics Standards</th>
<th>Algebra</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Understand patterns, relations, and functions</td>
</tr>
<tr>
<td></td>
<td>Geometry</td>
</tr>
<tr>
<td></td>
<td>Use visualization, spatial reasoning, and geometric modeling to solve problems</td>
</tr>
</tbody>
</table>

Background Information

A tessellation is a pattern of repeating shapes made by reflecting, translating, and rotating one or more two-dimensional shapes so the pieces fit together exactly without any gaps. Only certain shapes tessellate; it all depends on the angles in the corners. If the corners will fit together to make a full or a half-circle (360 or 180 degrees), the shapes will tessellate.

The Latin root *tesserae* means *cube* and refers to the basic building blocks of mosaics. Tessellations made from slabs of hardened clay in about 4000 BCE can be traced back to the ancient Sumerian civilization where they have been found in the designs on walls and temples. The Alhambra Palace in Spain is filled with many great tessellation designs. In recent times, tessellations have appeared on floors, walls, ceilings, and buildings, and in ceramics, clothing, rugs, wallpaper, and stained-glass windows. Contemporary artists such as M.C. Escher, Victor Vasarely, and Bridget Riley are famous for their tessellations.

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

<table>
<thead>
<tr>
<th>Alternate</th>
<th>Measure</th>
</tr>
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<tbody>
<tr>
<td>Architecture</td>
<td>Original</td>
</tr>
<tr>
<td>Composition</td>
<td>Oval</td>
</tr>
<tr>
<td>Congruent</td>
<td>Patterns</td>
</tr>
<tr>
<td>Decoration</td>
<td>Reflecting</td>
</tr>
<tr>
<td>Design</td>
<td>Repeat</td>
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<tr>
<td>Diamond</td>
<td>Rotate</td>
</tr>
<tr>
<td>Imaginary</td>
<td>Shape</td>
</tr>
<tr>
<td>Sliding</td>
<td>Template</td>
</tr>
<tr>
<td>Tessellations</td>
<td>Texture</td>
</tr>
<tr>
<td>Tiles</td>
<td>Translating</td>
</tr>
<tr>
<td>Two-dimensional</td>
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</tr>
</tbody>
</table>

Resources

**M.C. Escher Kaleidocycles** by Maurits Cornelis Escher
A kit of three-dimensional models to assemble. Each model is covered with a continuous tessellated design by Escher. Fascinating way to interest students in mathematics.

**Mosaic and Tessellated Patterns: How to Create Them** from Dover Books
Introduces basic types of tessellations and presents many graphic examples.

**Tessellation Winners: Escher-Like Original Student Art: The First Contest** by Dale Seymour
Excellent examples provide visual information for children who want to make their own tessellations.

**Tessellations: The History and Making of Symmetrical Designs** by Pamela Geiger Stephens
Translates the sometimes difficult math concepts and vocabulary of tessellations into understandable language. Illustrations are especially helpful for visual learners.
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics www.bls.gov/k12

- **Graphic designer**: a person who creates visual art, usually not paintings, often for print or electronic media
- **Mathematician**: a person who studies theories and practical applications for number and/or geometry
Tessellations and More—Lines!

<table>
<thead>
<tr>
<th>Suggested Preparation and Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K-2</strong></td>
</tr>
<tr>
<td>Display reproductions of architectural tessellation designs as well as works by M.C. Escher and other tessellation artists. Research how people throughout history have decorated with tessellations. Post step-by-step directions showing how to draw a simple tessellation design. Demonstrate how it is done using simple shapes.</td>
</tr>
<tr>
<td><strong>3-4</strong></td>
</tr>
<tr>
<td>Ask children to think about how they might decorate a gift box with a tessellation design. What simple design might appeal to the recipient?</td>
</tr>
<tr>
<td><strong>5-6</strong></td>
</tr>
<tr>
<td>Look at pictures of more complex tessellations. Identify details and observe how the parts fit together. Notice the variety of patterns, colors, and shapes on these tessellations. What simple shapes are most compatible with tessellation design? Challenge students to create tessellations that are slightly more complex than the simple ones demonstrated. What is the most difficult part of making a more complex tessellation?</td>
</tr>
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<td>• Model Magic®</td>
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</table>

<table>
<thead>
<tr>
<th>Other Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Clear adhesive tape</td>
</tr>
<tr>
<td>• Recycled boxes with lids</td>
</tr>
<tr>
<td>• Recycled file folders</td>
</tr>
<tr>
<td>• Rulers</td>
</tr>
<tr>
<td>• White drawing paper</td>
</tr>
<tr>
<td>• Modeling tools such as craft sticks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Set-up/Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ask families to provide recycled boxes with lids, such as shoeboxes and gift boxes.</td>
</tr>
</tbody>
</table>

Steers Tessellation
Artist: Jim McNeill
Digital image

Tessellation
Artist: Betsy Moerder
Twistables® Crayons
### K-2 3-4 5-6

**Process:**
**Session 1 30-45 min.**

**Design a tessellation template**
1. Measure and cut a 3-inch square from a recycled file folder.
2. Draw a line—straight, curving, or zig-zag—to divide the square into two parts. Cut along the line.
3. Slide one cut-out shape across the other. Tape it to the opposite outside edge of the original square to make a template for a tessellation.
4. Trace around the template on two sheets of drawing paper. Flip, turn, and trace the template, continuously fitting one shape against another until the pages are filled.
5. Fill each shape with colors, lines, and patterns in an interesting design.

**Process:**
**Session 2 15-20 min.**

**Cover box**
6. Cut decorated paper to cover a box lid and box.
7. Glue the paper in place.
8. Enrich the design with glitter glue. Air-dry the glue.

**Process:**
**Session 3 30-45 min.**

**Create a 3-D mosaic tessellation lid**
9. Flatten Model Magic balls with hands and simple tools to make 1/2" thick slabs.
10. Cut slabs into small geometric shapes so they reflect the shapes in the tessellation design on the lid. Air-dry the shapes.

**Process:**
**Session 4 20-30 min.**

11. Make Model Magic shapes to fit the tessellation on the lid to create a 3-D mosaic pattern. Fit shapes tightly together. Glue in place. Air-dry for 24 hours.

**Process:**
**Session 5 20-30 min.**

12. Decorate Model Magic pieces with marker lines, patterns, or solid colors.

### Assessment
- Do tessellation designs fit neatly together without any gaps or overlapping?
- Are designs enhanced with colors, textures, and patterns?
- Is decorative paper securely fastened to box and lid?
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.
- Are mosaic pieces securely fastened to box lid? Do pieces maintain and enhance the original tessellation design?

### Extensions
Students with strong spatial intelligence may wish to create more complex tessellations. Encourage them to create a human or animal shape with the square template.
Suggest that younger students and those with special needs keep their templates simple by dividing the two parts of the template with a straight line.
Display examples or pictures of mosaic designs. If possible, show examples of mosaics made from recycled pieces of broken dishes or other ceramics. Encourage interested students to create mosaic projects with recycled materials.
Find examples of architectural mosaics in the neighborhood. If possible, feel the texture. This is especially good for students with visual acuity challenges as well as students who benefit from kinesthetic learning experiences.
Look for tessellation designs in newspapers, magazines, and elsewhere. Share examples.
Objectives

Students interview family members and design symbols to represent various elements of their family’s heritage.

Students observe the use of pattern, shape, color, texture, and design in traditional Indian torans.

Students create welcoming toran door hangings incorporating words and symbols representative of their own families.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Linguistic</th>
<th>Spatial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #3</th>
<th>English Language Arts Standard #7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choosing and evaluating a range of subject matter, symbols and ideas</td>
<td>Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.</td>
</tr>
</tbody>
</table>

Social Studies Standard #1

Culture—experiences that provide for the study of culture and cultural diversity.

Background Information

Wall hangings are often found in homes. In Gujarat, India, many families hang handcrafted torans above their doorways. Torans welcome guests and symbolize peace and prosperity for the family. A toran is made of geometric panels decorated with embroidery, tiny mirrors, and an assortment of beads, sequins, and even seashells. You can tell what geographic region a toran comes from by its color, shape, and design.

Although textiles from India like the toran may appear simply decorative, the colors, shapes, and design are linked to deities, emotions, and moods. For example, saffron (orange yellow), the color of bees and young mango blossoms, is linked to spring.

Moods evoked through colors were deemed so important in some cultures that special colors were prescribed for the garb of the love-sick, the repentant, and others.

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

- **Art vocabulary**
  - Background
  - Color
  - Fabric
  - Line
  - Paint
  - Paper
  - Pattern
  - Shape
  - Texture
  - Watercolor

- **Language vocabulary**
  - Ancestral
  - Banner
  - Biography
  - Culture
  - Doorway
  - Enhance
  - Experience
  - Fact
  - Family
  - Grandparents
  - Great grandparents
  - Harmony
  - Historical
  - India
  - Interview
  - Knowledge
  - Pendant
  - Toran
  - Vastu
  - Welcoming

Resources

*Banners, Ribbons, and Scrolls* from Dover
Shows Gothic, Renaissance, Victorian, Art Nouveau, and Art Deco graphics in varied shapes and sizes. Many enhanced with plants, animals, and mythical and human figures. Good teacher resource.

*Folk Art Projects: Around the World* by Jill Norris
Interesting multicultural craft ideas for grades K to 6.

*Signs and Symbols* by Clare Gibson
Focuses on the meaning and origin of historic and cultural signs and symbols.

*Vastu Living: Creating a Home for the Soul* by Kathleen Cox
An explanation of the philosophy of Vastu—that living in an orderly and harmonious space leads to an orderly and harmonious inner life and good health. Helpful teacher resource.

What Does It Mean?

**Pendant**: a panel in a toran that hangs down from the main panel

**Toran**: fabric wall hanging in India made with decorated geometric panels

**Vastu**: Hindu tradition of space designs to promote harmony with natural forces, similar to feng shui
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics [www.bls.gov/k12](http://www.bls.gov/k12)

- **Crafter**: a person who creates, designs, and/or markets art projects for fashion, interior design, and other uses
- **Textile designer**: a person who creates fabric patterns, colors, textures, and styles

Artwork by students from St. John Neumann Regional School, Palmerton, Pennsylvania. Teacher: Paula Zelienka
## Lines of Family Welcoming Wall Hangings

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suggested Preparation and Discussion</strong></td>
<td>Display banners, family crests, and wall hangings from various cultures. Include an Indian toran or photograph of one. Discuss various symbols of welcome used in North American homes such as welcome mats and door plaques. Make and display a personal toran similar to the ones students will make. Share information about its symbolism. Discuss symbolism. What is a symbol? What symbols might a family use to represent things that are important to them?</td>
<td></td>
</tr>
<tr>
<td><strong>Crayola® Supplies</strong></td>
<td>• Markers • Watercolors • Fabric Markers</td>
<td>• Colored Pencils • Glitter Glue • Paint Brushes • School Glue • Scissors • Tempera Mixing Mediums</td>
</tr>
<tr>
<td><strong>Other Materials</strong></td>
<td>• Craft jewels • Foil wrap • Lined tablet paper • Paper towels • Recycled newspaper • Rulers • Water containers</td>
<td></td>
</tr>
<tr>
<td><strong>Set-up/Tips</strong></td>
<td>• White drawing paper (12” x 18”) • Clean white bed sheets • Dowel sticks • Yarn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ask parent volunteers to cut clean white recycled flat bed sheets into 12 x 18-inch panels for use in creating banners. Cut dowel sticks into 14-inch lengths. • Cover the painting surface with newspaper.</td>
<td></td>
</tr>
</tbody>
</table>

**Indian Toran**
Artist unknown
Cotton, decorative ornaments
Private Collection.
<table>
<thead>
<tr>
<th>Process: Session 1</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflect on families</td>
<td>1. Students think about family members and list words that describe their families’ hobbies, interests, and values.</td>
<td>Research families</td>
<td>1. Ask students to consider what they know about their family heritage. What relatives came to the United States from other countries, or have they always lived on the continent? What holiday traditions are important? What hobbies do family members share? What interests do individual family members have?</td>
</tr>
<tr>
<td></td>
<td>2. Ask students to think of words that tell visitors they are welcome to enter their home. Add these words to the list.</td>
<td>2. Interview one or more family members to find out more information. Write a paragraph summarizing the findings.</td>
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<tr>
<td></td>
<td>3. What symbols represent things that are important to the families? Are there words to include as well?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create banners</td>
<td>Create banners</td>
<td>4. Fold drawing paper in half horizontally. Using a ruler and marker, divide the lower half of the panel into three segments, each 6 inches wide.</td>
<td>4. Using a ruler and a fabric marker, draw a line dividing a cloth panel in half horizontally. Measure and divide the lower half of the panel into three segments, each 6 inches wide. Draw two straight lines to separate these sections. Cut along the dividing lines up to but not into the upper half of the banner to create three pendants.</td>
</tr>
<tr>
<td></td>
<td>5. Cut along these lines up to but not into the upper half of the banner to create three pendants.</td>
<td>5. Use fabric markers to draw designs, words, and symbols representing family members on the upper panel and three pendants.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Fill all the panels with watercolor washes. Air-dry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embellish banners</td>
<td>Embellish banners</td>
<td>6. Brush glitter glue and/or Pearl It! Tempera Mixing Medium over sections of the toran to add sparkle.</td>
<td>7. Glue on craft jewels and/or small pieces of foil (to represent mirrors). Air-dry.</td>
</tr>
<tr>
<td></td>
<td>7. Use markers to draw designs, words, and symbols representing family members on the panels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Brush glitter glue and/or Pearl It! Tempera Mixing Medium over sections of the toran to add sparkle.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Glue on craft jewels and/or small pieces of foil (to represent mirrors). Air-dry.</td>
<td>8. Glue a dowel stick to the top edge of the panel. Roll slightly to cover dowel with fabric. Tie yarn to both ends of dowel for hanging. Air-dry the glue.</td>
<td></td>
</tr>
<tr>
<td>Process: Session 2</td>
<td>Process: Session 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graded K-2</td>
<td>Grades K-2</td>
<td>30-45 min.</td>
<td>Grades 3-6</td>
</tr>
<tr>
<td></td>
<td>Create banners</td>
<td>4. Fold drawing paper in half horizontally. Using a ruler and marker, divide the lower half of the panel into three segments, each 6 inches wide.</td>
<td>Create banners</td>
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<tr>
<td></td>
<td>5. Cut along these lines up to but not into the upper half of the banner to create three pendants.</td>
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<td>7. Glue on craft jewels and/or small pieces of foil (to represent mirrors). Air-dry.</td>
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<td>• Have students used meaningful symbols to communicate information about themselves and their families?</td>
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<tr>
<td>Extensions</td>
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</table>
The Shapes and Patterns of Jazz

Objectives

Students demonstrate an understanding of the geometric nature of Cubism by identifying shapes in Cubist paintings.

Students make connections between art and music by identifying elements of jazz in book text and illustrations or in their own artistic interpretations of jazz music.

Students create collage paintings in the style of Braque and Picasso using geometric shapes and patterns made from cut papers and paint.

Multiple Intelligences

Interpersonal
Logical-mathematical
Musical
Spatial

What Does It Mean?

**Bird's-eye view:** a perspective from above, as if one were flying over the object

**Illusion:** a false or misleading impression of reality, fantasy

Background Information

The Jazz Age, a period between World Wars I and II, brought revolutionary changes to art, music, and cultural life in developed countries. Artists and musicians abandoned tradition and began to explore the unknown, changing rules and daring to be different. During this period jazz was born in New Orleans. This new music, with roots in African American culture, was popularized by greats such as Charlie Parker, Louis Armstrong, and Duke Ellington. These musicians used the saxophone, trumpet, bass guitar, and piano in new and different ways.

At the same time, in Paris, Georges Braque and Pablo Picasso were experimenting with a new art form called Cubism. They used geometric shapes to represent real objects from a variety of perspectives simultaneously. Instead of shading images to create the illusion of space, cubists often flattened and layered one view of an object over another to emphasize the flat nature of the picture’s surface.

Cubism produced some startling results. A head might be pictured with a side view of the nose and profile, combined with a frontal view of an eye. Bird’s-eye views of a tabletop might be combined with a side view of table legs. Objects and figures became abstract, or were simplified, stylized, and/or exaggerated. Initially, this new style confused and upset the public and critics, but eventually Cubism was recognized as one of the 20th century’s most important movements.

Both Braque and Picasso sometimes used musical instruments in their paintings. In each case they abstracted the geometric shapes they saw within the instruments to create Cubist works. Braque painted “Violin and Palette” in 1909, and in 1912 Picasso used scraps of wallpaper, sheet music, and a newspaper clipping to create a paint and paper collage called “Guitar, Sheet Music, and Glass.”

Vocabulary List

*Art vocabulary*

Abstract
Assemblage
Bird’s-eye
Collage
Cubism

*Music vocabulary*

Band
Beat
Brass
Cello
Clarinet
Compose
Composition
Conductor

Jazz and Blues by Roger Thomas
Introduces some jazz and blues instruments, including saxophone, brass, and piano.

Pablo Picasso by Kate Scarborough
Introduction to the life, art, and legacy of Pablo Picasso.
Includes a timeline linking events in Picasso’s life to world events.

Story of the Orchestra: Listen While You Learn About the Instruments, the Music, and the Composers Who Wrote the Music! by Robert Levine
For grades 4 to 8. Overview of musical periods, instruments, and corresponding historical events.

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

**Art vocabulary**

Abstract
Assemblage
Bird’s-eye
Collage
Cubism

**Music vocabulary**

Band
Beat
Brass
Cello
Clarinet
Compose
Composition
Conductor

Resources

Duke Ellington: The Piano Prince and His Orchestra by Andrea Pinkney
Jazzy, colored scratchboard illustrations swing and jive to the book’s lyrical language. Wonderful read aloud for ages 4 to 8. Good example of the integration of art and text for older children.
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics [www.bls.gov/k12]

- **Crafter**: a person who creates, designs, and/or markets art projects for fashion, interior design, and other uses
- **Stylist**: a person or artist who creates authentic props, makeup, wardrobe, and background settings for photography, stage shows, and other venues
### The Shapes and Patterns of Jazz

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suggested Preparation and Discussion</strong></td>
<td>Display reproductions of Cubist art, especially works by Pablo Picasso and Georges Braque. Find examples of paintings with musical instruments to display later. Arrange with music teachers to display instruments that are typically associated with jazz. If possible, arrange a live performance of jazz, perhaps by slightly older students. Obtain several jazz recordings to play for the class.</td>
<td></td>
</tr>
<tr>
<td><strong>Crayola® Supplies</strong></td>
<td>- Colored Pencils  - Glitter Glue  - Markers  - Paint Brushes  - School Glue  - Scissors  - Tempera Mixing Mediums  - Watercolors</td>
<td></td>
</tr>
<tr>
<td><strong>Other Materials</strong></td>
<td>- Colored paper  - Decorative papers  - Drawing paper  - Recycled magazines  - Recycled newspapers  - Wallpaper scraps  - Water containers  - Wrapping papers</td>
<td></td>
</tr>
<tr>
<td><strong>Set-up/Tips</strong></td>
<td>- Cover painting surface with recycled newspaper.</td>
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</tbody>
</table>

**Indonesian batik fabric design**  
Artist unknown  
Private Collection.

**Mola fabric design**  
Artist unknown  
Private Collection.
### Process: Session 1 30-45 min.

**Recognize Cubist shapes**

1. Look at a Cubist painting together. Identify as many different shapes as possible. What objects do the shapes seem to form?
2. Share the name of the painting and background information about its artist and the Cubist movement as appropriate to children’s ages and abilities.
3. Look at various objects in the room. Describe the shapes within them. Children each sketch an object using only geometric shapes to define it. Display and discuss sketches.
4. Ask students what they think the term *abstract art* means. Talk about how Cubists often abstracted shapes from real images in a manner similar to what the students themselves just did.

### Process: Session 2 40-50 min.

**Introduce jazz**

4. Read aloud a picture book with a jazz theme.
5. Talk about what the word *jazz* means. Examine the book’s illustrations. In what ways are they *jazzy*?
6. Listen to jazz. Share background about the Jazz Age. Jazz and Cubism developed around the same time. What connections do students see between the two?

**Interpret jazz**

5. Invite students to draw what they see or feel as they listen to jazz—their interpretations of the music. Remind them of what they learned about abstract art during the first session.
6. Post art where all can see and talk about the experience. How are some works similar? How are they different? Ask several students to describe their interpretations of the music. Share the name of the musical piece and its composer with the class. Ask what students know about the Jazz Age. Research more information. What connections are there between abstract art and jazz?

### Process: Session 3 20-30 min.

**Design Cubist/jazz illustrations**

7. Look carefully at several jazz instruments (or photographs of them). What shapes can be found within the instruments’ forms? How might a Cubist artist paint these instruments? Show examples of instrument paintings done by Picasso, Braque, or other Cubists.
8. Make shapes to use in a Cubist collage painting of a jazz instrument. Cut large, simple, geometric pieces from decorative papers. Think about the background as well as the instrument. Cover some of the shapes with watercolor and paint mediums. Air-dry.

### Process: Session 4 10-15 min.

**Prepare collage background**

9. On drawing paper, prepare a background using either decorative or solid colored papers or paint. Air-dry the paint and/or glue.

### Process: Session 5 15-20 min.

**Assemble collage paintings**

10. Experiment with positioning the geometric shapes on the background. Glue them in place to create a Cubist interpretation of the instrument.
11. Add musical notes, music stands, or other jazz symbols. Embellish the composition with Glitter Glue. Air-dry the glue.

### Assessment

• Exhibit the art for all to review. Can students identify Cubist elements in each one? What instruments are represented? Where are patterns found? Look for similarities and differences among the works.
• Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions

Invite local musicians, including high school students, to talk about the instruments they play. Ask one to serve as a model while students create portraits or sculptures of the musician with an instrument.

Encourage children with a talent for languages to research the Spanish or French words for terms related to this lesson. Remind students that Picasso was a native Spanish speaker and Braque spoke French.

Provide an opportunity for younger students and those with special needs to hold and possibly play some of the instruments on display. Allow them to feel the vibrations in instruments while they are played.

Ask a dance instructor to teach the students some jazz steps. Or encourage children to move to the music as it is played.

Ask the music specialist to visit the class to talk about and demonstrate various instruments, especially those played by jazz musicians.
Objectives

Students engage in the process of scientific inquiry by making and testing hypotheses regarding color mixing.

Students experiment with a variety of painting techniques while making decorative papers.

Students cut decorative papers into various shapes to create imaginative creatures in a collage.

Students use precise vocabulary to describe or tell a story about their collage creatures. They incorporate geometric terms and descriptive language.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Linguistic</th>
<th>Logical-mathematical</th>
<th>Naturalist</th>
<th>Spatial</th>
</tr>
</thead>
</table>

What Does It Mean?

Collage: art composed by attaching on a single surface various materials not typically associated with one another

Crosshatching: use of lines that cross each other to shade, emphasize, and make shadows

Stipple: use of a dense series of colored dots for shading and emphasis

Visual texture: surface effects that can be seen but not necessarily felt

National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #1</th>
<th>Science Standard</th>
<th>English Language Arts Standard #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding and applying media, techniques, and processes</td>
<td>Science as Inquiry</td>
<td>Students adjust their use of spoken, written and visual language, their conventions, style, and vocabulary to communicate effectively with a variety of audiences and for different purposes.</td>
</tr>
</tbody>
</table>

Background Information

Some of the first examples of collage can be found in artwork made by 12th-century Japanese calligraphers. These artists glued bits of paper and fabric to create backgrounds for their painted poetry scrolls. Later, in the 15th and 16th centuries, Near Eastern craftsmen cut and pasted very detailed designs into marbled papers as part of the art of bookbinding. Later, monks added gemstones, elegant fibers, relics, and precious metals to artwork to form a type of collage. In the 17th and 18th centuries, nuns made bookmarks trimmed with cut and colored papers. More recently, people arrange family photographs and hang them on walls or in scrapbooks, and cover screens and lampshades with magazine illustrations and art reproductions.

Resources

*Henri Matisse: Drawing With Scissors* by Jane O’Connor
*My Very Favorite Art Book: I Love to Collage!* by Jennifer Lipsey Edwards
*The Art of Eric Carle* by Eric Carle

Vocabulary List

Use the following lists to assist students in the written portion of this lesson. Work together with students to generate additional lists appropriate to their ages, ability levels, and interests, especially in language arts.

- Art vocabulary
  - Collage
  - Colors
  - Decorative
  - Found objects
  - Geometric
  - Oval
  - Rectangle
  - Rhombus
  - Technique
  - Visual texture

- Language arts vocabulary
  - Angular
  - Cobalt
  - Dappled
  - Feathered
  - Indescent
  - Leathery
  - Mauve
  - Prickly
  - Scaly
  - Silky
  - Sleek
  - Smooth
  - Tropical
  - Turquoise
  - Vivid

- Science vocabulary
  - Analyze
  - Assess
  - Discover
  - Experiment
  - Explore
  - Hypothesize
  - Inquiry
  - Investigate
  - Predict
  - Proportion
  - Scale
  - Scientific
  - Test
Career Possibilities
Exploring Career Information
From the Bureau of Labor
Statistics [www.bls.gov/k12]

• **Children’s book illustrator:** artist who draws or paints pictures to match stories in children’s books

• **Collage artist:** a person who designs and constructs works made with diverse materials mounted on a surface

• **Textile designer:** a person who creates fabric patterns, colors, textures, and styles
## Suggested Preparation and Discussion

Display picture books with collage illustrations by artists such as Eric Carle, Leo Lionni, Ezra Jack Keats, and Huy Voun Lee.

With students, design a bulletin board that shows how to use geometric shapes to make body parts from decorative papers. Could a head be made from a circle or square? Is a creature’s body rectangular, oval, or some other shape? What are the basic shapes of facial features? Can four legs be more easily cut from paper that has been folded into quarters? How can an oval or circle be made by rounding the outer corners of a folded square? (see examples)

Create and display an animal collage similar to the project students will make. Include hand-decorated papers in the collage.

## Crayola® Supplies

- Fine Line Markers
- Paint Brushes
- School Glue
- Scissors
- Tempera Mixing Mediums
- Tempera Paint

## Other Materials

- Clean foam produce trays
- Construction paper
- Decorative wrapping papers or other printed papers
- Objects for printing such as plastic bottle caps, pencil erasers, spools, cotton swabs, potato masher
- Paper plates
- Paper towels
- Recycled file folders
- Recycled newspaper
- Sponges
- Water containers
- White drawing paper
- White paper
- Poster board

## Set-up/Tips

- Offer preprinted papers including newspaper for additional decorative surface effects.
- To create a stamp pad, dampen a sponge and place it on a foam tray. Squeeze paint onto the sponge. Dip objects on paint, then print onto the paper.

## Process: Session 1 30-40 min.

**Plan a collage**

1. Read several picture books together, taking time to note the papers, textures, and cutting techniques used by the illustrators.

2. List animals it would be fun to represent in a collage. Review basic geometric shapes. What shapes might be used to make the animals’ body parts?

3. Decide on an animal for a collage.

2. List animals it would be fun to represent in a collage. What are some physical characteristics that could be emphasized? Together, list words that describe these characteristics such as a scaly crocodile, turquoise peacock, or dappled horse.

3. Form small groups. Each student selects a different animal, but all creatures made by the team must relate to one another in some way.
### Process: Session 2  
**K-2**  
**30-40 min.**  
Create decorative papers  
4. Experiment with color mixing. Students predict what color will be made when they mix two other colors. Test hypotheses. What happens to color when a mixing medium is added? What happens when three or more colors are mixed?  
5. Demonstrate a variety of ways to apply color to paper such as spatter, crosshatch, and stipple. These are two other methods:  
   - For a mirror image, fold paper in half, and then open. Drop a tablespoon of tempera on one side of the fold. Fold paper in half. Gently press from the fold outward to push paint. Unfold to see image.  
   - Press objects into paint on a stamp pad. Stamp patterns on paper.  
6. Each student makes one or two decorative papers to share. Think especially of the type of textures that might fit the animals chosen. Air-dry the papers.

### Process: Session 3  
**K-2**  
**20-25 min.**  
Design creatures and assemble collage  
7. Cut or tear decorated papers into smaller pieces. What geometric shapes are needed for animal body parts? Use several papers to create a variety of color and texture.  
8. Place shapes on paper. Arrange them to create an image of the intended animal. Glue shapes in place. Air-dry.

### Process: Session 4  
**K-2**  
**10-15 min.**  
**3-4**  
**20-30 min.**  
**5-6**  
**45-60 min.**  
**Grades K-2**  
**10-15 min.**  
**Grades 3-4**  
**20-30 min.**  
**Grades 5-6**  
**45-60 min.**  
Write about the collage  
9. On separate paper, children list geometric terms that describe the shapes used in their collages. More advanced children also use the geometric terms in sentences.  
10. Decorate the borders.

Create a setting and describe the collage  
9. Glue more shapes to the background to create a setting for the animal. Add details with fine line markers.  
10. On separate paper, children write a short paragraph about their animals using interesting, descriptive vocabulary.

Create a setting and write a story  
9. Teams work together to create a collage setting in which all of their animals might live. Place the animals in the setting and add details to create an illustration for a story.  
10. Write a short story about the animals.

### Assessment  
- Have students used a variety of decorative papers and shapes within individual collages? Do collages reflect an understanding of the geometric shapes found in nature?  
- Does student writing correlate to vocabulary study? Are sentences well written and are words spelled correctly?  
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions  
- Look for geometric shapes in nature. Discuss observations. List words and make sketches to precisely describe the colors, shapes, and textures.  
- Students with special needs might make collages with textured items. Make crayon rubbings or use items on the collage, to provide another type of kinesthetic learning experience. Encourage observations and discussions about textures.  
- Invite students with a strong interest in art history and/or research to investigate artists who are famous for their use of collage such as Matisse, Bearden, and others. Present findings to the class.
Objectives

Students research how the physical properties of materials change as a result of external conditions.

Students create a mosaic using modeling compound to represent tesserae. The design includes geometric and/or organic shapes to create a textured, 3-D effect.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Logical-mathematical</th>
<th>Linguistic</th>
<th>Spatial</th>
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</table>

What Does It Mean?

**Organic shapes**: irregular shapes, often like those in nature

**Tesserae**: small pieces of material used to create mosaics, typically glazed tiles

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<td>Understanding and applying media, techniques, and processes</td>
<td>Grades K-4</td>
</tr>
<tr>
<td><strong>Physical Science</strong></td>
<td>Properties of objects and materials</td>
</tr>
<tr>
<td><strong>Grades 5-6</strong></td>
<td>Physical Science</td>
</tr>
<tr>
<td><strong>Visual Arts Standard #4</strong></td>
<td>Properties and changes of properties in matter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English Language Arts Standard #3</th>
<th>Grades K-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).</td>
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</table>

<table>
<thead>
<tr>
<th>English Language Arts Standard #5</th>
<th>Grades 5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select and use writing processes</td>
<td>Apply criteria to evaluate writing</td>
</tr>
<tr>
<td>Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.</td>
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</table>

Background Information

Mosaic is one of the oldest (4000 years) decorative and most durable pictorial arts. Mosaics are found on walls, ceilings, floors, pavements, and other areas. Tesserae are generally small tiles of glazed ceramic; however, pieces of colored glass, stone, marble, wood, pottery, or any other hard, nonperishable materials can be used. Up to and throughout the Middle Ages, mosaics were almost always set piece by piece directly into a bed of plaster. Since that time they have usually been assembled in sections in a studio or shop. Greek, Roman, Islamic, and other cultures used mosaic extensively in both their homes and public places.

Vocabulary List

*Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.*

- Cement
- Ceramic
- Construction
- Decorative
- Design
- Estimate
- Form
- Glaze
- Greek
- Low-relief
- Modeling
- Mortar
- Mosaics
- Multicolored
- Plaster
- Pompeii
- Relief
- Romans
- Set
- Shapes
- Support
- Template
- Tesserae
- Texture
- Three-dimensional
- Tiles

Resources

*Ancient Mosaics* by Roger Ling

For visual learners. Contains 106 beautiful photos as well as maps and a glossary. Mosaics are sublime, and even those ravaged by time are hardly less beautiful for it.

*Complete Pebble Mosaic Handbook* by Maggy Howarth

Pebble mosaics in gardens, patios, and public places. Insights and a survey of traditional works by contemporary pebble mosaic artists.

*Mosaics* by Michelle Powell

Very clear photos show mosaic projects from start to finish. Older children can follow the instructions.

*Patterns From Roman Mosaics* by Robert Field

Good primer on Roman mosaic geometric patterns. Illustrations are good for drawing or use as patterns for mosaics.
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

- **Crafter**: a person who creates, designs, and/or markets art projects for fashion, interior design, and other uses
- **Mosaic muralist**: an artist who creates works using tesserae
### Suggested Preparation and Discussion

- Display posters and pictures of mosaics as well as books about their history and techniques. Explore Web sites for additional insights.
- Introduce the step-by-step process of making simple mosaic designs using tesserae. Explain how people throughout history have made pictures or designs by inlaying small bits of colored stone, glass, tile, and other materials into wet mortar.
- Create a step-by-step mosaic display board. Demonstrate how to assemble a simple mosaic using tesserae (Model Magic® pieces).

**Ask children to think about adding tesserae to the background of their mosaic design. What setting could surround the shape mosaic? Where is the mosaic object floating—in water or sky, or resting on land?**

**Look at pictures of mosaics. Identify the parts and how they make objects look three-dimensional. Notice the variety of patterns, colors, and shapes.**

**What background designs are most compatible with a simple mosaic shape?**

**Ask children to think of complex mosaic designs to show detail of the objects they create. How can you make a simple object look three-dimensional using different colors? What would be the effect if you put tints and shades of tiny tesserae next to each other? What other techniques might help an object look more three-dimensional?**

### Crayola® Supplies

- Colored Pencils
- Glitter Glue
- Model Magic®
- School Glue
- Scissors

### Other Materials

- Corrugated cardboard
- Medium-grade sandpaper
- Modeling tools such as rolling pins and craft sticks

### Set-up/Tips

- Ask families to collect recycled corrugated cardboard for mosaic supports.
- Roll Model Magic slabs with dowels, marker barrels, or rolling pins. Cut tesserae with scissors or craft sticks.
- Gently separate dry tesserae with fingers. Smooth any rough edges with sandpaper in a well-ventilated area under adult supervision.

### Process: Session 1 20-30 min.

#### Prepare mosaic support and diagram

1. Cut cardboard into a small piece to use as the mosaic support.
2. Draw a simple shape to fill the cardboard.
3. Divide the shape into smaller, but not too tiny, pieces.

### Process: Session 2 20-30 min.

#### Create tesserae

4. Flatten Model Magic compound to make ½” thick slabs in the colors planned for the mosaic.
5. Cut slabs into small geometric and organic shapes as indicated in the mosaic diagram. Air-dry the pieces overnight.

#### Calculate tesserae needed to create the mosaic

1. Cut cardboard into a medium-sized piece to use as the mosaic support.
2. Outline the mosaic on the cardboard. Estimate the number of tesserae needed to fill the shape. Draw simple geometric and organic shapes inside the original outline. Avoid very tiny shapes.
3. Check whether estimates were close to the actual number of shapes inside the diagram.
### Process:
**Session 3**
20-30 min.

#### K-2

**Assemble tesserae to create 3-D, textured effects**

6. Glue small tesserae inside the shapes. Fill the areas closest to the edges with one color. Gradually fill the shapes closer to the center of the shape with tints or shades of that color to create a three-dimensional, textured effect.

7. Fill the background with other sizes and colors of tesserae. Share tesserae with other students.

8. Use Glitter Glue to add sparkle to the mosaic. Air-dry the glue before handling.

#### 3-4

- Children identify and verbally label each part of their mosaics.
- Children write a sentence that reflects their ideas about how a mosaic could add beauty to their environment.
- Students follow directions during each step of the mosaic creation process.
- Students critique each other’s mosaics for craftsmanship, originality, and accuracy. Listen to see whether they correctly articulate mosaic parts and can accurately describe how to create the illusion of the third dimension using tesserae.

#### 5-6

- Mosaics incorporate both geometric and organic shapes and use a variety of colors.
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.
- Students research and reflect on creative ways mosaics enrich and enhance public spaces. Summarize findings and conclusions in writing. Compile into an illustrated blueprint that shows where a mosaic would enhance a public space.
- Find out more about how other civilizations used mosaic. Report findings to the class.
- Gifted students compare how effective they were in creating a 3-D look in mosaics they created. Why did some mosaics look more dimensional than others? What worked and what did not?

---

#### Assessment

**Animal Mosaic With Coins**
9th to 15th centuries
Clement and Pantaleimo
Ohrid, Macedonia
Photo by Erica Simon-Brown

**Ceiling at Bahouddin Naqshband**
1318-1389
Qasri Orifon, Uzbekistan
Photo by Erica Simon-Brown
Objectives

Students research and synthesize their knowledge of architectural structures and forms to envision and build a model of a castle.

Students analyze characteristics of two-dimensional geometric shapes and three-dimensional geometric forms, using visualization, spatial reasoning, and geometric modeling to solve problems.

National Standards

| Visual Arts Standard #1 | Mathematics Standard  
|-------------------------|----------------------
| Understanding and applying media, techniques, and processes | Geometry 
| Visual Arts Standards #6 | Students will analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships; use visualization, spatial reasoning, and geometric modeling to solve problems. 
| Making connections between visual arts and other disciplines | English Language Arts Standard #8 | Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge. 

Background Information

Early castles, some of which date from about 1600 BCE, had architectural features such as walls, moats, and towers. They were used for fortification and protection. The main building where people lived was known as the Great Hall and was called the Palas. The castle chapel was often built in the gatehouse or one of the main towers and a small garden was often connected to the chapel.

Castles were generally surrounded by a curtain wall, which was often supplemented by a reinforced shield wall at strategic points. Castles also had crenellated battlements and arrow slits that helped to protect the defenders. Attackers often also had to overcome a series of several gates. The main entrances of many castles were protected by a drawbridge and machicolations (holes in the floor) projecting over the gate. During an attack, boiling liquids and missiles could be dropped on attackers.

The final refuge of the castle residents was the stronghold, or keep. The keep was the tallest and strongest building within the walls of the castle. One could only get to the keep by a ladder or from a bridge. In addition to being a watchtower and the center point of the entire castle, the keep also let people know the importance of the ruler who lived there.

Resources

Castle: Medieval Days and Knights by Kyle Olmon
A pop-up children’s book packed with informative text about life inside the castle walls, including health care, meals, contemporary occupations, and sanitation.

Castles by Philip Steele
A book for all elementary levels. Includes intricate, meticulous illustrations covering the majestic splendor of the great halls. Describes the hardships of living in a feudal society, from building a castle to shopping in a medieval marketplace.

The Best Book of Knights and Castles by Deborah Murrell
An amazing journey to explore medieval castles all over the world. Includes the earliest fortifications in Europe, like motte and bailey castles, to the stone castles of the Normans, Crusader castles, and German castles on the Rhine.

Vocabulary List

- Art vocabulary
  - Assemble
  - Clay
  - Construct
  - Design
  - Form
  - Model
  - Proportion
  - Sculpture
  - Texture

- Language vocabulary
  - Battlements
  - Boiling
  - Crenellated
  - Curtain wall
  - Defender
  - Defense
  - Emergencies
  - Foes
  - Fortification
  - Gates
  - Herbs
  - Keep
  - Machicolation
  - Moats
  - Projecting
  - Shield
  - Stronghold
  - Symbol
  - Towers
  - Walls
  - Ward
  - Watchtower

- Math vocabulary
  - Analyze
  - Calculate
  - Dimensional
  - Cube
  - Form
  - Cylinder
  - Pyramid
  - Rectangular prism
  - Sphere
  - Reasoning

What Does It Mean?

Spatial reasoning: ability to mentally manipulate shapes/objects within space
Synthesize: combine parts into a meaningful whole
Visualize: process of recalling or imagining mental pictures
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

- **Architectural drafter**: a person who designs, draws blueprints, and constructs models of buildings
- **Set designer**: an artist who imagines, plans, and makes models for stage plays and movies
- **Toy design engineer**: a person who envisions, invents, and designs products for children’s play

Artwork created by students from Triangle Elementary School, Hillsborough, New Jersey. Teacher: Nancy Knutsen

Artwork by students from Francis B. Raub Middle School, Allentown, Pennsylvania. Teacher: Dayna Ramsden
With students, create an interactive bulletin board that includes art, language arts, and math word cards plus pictures of castles to use in a word game (see session 1). Generate lists of new vocabulary words related to art, castle construction, and math, such as those listed here.

Make small Model Magic® geometric forms.
Research with students the architectural parts of a castle and how castles were constructed.

Crayola® Supplies
- Colored Pencils
- Glitter Glue
- Markers
- Model Magic®
- Paint Brushes
- School Glue
- Scissors
- Tempera Mixing Mediums

Other Materials
- Corrugated cardboard
- Craft sticks
- Decorative craft items (chenille stems, toothpicks)
- Drawing paper
- Dry natural materials (twigs, sticks, pebbles)
- Modeling tools or plastic dinnerware
- Paper towels
- Recycled file folders
- Recycled newspaper
- Water containers
- Yarn

Set-up/Tips
- Ask parent volunteers to save flat cardboard for foundations on which to construct castles.
- Cover surface with newspaper before applying mixing mediums.
### K-2

**Create castle game**

1. Cut file folders into word cards. Write each castle vocabulary word on a separate card. Add borders or other decorative elements.
2. Draw a symbol on the back of each card representing the word written on the front.
3. In small teams, take turns matching word cards to parts of the castle by stringing yarn from the word to the correct area of the castle.

**Create castles**

4. Use at least three simple geometric shapes to make a line drawing of the layout of an imaginary castle. Older children incorporate many more shapes.
5. Create Model Magic forms that correlate with the shapes in the drawings. For example squares translate into cubes and circles become spheres. Experiment with slightly mixing red, yellow, blue, and white Model Magic colors to marbleize the hues. Blend other colors to spice up the forms. Use modeling tools to add details to windows, doors, arches, arrow slits, and crenellated battlements, for example.
6. Combine forms so the model reflects the shapes observed in the line drawing. Use toothpicks and glue to secure and attach forms as needed. Air-dry at least 24 hours.

**Embellish castles**

7. Use craft items such as chenille stems, craft sticks, and toothpicks to build gates, drawbridges, and other architectural features. Castles are increasingly detailed and realistic as children’s skill levels mature.

**Complete castle setting**

8. Glue the castle to a cardboard base. Decorate the base with dry natural materials such as twigs for trees, grasses, pebbles, and gravel.

### 3-4

**Create castle game**

1. In small teams, cut file folders into word cards.
2. Write a castle-related vocabulary word on one side of each card and its definition on the back. Create bold text and interesting, decorative designs.

**Create castles**

4. In small teams, cut file folders into word cards.
5. Create Model Magic forms that correlate with the shapes in the drawings. For example squares translate into cubes and circles become spheres. Experiment with slightly mixing red, yellow, blue, and white Model Magic colors to marbleize the hues. Blend other colors to spice up the forms. Use modeling tools to add details to windows, doors, arches, arrow slits, and crenellated battlements, for example.
6. Combine forms so the model reflects the shapes observed in the line drawing. Use toothpicks and glue to secure and attach forms as needed. Air-dry at least 24 hours.

**Complete castle setting**

8. Glue the castle to a cardboard base. Decorate the base with dry natural materials such as twigs for trees, grasses, pebbles, and gravel.

### 5-6

**Create castle game**

1. In pairs or small groups, review lists of words from several content areas that relate to castles and their structure. Select one list.
2. Cut recycled file folders into word cards. Write one word on the front of each card and the correct definition on the back. Decorate cards.
3. In small teams, take turns matching word cards to parts of the castle by stringing yarn from the word to the correct area of the castle.

**Create castles**

4. Use at least three simple geometric shapes to make a line drawing of the layout of an imaginary castle. Older children incorporate many more shapes.
5. Create Model Magic forms that correlate with the shapes in the drawings. For example squares translate into cubes and circles become spheres. Experiment with slightly mixing red, yellow, blue, and white Model Magic colors to marbleize the hues. Blend other colors to spice up the forms. Use modeling tools to add details to windows, doors, arches, arrow slits, and crenellated battlements, for example.
6. Combine forms so the model reflects the shapes observed in the line drawing. Use toothpicks and glue to secure and attach forms as needed. Air-dry at least 24 hours.

**Complete castle setting**

8. Glue the castle to a cardboard base. Decorate the base with dry natural materials such as twigs for trees, grasses, pebbles, and gravel.

### Assessment

- Did students actively participate in research, making word cards, and matching them to the appropriate sections of the castle?
- Display all the drawings and the castle models. Students check to see if drawings match the 3-D castle forms.
- Are castles increasingly complex and realistic? Do they include at least three solid geometric forms?
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions

Younger students and those with special needs may benefit from building castles with table or unit blocks before drawing and constructing Model Magic replicas.

Check the community for castle-like architecture. Create a display of photographs of the buildings for display. Identify architectural features that are similar to castles.

Older students research the architecture of castles and write a detailed report that highlights castle features. Research two or more castles/time periods/geographic regions. Compare and contrast their similarities and differences.

Form castles with Crayola Air-Dry Clay on boards. Use armatures as needed. Paint the castles. Coat with mixing mediums for realistic effects.

Repeat the vocabulary game with additional new words learned after castle construction is complete.
Objectives

Students create models of currency and use those models to calculate total sums.

Students apply their understanding of currency denominations and design elements as they create their own bills using a motif with international appeal.

Students create symbols to represent people, places, and things from a representative society (real or imaginative).

Multiple Intelligences

Interpersonal
Logical-mathematical

What Does It Mean?

Motif: main theme

National Standards

Visual Arts Standard #4
Understanding the visual arts in relation to history and cultural

Mathematics Standards
Number and Operations
Grades K-4
Compute fluently and make reasonable estimates
Reasoning and Proof
Grades 5-6
Make and investigate mathematical conjectures

Social Studies Standard #7
Production, distribution, and consumption—experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services

Background Information

In January 2002 the world began using a unified currency adopted by 11 European nations. Europeans said goodbye to currencies such as the French franc, the German Deutsche mark, and the Spanish peso—and said hello to the Euro! Who could have imagined that nations at war with one another only a little more than 50 years ago could agree on a shared currency? Imagine how hard it was for the 11 countries to agree on the currency’s name and pictures to use on the money. The process took 6 years! Finally, they decided to use generic images of architectural forms important throughout history. Computers were used to create the finished bill designs. While the Euro bills look the same throughout the participating nations, the coins look the same on the “tails” side only. Each participating nation has added a “heads” side relevant to that nation only.

Currency has a long and varied history. Barley was used as a form of currency in ancient Mesopotamia around 4000 BCE. Silver rings became a prevalent currency form around 3000 BCE. These measurable commodities simplified trading, which had become unwieldy as greater travel multiplied the number of items available through the old barter system. In the seventh and sixth centuries BCE, Greeks and Romans made the first coins of electrum, an alloy of gold and silver. Europeans hope that the Euro will standardize and improve trade, just as barley and silver measures did in ancient times.

Resources

A Walk in the Money (DK Eyewitness Books) by Joe Cribb
Easy-to-read history of ancient times and modern examples. Includes a timeline of banking and a glossary with pictures. Excellent resource for students and teachers.

Money, Money, Money: The Meaning of the Art and Symbols on United States Paper Currency by Nancy Winslow Parker
Fascinating look at symbols portrayed on U.S. currency. Written for grades 3 to 5. Students look at money in a whole new way.

Monopoly®: The Story Behind the World’s Best-Selling Game by Rod Kennedy
How the Monopoly game was created using Atlantic City as its model. Starts students thinking about creating a game based on their own experiences.

The Art of Money: The History and Design of Paper Currency From Around the World by David Standish
Beautifully illustrated reference book. Also shows what impressions countries want the world to see from their currencies.

The Kid’s Guide to Collecting Statehood Quarters and Other Cool Coins! by Kevin Flynn
Examples of various coins for younger students.

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

Background
Coin
Counterfeit
Currencies
Denominations
Foreground
Metallic
Motif
Relief
Repetition
Texture
Units
Value
Variations
Wash

Artwork by students from M.E. Costello School, Gloucester, New Jersey.
Teacher: Jo Ann Wright
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics www.bls.gov/k12

- **Designer**: a person who specializes in specific areas of design, such as cars, furniture, or Web sites.
- **Game designer**: a person who works with others, often in a toy company, to create new games.
- **Medalist**: a person who works to create a relief sculpture that can be used as a mold to create finely detailed, small sculptures such as award medals or commemorative coins.

Artwork by students from Bryant Elementary School, Arlington, Texas.
Teacher: Carolyn Sherburn

Artwork by students from M.E. Costello School, Gloucester, New Jersey.
Teacher: Jo Ann Wright
### Suggested Preparation and Discussion

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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<tbody>
<tr>
<td>Discuss with children: How many of you receive an allowance? Must you do chores to earn it? Do different chores have different dollar values? What would allowance money be called if you lived in Mexico? In other countries? Brainstorm and list European countries. What are the names of their currencies? Look at bills and coins from various countries. What are some of the design similarities? How are they different? What themes are frequently seen? What different denominations, or units of value, do the bills and coins represent?</td>
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<tr>
<td>Display 50 state quarters and new nickels. Discuss current coin designs.</td>
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<tr>
<td>Display examples or pictures of currencies from various countries. Encarta, encyclopedias, and Internet sites are excellent references. Students will design a new currency for international use. Ask them to decide on a motif—an image other nations might find acceptable, such as planets, plants, or animals. Use the motif and variations to design currency bills in several denominations. Incorporate design elements of real money, such as a central image, borders, colored backgrounds, and denomination numbers in corners. Decide on appropriate denominations.</td>
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<tr>
<td>Students will design a new series of coins on paper and select one to create a model mock up. Think about the shape and color of the coin. Of what will it be made? What will it represent? What name will it have? Models will be much larger than the actual coin so designers can see the details of the front and back (about the size of a saucer or larger). What will the actual size be? Could it fit in a pocket without getting lost?</td>
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<tr>
<td>Students will also design a wallet to hold their currency.</td>
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<tr>
<td>In small groups, students will design a board game that uses the new currency and properties designed around a real or imaginary place. Students will create a new board, currency, pieces, and rules. Divide into groups. Choose the place and theme for game. Brainstorm job assignments (such as designers for money, property, and tokens). Divide tasks or work together on each task.</td>
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### Crayola® Supplies

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<th>K-2</th>
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<tbody>
<tr>
<td>• Crayons • Glue • Paint Brushes</td>
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<tr>
<td>• Tempera Paint (metallic, optional) • Watercolors</td>
<td></td>
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<tr>
<td>• Colored Pencils • Markers • Watercolors</td>
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### Other Materials

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<tr>
<th>K-2</th>
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<tbody>
<tr>
<td>• Modeling tools such as plastic dinner knives, craft sticks, and toothpicks</td>
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</tr>
<tr>
<td>• Oak tag or corrugated cardboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Textured surfaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Oak tag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Rulers • Sponges</td>
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<tr>
<td>• Drawing paper 9 x 12 inches • Paper towels • Recycled newspaper • Water containers</td>
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### Set-up/Tips

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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</thead>
<tbody>
<tr>
<td>• Cover painting surface with newspaper.</td>
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<tr>
<td>• To dry paper quickly, press it between pages of a recycled phone book.</td>
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<tr>
<td>• Air-Dry Clay can be used for grades 5 to 6 to make game tokens. Drying time is 3 days.</td>
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<tr>
<td>• If game tokens will be used, consider glazing them with a mixture of equal parts of glue and water. Air-dry the glaze before handling.</td>
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### Process: Design coins

**Session 1 20-30 min.**

1. Sketch ideas for coin denominations. Include 1, 5, 10, and 25 cents.
2. Select a coin to enlarge, front and back. Add detail to that sketch.

### Paint currency papers

1. Decide on background colors to complement currency motif.
2. Wet one side of drawing paper with a brush or sponge. Brush watercolor on it. Repeat with different color(s) on other paper. Air-dry the paint.
3. Flip the first papers over and paint the backs to match the color values on the fronts. Air-dry the paint.
### Process: Session 2
**15-20 min.**

**K-2**
- **Sculpt coins**
  3. Knead and roll a Model Magic® baseball. Flatten it on the cardboard where it will be displayed. Make a disk about 1/2” thick.
  4. Impress textured objects into the compound to add designs and motif for the front of the coin. Press on additional compound to build up surface.
  5. Repeat steps 3 and 4 to make a replica of the coin back.
  Air-dry disks for 24 hours.

**3-4**
- **Create a wallet**
  4. Use rulers to divide watercolor paper into three equal 4- x 9-inch portions. Cut.
  5. Fold the 9” side of another paper over itself to make a 4 1/2- x 12-inch pocket. Glue one of the short ends together.
  6. Add designs planned for the currency to the wallet.

**5-6**
- **Create game board**
  4. Decide how many properties the game will have.
  5. Use a ruler to sketch out the game board on oak tag.
  6. Name the game and write it on the board. Add details to each property. Keep in mind the currency motif.

---

### Process: Session 3
**20-30 min.**

**K-2**
- **Decorate coins**

**3-4**
- **Design bills**
  7. Cut currency into bills. Add design elements of real money to currency.

**5-6**
- **Sculpt tokens**
  8. Create game pieces using modeling compounds. Paint if desired. Air-dry 24 hours.

---

### Process: Session 4
**20-30 min.**

**K-2**
- **Assemble coins**
  7. Glue coin disks together.

**3-4**
- **Complete game**
  10. Prepare a short group presentation about the process of creating this new game.

---

### Process: Session 5
**20-30 min.**

**K-2**
- **Complete game**
  10. Prepare a short group presentation about the process of creating this new game.

**Assessment**
- Discuss coin designs and symbols with each student. How unique are coins? What processes were used to sculpt them? What do symbols mean?
- Talk about currency and what symbols represent on each bill. Students identify attributes of countries represented.
- Are wallets constructed according to directions?
- How well did the group work together?
- Does the game include all necessary components? Are game directions clearly written?
- Was presentation informative?
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.
- Display student art with objectives and standards.

---

### Extensions
- Create a series of coins for countries being studied and/or that are represented in the community.
- Use coins to create a simple barter system game.
- Count and trade coins.
- Create profiles of each country and its new currency. Include a map, population, physical characteristics, climate, economic resources, and other information.
- Write mock travel brochures to attract visitors to the country.
- Create a box for the game. What would go on the outside of the box to give consumers clues about what’s inside? Play games. Modify rules as necessary to make it more enjoyable.
- Create an original game using money. Write new rules.
## Objectives

Students create puppets that reflect details that contrast with an updated version of a classic story.

Students give literature of the past an encore as they produce an updated version as a simple puppet play with stage settings.

Students create dialogue that reflects a tale from the past as told in the present or future.

### Background Information

Fairy tales have been told in various forms for hundreds of years. These stories were often told to children to give them advice or frighten them to be careful, obey their parents, or follow rules. In the original tales, the outcomes were perilous for naughty boys and girls and characters typically were lost or treated badly. Most of these tales had a moral or lesson in the end.

One of the first printed records of these stories was Grimm’s Fairy Tales, compiled in Germany by the Brothers Grimm in the early 1800s. These stores have been told and retold from generation to generation and in countries across the globe. Often times they take on characteristics of the storyteller or specific details that interest the audience.

For instance, many cultures have stories about how things in nature were created, or how certain animals got their characteristics. There are versions of popular tales like “Cinderella” and “The Three Bears” from cultures around the world.

Some of the stories can be traced to actual historic events. Most create striking visual images and have meanings that cross time. They link events from yesterday with lessons children still need to know today and help people tell their own stories in unique and personal ways.

### Resources

**The Three Billy Goats Gruff** by Paul Galdone
Familiar Norwegian folktale that works with all grades for this lesson. Modern adaptations have been given to the goats. They walk around on their hind legs, the smallest goat wears a diaper and sucks a pacifier, and the biggest goat wears a black leather jacket.

**The Three Billy Goats Gruff/Just a Friendly Old Troll** (Another Point of View) by Alvin Granowsky
Told from the point of view of the Troll, a hospitable old soul who invited the Goats Gruff to dinner. A good discussion starter for all ages.

**The Three Little Wolves and the Big Bad Pig** by Eugene Trivizas
Appeals to all audiences. A fierce pig is ultimately defeated by three cuddly wolves. The swine ultimately learn about beauty and take time to smell the flowers.

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### National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #3</th>
<th>English Language Arts Standard #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choosing and evaluating a range of subject matter, symbols, and ideas</td>
<td>Students read a wide range of print and non-print texts to build an understanding of texts, and of the cultures of the United States and the world.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>English Language Arts Standard #4</th>
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</thead>
<tbody>
<tr>
<td>Students adjust their use of spoken, written and visual language to communicate effectively with a variety of audiences and for different purposes.</td>
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</tbody>
</table>

### Multiple Intelligences

- Bodily-kinesthetic
- Interpersonal
- Linguistic

---

### Vocabulary List

- Dialogue
- Encore
- Horizontal
- Literature
- Movement
- Prop
- Retold
- Scene
- Scenery
- Setting
- Symmetrical
- Theme
- Transfer
- Trunk
- Version
- Vertical

---
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

- **Puppet designer**: a person who designs puppets can also be a puppeteer or the person who works the puppet. The designer may build the puppets using many different materials including wood, papier-maché, cloth, plastic, and foam.

- **Scenic designer**: a person who helps design the overall plan for how a stage production is going to look in the theater or on a movie set.
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<tr>
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<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
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<tbody>
<tr>
<td><strong>Suggested</strong>&lt;br&gt;<strong>Preparation</strong>&lt;br&gt;<strong>and Discussion</strong></td>
<td>Start with a familiar rhyme. How might Jack and Jill climb a hill on in-line skates? Would Jack have broken his crown if he had worn a regulation helmet? Give literature of the past an encore as the class develops a contemporary play—or a version set in the future.</td>
<td>Read and discuss classic stories, such as those listed, from a different point of view. How would the story change if there were other characters involved? Carefully examine the themes, lessons, and story line. Together, decide how to present these visually, using paper puppets and paper stage settings. More advanced children develop multiple scenes and dialogue for longer works.</td>
<td>Compare the original story of the <em>Three Billy Goats Gruff</em> with adaptations by Paul Galdone. What does the artist tell viewers about the goats? How does that information change your point of view about the goats? About the Troll? Read Alvin Granowsky’s version. How is this story different? How would you illustrate the characters? How would you change the setting?</td>
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</tr>
<tr>
<td><strong>Crayola® Supplies</strong></td>
<td>• Colored Pencils • Glue • Markers • Paint Brushes • Scissors • Watercolor Pencils</td>
<td>• Brass paper fasteners, small • Clear adhesive tape • Drawing paper • Drinking straws • Oak tag</td>
<td>• Paper towels • Recycled newspaper • Sponges, small • Water containers</td>
</tr>
<tr>
<td><strong>Other Materials</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Set-up/Tips</strong></td>
<td>• Cover painting surface with newspaper.</td>
<td>• Students put their names in pencil on the back of their papers prior to painting.</td>
<td>• Spray watercolors with water at least 5 minutes prior to use.</td>
</tr>
<tr>
<td><strong>Process:</strong>&lt;br&gt;<strong>Session 1</strong>&lt;br&gt;<strong>20-30 min.</strong></td>
<td><strong>Create puppet papers</strong></td>
<td>1. Sketch ideas for updated hair styles, clothing, scenes, and accessories for characters on paper.</td>
<td>1. Sketch ideas for updated hair styles, clothing, scenes, and accessories for characters on paper.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Fold drawing paper in half to begin a symmetrical fold painting that will serve as the character’s body trunk.</td>
<td>2. Fold drawing paper in half to begin a symmetrical fold painting that will serve as the character’s body trunk.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Open paper. Drop various colors of juicy watercolor or washable paint on one side of fold. Colors should help communicate the puppet’s character. Fold sides together while paint is still wet. Rub over the outside of the unpainted side to transfer the paint.</td>
<td>3. Open paper. Drop various colors of juicy watercolor or washable paint on one side of fold. Colors should help communicate the puppet’s character. Fold sides together while paint is still wet. Rub over the outside of the unpainted side to transfer the paint.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Open and observe the symmetrical or mirror effect. Add more paint and repeat the process if necessary for more detail or to change the image.</td>
<td>4. Open and observe the symmetrical or mirror effect. Add more paint and repeat the process if necessary for more detail or to change the image.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Decorate at least two other papers in the same way, using contrasting colors that are appropriate for clothing, other body parts, and/or accessories. Air-dry the paintings.</td>
<td>5. Decorate at least two other papers in the same way, using contrasting colors that are appropriate for clothing, other body parts, and/or accessories. Air-dry the paintings.</td>
</tr>
<tr>
<td><strong>Process:</strong>&lt;br&gt;<strong>Session 2</strong>&lt;br&gt;<strong>15-20 min.</strong></td>
<td><strong>Cut and assemble puppet pieces</strong></td>
<td>6. Reverse the fold of the first sheet so the paint is on the outside. Cut out a symmetrical body trunk, leaving the fold intact as the body’s center.</td>
<td>6. Reverse the fold of the first sheet so the paint is on the outside. Cut out a symmetrical body trunk, leaving the fold intact as the body’s center.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Cut out pairs of symmetrical appendages and a face from other folded, painted papers. Cut out accessories that enhance meaning. Add details and appropriate facial expressions with colored pencils, markers, and watercolor pencils.</td>
<td>7. Cut out pairs of symmetrical appendages and a face from other folded, painted papers. Cut out accessories that enhance meaning. Add details and appropriate facial expressions with colored pencils, markers, and watercolor pencils.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Attach arms and legs with brass paper fasteners so they can be moved. Glue on head/neck and accessories.</td>
<td>8. Attach arms and legs with brass paper fasteners so they can be moved. Glue on head/neck and accessories.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Glue a drinking straw to the back of the puppet for a handle. Tape the straw in place until the glue is dry.</td>
<td>9. Glue a drinking straw to the back of the puppet for a handle. Tape the straw in place until the glue is dry.</td>
</tr>
<tr>
<td><strong>Process:</strong>&lt;br&gt;<strong>Session 3</strong>&lt;br&gt;<strong>20-30 min.</strong></td>
<td><strong>Create the backdrop</strong></td>
<td>10. On drawing paper, create backdrops for the puppets. Consider where they might live. What details might better describe their updated story? Lightly sketch ideas.</td>
<td>10. On drawing paper, create backdrops for the puppets. Consider where they might live. What details might better describe their updated story? Lightly sketch ideas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11. Paint the background. Air-dry the paint.</td>
<td>11. Paint the background. Air-dry the paint.</td>
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</tbody>
</table>
## Principles of Art and Design

### Process: Session 4
**20-30 min.**

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Write and practice dialogue for puppets. Bring out their characters while retelling the plot.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Process: Session 5
**30-45 min.**

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Students perform plays for peers using two tables. Display background on rear table. Students hold puppets behind front table as foreground.</td>
<td>16. Perform play for peers or younger students using backdrop as scenery.</td>
<td></td>
</tr>
</tbody>
</table>

### Assessment
- Students worked individually and/or cooperatively to design detailed stick puppets and increasingly elaborate backdrops to match the story.
- Dialogue conveys meaning of story and accurately represents characters portrayed.
- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

### Extensions
- For students new to puppetry, start with familiar stories and characters. Create alternate endings for a story using multiple characters.
- Work in groups to develop multiple scenes for the same story. Create complex dialogue for each character.
- Create a series of stories around the same theme with a variety of backdrops and characters. Research classic stories from other cultures and create those characters and backdrops. See *Egyptian Cinderella & Other Fairy Tales* by Ervin M. Alston and Kaavonia Hinton-Johnson.
- Create a permanent base for stages by gluing backgrounds to cardboard boxes. Cut holes through the base so the puppets’ straw handles can be inserted, allowing puppets to stand within the stage arena instead of in front of it. Create more complex puppets. See *Puppet Shows Made Easy!* by Nancy Renfro.

## Backdrop assembly grades 3-6

![Steps for Backdrop Assembly]

**Indonesian Carved Stick Puppet**
Artist unknown
Wood, paint, batik fabric, felt, sequins, string
27” x 7” x 3”
Private Collection.

---

### Crayola Dream-Makers
Building fun and creativity into standards-based learning

---

**Principles of Art and Design** 85
Objectives

Students (K-4) use their knowledge of endangered animal species and their habitats to create a painting that emphasizes such an animal surrounded by a border of shapes and color.

Students in K to 2 propose ways that people, animals, and plants can live in greater harmony on Earth.

Students in grades 3 to 4 create a persuasive slogan or jingle to support their animal’s plight for survival.

Students in grades 5 and 6 plan an ad campaign on behalf of an endangered animal species and make samples of items to be distributed during the campaign.

Students exhibit their work and explanations to raise public awareness of their animals’ issues.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Linguistic</th>
<th>Musical</th>
<th>Naturalist</th>
</tr>
</thead>
</table>

Background Information

All the inhabitants of Earth are dependent upon one another for their security and survival. Scientists have identified and described almost 1.5 million plants and animals. They are unsure how many more exist. Some species existed and were never discovered before they became extinct.

Animals naturally respond to changing conditions and crises. A giant otter can be threatened by rainforest burning. The Bengal tiger, brown capuchin monkey, and gray wolf face other issues. What can humans do to help animals and habitats that are on the threshold of extinction? Where can animals get help? Today there are more than 5,000 species of animals facing extinction. Some face greater challenges than others. Categories have been created to describe the level of protection needed. These categories are based on how many animals are known to exist, their breeding habits, habitat, and if they still live in the wild or are only living in captivity.

- **Extinct**—no reasonable doubt that the last individual of a species has died
- **Extinct in the Wild**—when the only known members of a species live in captivity or well outside their natural range
- **Critically Endangered**—the species is at severe risk of extinction in the wild in the immediate future
- **Endangered**—has a high risk of extinction in the wild in the near future
- **Vulnerable**—facing a high risk of extinction in the wild in the medium-term future

National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making connections between visual arts and other disciplines</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English Language Arts #12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students use spoken, written, and visual language to accomplish their own purpose (e.g., for learning enjoyment, persuasion and the exchange of information).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science Standards C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades K-4</td>
</tr>
<tr>
<td><strong>Life Science</strong></td>
</tr>
<tr>
<td>Organisms and environments</td>
</tr>
<tr>
<td>Grades 5-6</td>
</tr>
<tr>
<td><strong>Life Science</strong></td>
</tr>
<tr>
<td>Diversity and adaptations of organisms</td>
</tr>
</tbody>
</table>

Resources

- **Can We Save Them? Endangered Species of North America** by David Dobson
  Showcases 12 plants and animals facing extinction. Explains why, what is being done, and how students at all grade levels can help.

- **Endangered Animals** by John Bonnett Wexo
  Part of a Zoobooks series written for ages 4 to 11. Concentrates on endangered animals and why they are in crisis. Specific about how children can become involved in their communities.

- **Gone Wild: An Endangered Animal Alphabet** by David McLimans
  Beautifully illustrated book featuring 28 endangered animals graphically represented by the first letter of their names. Animal classes, habitats, ranges, threats, and status are highlighted.

  Excellent reference for students and adults. Useful in identifying species in danger of extinction in the near future.

- **Will We Miss Them? Endangered Species** by Alexandra Wright Wright, who wrote the book at age 11, enlightens other students about the danger of losing various species.

- [www.nationalgeographic.com](http://www.nationalgeographic.com)
  A wonderful resource for information about animals and their habitats. Includes maps and open forums.
Career Possibilities
Exploring Career Information
From the Bureau of Labor
Statistics www.bls.gov/k12

- **Advertising/public relations specialist**: a person who creates excitement about products so consumers will purchase items.
- **Technical illustrator**: a person who creates illustrations with extreme attention to detail and accuracy. Often uses computers and other materials to make the work look as realistic as possible.

Vocabulary List
*Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.*

<table>
<thead>
<tr>
<th>Advertising</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Border</td>
<td>Habitat</td>
</tr>
<tr>
<td>Campaign</td>
<td>Illustrates</td>
</tr>
<tr>
<td>Co-habitat</td>
<td>Jingle</td>
</tr>
<tr>
<td>Compose</td>
<td>Pattern</td>
</tr>
<tr>
<td>Conservation</td>
<td>Persuasive</td>
</tr>
<tr>
<td>Creatures</td>
<td>Repetition</td>
</tr>
<tr>
<td>Crisis</td>
<td>Shapes</td>
</tr>
<tr>
<td>Decorative</td>
<td>Surface</td>
</tr>
<tr>
<td>Emphasis</td>
<td>Survival</td>
</tr>
<tr>
<td>Endangered</td>
<td></td>
</tr>
</tbody>
</table>

Artwork by students from Otero Elementary School, Colorado Springs, Colorado. Teacher: Penny Bunting
### Suggested Preparation and Discussion

Research and discuss animals and issues faced by species in danger of extinction. Discuss habitats, physical features, food sources, and other details. Focus on animals of greatest interest to students.

Look closely at the animals' features. Identify patterns on the animals or in their environments. What pattern could they create in the frame of a picture that would emphasize their chosen animal? Would a contrasting color work well or should they consider a hue in the same color family?

Explain that students will create paintings or drawings that can be used in an imaginary “Together on Earth” advertising campaign.

### Crayola® Supplies

- Glue
- Paint Brushes
- Tempera Paint
- Colored Pencils

### Other Materials

- Drawing paper
- Construction paper
- Paper plates
- Paper towels
- Recycled newspaper
- Rulers
- Water containers

### Process:

**Session 1 20-30 min.**

1. On 9- x 12-inch drawing paper, lightly sketch shapes that reflect an endangered animal.

2. Consider color-mixing choices:
   - two primary colors mixed together equal a secondary color: (red + yellow = orange, yellow + blue = green, red + blue = violet)
   - one color + white = a tint
   - one color + a small amount of black = a shade


**Process: Session 2 20-30 min.**

4. Apply additional color to painting to show animal textures. Air-dry paint.

**Create picture frames**

5. Trace around 9” x 12” paper on a larger sheet to define a border. Lightly draw shapes in the border.

6. Fill shapes with colorful paint. Air-dry the frame.

### Process:

**Session 2 20-30 min.**

1. On 9- x 12-inch drawing paper, draw a logo for the ad campaign that reflects endangered animals in crisis.

2. Create an ad campaign:
   - Working independently or in small groups, students consider various strategies advertising agencies use to build a campaign to deliver a message to the public. Choose as many strategies as time permits to execute in a manner appropriate with lesson constraints.
   - On 9- x 12-inch drawing paper, draw a logo for the ad campaign that reflects endangered animals in crisis.

3. Prepare campaign materials:
   - Create a sample of each item to be used in the campaign, such as pins and billboards. They should have a similar design but may not have the same purpose.

### Talk about simple tunes, slogans, or jingles from familiar TV programs or commercials as inspiration for writing similar attention-getters to accompany their paintings.

### Talk about strategies advertisers use to reach their target audiences. What could students do to attract attention to a cause such as saving an endangered species? Research successful ad campaigns. Brainstorm ideas such as billboards, buttons, TV or magazine ads, rallies, marches, full-length movies, celebrity spokes-persons, skywriting, and Public Service Announcements (PSAs).

8. Students present information about their animals to the class.
9. Write conservation ideas/actions that could help all living creatures to co-habitat in a balanced Earth. Exhibit these statements with the art.

4. Create a plan for how each item is to be used, how many are needed, and where/how object is to be placed or distributed.
5. Prepare a class presentation to provide information about the animal, show samples of items for the campaign, and explain the advertising plan.

8. Students briefly present information about the status of their animals. Form small groups based on animals that face similar issues.
9. Write slogans or jingles (songs) to enhance public awareness of the crises. Present jingles to group.

Assessment
- How well do students' frames accent the animal represented?
- Is the animal facing danger of extinction? Students clearly explain their animals' situations to peers.
- Student conservation ideas are based on awareness of problems faced by the animals studied.
- Does the art match the frame and presentation? Does each student have a clear understanding of each animal's plight?
- How well did students collaborate in their small groups? How clearly do jingles or slogans communicate the issues?
- Students clearly explain their animals' situations to peers.
- Samples of items are detailed and clearly communicate the message. Designs are similar.
- Did students explain their advertising plan effectively?

- Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

Extensions
- Explore each animal's habitat. In what region does the animal live? What resources does it need to survive? What efforts are underway to help this species?
  Ask local experts to describe the status of threatened animals or plants in the area. What can be done to address the problems?

- Students write imaginative obituaries that include factors that caused the animal’s death. Indicate why it did not survive, such as loss of habitat, pollution, or climate change. Combine writings and art from all students into a book called “Together on Earth” and share with families and other teachers.
  Encourage gifted students to explore other public awareness avenues, such as speaking before parent groups, displaying posters, and encouraging younger children to be more environmentally aware.

Black Cat
Artist unknown
Crayola Folk Art Collection.
Objectives

Students explore a variety of symbols from various sources and design their own symbol to represent the antidote to a personal fear.

Students combine colors, shapes, and symbols to create patterns on shields designed to ward off their fears about the future.

Students identify and discuss various fears or phobias and describe that fear in a short narrative.

Multiple Intelligences

**Intrapersonal Linguistic**

**National Standards**

**Visual Arts Standard #2**
Using knowledge of structures and functions

**Health Standard #5**
Using communication skills to promote health

**Social Studies Standard #1**
Culture—experiences that provide for the study of culture and cultural diversity.

Background Information

Signs and symbols—for everything from simple objects to complex ideas—have been used by people for thousands of years. Many symbols have lost their original links to the past but are still used to represent an idea. For instance, the outline of a five-pointed star has appeared repeatedly in the United States for more than 200 years on flags and in the military. These stars are often used in schools to denote good work. Stars mark capital cities on maps and indicate emergency exits and storage for safety equipment.

A six-pointed star is associated with law and order. It is used as the shape of, or is depicted on, many police badges.

Hobos used symbols to denote specific things about places along their journeys and left messages for others who followed behind them. In the United States in the 1920s and 1930s, the symbol shown here meant “hold your tongue.” In Sweden the same symbol meant “bad-tempered people live here,” and in Great Britain it meant “dangerous people and/or dangerous dogs are here.”

Symbols appear everywhere today: on street signs, bathroom doors, weather maps, store signs (think about golden arches or a red and white bull’s eye), and calendars. Languages use symbols for letters or characters as well as punctuation. Question marks and exclamation points change the way a sentence is read.

What Does It Mean?

**Balance**: both sides of a design have the same visual weight

**Organic shapes**: irregular shapes, often like those in nature

**Symmetrical**: the same on both sides of a center fold/axis

Resources

*Coat of Arms* by Catherine Daly-Weir
Explanations are clear for students of all ages. Adapt the stencil as desired.

*Illustrated Book of Signs & Symbols* by Miranda Bruce-Mitford
Thousands of brief descriptions of symbols from all parts of the world and time periods. Excellent resource for teachers.

*Scared? From Fear...To Courage* by Nuria Roca
Introduces the topic of fears to ages 4 to 8. Includes topics such as nightmares and fear of animals. Provides solutions for overcoming fears.

*What Are You Afraid Of? Stories About Phobias* by Donald R. Gallo
Ten short stories written for grades 6 to 9. Topics include fear of cats, roads, and heights. Characters tackle their fears.

Vocabulary List

*Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.*

<table>
<thead>
<tr>
<th>Balance</th>
<th>Phobia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>Protection</td>
</tr>
<tr>
<td>Emphasizes</td>
<td>Represent</td>
</tr>
<tr>
<td>Fear</td>
<td>Shield</td>
</tr>
<tr>
<td>Pattern</td>
<td>Signs</td>
</tr>
</tbody>
</table>

Artwork by students from Forks Elementary School, Easton, Pennsylvania. Teacher: Barbara Markley
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics [www.bls.gov/k12]

- **Art therapist**: a person who helps people of all ages interpret their feelings or work through their problems with art.
- **Researcher**: a person who investigates the origins of objects and the history of symbols associated with various items.
<table>
<thead>
<tr>
<th>Suggested Preparation and Discussion</th>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss questions like these with students, being sensitive to children's feelings and their privacy: What are phobias or fears? Of what are you or someone you know afraid? What fear have you overcome? How? Most people have concerns and fears. Sometimes talking about scary situations help us deal with them.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Brainstorm scary situations with classmates, then discuss how others shield themselves from dangers. What do goalies and firefighters wear to protect themselves from harm? How did ancient warriors protect themselves?</td>
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</tr>
<tr>
<td>Symbols are images that stand for objects, thoughts, or ideas. With students, arrange a display of a variety of symbols. Label with their meanings in various cultures. How are symbols used?</td>
<td></td>
<td></td>
<td>Research symbols to discover common shapes, colors, and meanings. Create a chart to graph results. Include features of the symbol and what the symbol represents (red = warning; triangle = attention; diagonal line through circle = do not).</td>
</tr>
<tr>
<td>Think about the fear you would like protection from (such as giant spiders). What might help you fight that fear (maybe big shoes)? What symbol could you use to represent that object (outline of a big shoe)? Think of a simple object or image to symbolize a fear and protection from it.</td>
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</tbody>
</table>

### Crayola® Supplies
- Colored Pencils
- Construction Paper® Crayons
- Paint Brushes
- Scissors
- Tempera Paint

### Other Materials
- Construction paper, 18” x 24”
- Paper plates for paint pallets
- Water containers
- White paper

### Set-up/Tips
- Younger students may dictate stories to older students or adult volunteers.
- Symbols that are used multiple times could be scanned and copied.
- Cover painting surface with recycled newspaper.

---

**Shield Yourself to *Balance* Fears With Hope**

![Signet ring with family crest](Photo by R. De Long)

![European shield](Photo by R. De Long)

**Travel patches**
- Artist unknown
- Private Collection.
- Photo by R. De Long

---

92 Principles of Art and Design
Design shield

1. Sketch a symbol on a sheet of paper that represents a fear and/or serves as an antidote for it. A leaf or star might indicate concerns about the environment, for example.

2. Students sketch shield shapes that might protect them from their fears. Would the outer edge be spiked or rounded, geometric or organic?

3. Gently fold a large colored construction paper sheet in half, avoiding a hard crease. Draw half of the shield design on one side. Make sure that the shield’s center is on the fold. Cut out the shield. Start at the fold and cut through both paper layers. Open to reveal a symmetrical shield.

4. Transfer symbol(s) to shield to create an interesting design. Repeat the symbol in a pattern. Add shapes and lines to enhance the symbol, strengthening its meaning. Make sure the design is balanced so both sides have the same visual weight.

5. Paint or color the shield. Air-dry the paint.

6. Students write a short paragraph describing their fears or concerns and how their symbols represent their fear and/or serve as an antidote.


Assessment

• How well do shields depict meaningful symbols? Are patterns used to create a balanced design?
• Are paragraphs clearly written and descriptive of the fear and/or its antidote?
• Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.

Extensions

Compare and contrast children’s reactions to scary books, movies, and video games. How do their fears vary depending on the medium? Why do they think it’s fun to be scared?

Match children’s literature to fears expressed by students. Read and discuss them. Offer other artistic expressions of fears. Be aware of any students who may benefit from a referral to mental health professionals.

What fears are common among the group or related to school? Create classroom shields.

Shield of the Montejo Coat of Arms
Carved stone
1549 A.D.
La Casa de Montejo
Merida, Yucatan, Mexico
Photo by Erica Simon-Brown

Shield at Rathausgasse
Wood
circa 1400
Hessen, Germany
Photo by J. McCracken
Objectives
Students explore problem-solving strategies by transforming one image into another.

Students use their imaginations to create a card that illustrates one idea/subject on the card’s face that transforms into another idea as the card is opened.

Student use unity in their work to make the two areas of their drawing work together to create a smooth transition.

Background Information
Webster’s Seventh New Collegiate Dictionary defines transformation as the operation of changing one configuration or expression into another in accordance with a mathematical rule.

Among the Northwest Coast Indians, Kwakiutl used the idea of transformation in their Winter Dance to initiate new members into a special society. Magnificent carved and painted masks transformed dancers into bird attendants, who searched for victims to eat. Strings allowed the dancers to manipulate the masks so that the beaks opened and snapped shut with spectacular effects.

Contemporary artists such as Jay Palefsky have taken the idea of transformation to create what are known as gate-leg cards. These cards allow the viewer to see one idea that transforms itself into another idea when the card is opened.

Resources
Brother Bear: A Transformation Tale by H. Clark Wakabayashi
Pacific Northwest tale of brotherhood between all living creatures. As a boy transforms to a man, he faces struggles. For children ages 9 to 12. Beautifully illustrated.

MET*A*MORPH*I*MALS by Jay Palefsky
Delightful book filled with examples of morphs. Each morph is accompanied by a poem and as each page is turned a new morph is revealed. www.kutzkies.bigstep.com

Metamorphosis: Nature’s Magical Transformations by Alvin Silverstein
Well-illustrated children’s book filled with facts about the transformation of caterpillars to butterflies, tadpoles to frogs, and larve to honeybees.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Logical-mathematical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spatial</td>
</tr>
</tbody>
</table>

Vocabulary List
Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

<table>
<thead>
<tr>
<th>Detail</th>
<th>Problem Solving</th>
<th>Triptych</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway</td>
<td>Style</td>
<td></td>
</tr>
<tr>
<td>Horizontal</td>
<td>Technique</td>
<td>Variety</td>
</tr>
<tr>
<td>Media</td>
<td>Transformation</td>
<td></td>
</tr>
<tr>
<td>Metamorphic</td>
<td>Transition</td>
<td></td>
</tr>
<tr>
<td>Morph</td>
<td>Translation</td>
<td></td>
</tr>
<tr>
<td>Panel</td>
<td>Tri-fold</td>
<td></td>
</tr>
</tbody>
</table>

Artwork by students from Weisenberg Elementary School, Kutztown, Pennsylvania. Teacher: Karli Le Monnier
Career Possibilities
Exploring Career Information From the Bureau of Labor Statistics www.bls.gov/k12
- **Greeting card designer**: a person who creates messages for others to give to people using photography, drawing, painting, cartooning, or other skills.
- **Printer**: a person who works with others to reproduce art, books, or other 2-D materials.
Have you ever stood before a gate and wondered what might be on the other side? You might be in a city. Outside the gate you may hear loud traffic noises and see many people rushing about on sidewalks. You slowly push the gate open to step into the unknown. Miraculously you find yourself inside a quiet, peaceful space where horses dance among the clouds that whirl around a majestic castle. Explain that students will share the experience of a transformation by creating their own “gateway to an idea” cards.

Discuss: What is unity? What techniques do artists use to be sure two works go together? Media? Common theme? Style? Color? Ask students to keep in mind that the first drawing should have all the same parts as the second drawing. The works should go together. In art we call that the element of **unity**.

Create a sample of a simple transition from one object to another using one or two steps as an example, such as a large circle and several small circles to a flower or a large square, triangle, rectangle, and two small squares to a house.

Demonstrate putting shapes together to create new objects. Students practice arranging shapes. If students have difficulty, deconstruct objects.

Create simple transformations using basic shapes to show as examples (a triangle becomes a galaxy of stars; a circle becomes a part of a giant snowflake). Discuss other “open to close” ideas.

Ask students to keep in mind that the first two panels are a part of the second panel and therefore the work should go together, which in art is the principle of **unity**.

Create a series of thumbnail sketches.

---

### Crayola® Supplies

- Crayons
- Watercolor Colored Pencils
- Paint Brushes
- Colored Pencils
- Markers, fine tip

### Other Materials

- Drawing paper
- Cardstock
- Recycled newspaper
- Rulers
- Water containers

### Set-up/Tips

- Have younger children sketch the image to be used inside their cards first.
- Pre-cut all cardstock. Score fold lines on stiff papers by running an opened scissor tip along a straight edge (see diagram).
- Cover painting surface with newspaper.
- Place paper on a bed of newspapers when coloring to achieve thicker crayon and colored pencil layers with greater ease.

### Process: Session 1 20-30 min.

#### Create transition cards

1. Divide paper into two equal sections by folding paper horizontally (book fold).
2. Open fold and mark folded line to create two equal sections.
3. Draw randomly arranged shapes on the outside cover of the card. Draw the correct size, number, and shapes to be used inside.
4. Place shapes in inside section to create an object (house, animal, flower).

#### Create double-end fold cards

1. Measure card horizontally. Lightly mark card into three equal parts (see diagram). Connect marks with a light line. Measure, mark, and divide double-end sections in half.
2. Fold third sections into and over one another. Open card. Fold double-ends in half in opposite direction.

#### Create the transformation

3. Draw idea on closed card using watercolor pencils. Explore some of the following:
   - change the drawing pressure to lighten or darken the color
   - make a pattern with dots of color (stipple)
   - blend a one-color range from highlight to shadow to give the illusion of form. Start with a tint (white plus a color), blend into full color, then add deep shades (black plus one color) of the color.
4. Experiment with line quality: try thin, jagged, wavy, or bumpy lines.
<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
</table>
| **Process:**  
**Session 2**  
15-20 min.  
| Decorate cards  
5. Add details with colored pencils or markers. Fill in drawing with additional colors to make it more visually appealing.  
| Add color  
5. Add color to fill drawings completely.  
| **Complete transformation**  
7. Draw on wet paper to create broad areas of easily blended colors with the side of the watercolor colored pencil tip. Air-dry.  
| **Process:**  
**Session 3**  
20-30 min.  
| 8. Students challenge other students to predict what transformations they will observe.  
9. Open card. Extend transformative drawing from edge of art into empty space inside card. Frequently open/close the card to check the development of transformation.  
| **Assessment**  
• Students follow directions to create their cards.  
• Transformative drawings are accurate and visually interesting. Transformations are smooth from exterior to interior of card.  
• Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.  
| **Extensions**  
Sculpt a series of transformations. If possible, make numerous steps to prepare a slow-motion video of the process.  
Children use their imagination to think up and create stories that relate to their card transformation.  
Children orally share stories about their transformations.  
| **How to create double-end fold cards**  
| **Step 1.** Lightly mark paper (15” x 7-1/4” works well) in three equal sections.  
| **Step 2.** Divide two outside sections in half.  
| **Step 3.** Fold as shown.  
|
Move Into a Picture of the Improbable

Objectives

Students examine fanciful paintings and writings, and then use their imaginations and art processes to suggest improbable happenings in the future.

Students collect ideas from various sources to create an imaginative illustration using a variety of media.

Students write brief statements describing their art and how the item depicted will work in the future.

Multiple Intelligences

<table>
<thead>
<tr>
<th>Linguistic</th>
<th>Naturalist</th>
</tr>
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</table>

National Standards

<table>
<thead>
<tr>
<th>Visual Arts Standard #1</th>
<th>Science Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding and applying media, techniques, and processes</td>
<td>Science as Inquiry</td>
</tr>
<tr>
<td></td>
<td>Abilities necessary to do scientific inquiry</td>
</tr>
<tr>
<td>Visual Arts Standard #6</td>
<td>Science as Technology</td>
</tr>
<tr>
<td>Making connections between visual arts and other disciplines</td>
<td>Grades K-4</td>
</tr>
<tr>
<td></td>
<td>Communicate a problem, design, and solution</td>
</tr>
<tr>
<td></td>
<td>Grades 5-6</td>
</tr>
<tr>
<td></td>
<td>Understanding about science and technology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English Language Arts Standard #7</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources to communicate their discoveries in ways that suit their purposes and audience.</td>
<td></td>
</tr>
</tbody>
</table>

Background Information

People have imagined improbable places for thousands of years. In ancient Egypt, kings dreamed of perfect worlds in their afterlives, where they would become gods and live forever. Pyramids were built to house all the possessions needed for this purpose. In 360 BCE, Plato recorded stories about Atlantis, a magical world under the sea. Greek mythology is filled with stories of creatures and places, adventures, danger, and great wealth. More recently, songs and stories have told about lands that were made of candy and people flying on carpets.

Today scientists and designers are thinking about communities that could be built on the moon or on other planets. What might these buildings look like? What kind of transportation would be necessary? How would food be produced? Designers and futurists are looking for solutions to anticipated problems such as the effects of climate change.

Resources

Animals Should Definitely Not Wear Clothing by Judi Barrett
Fun look at why animals should not wear clothes. Helps young students think about improbable happenings and ideas for illustrations.

Cloudy With a Chance of Meatballs by Judi Barrett
What if it rained soup or juice instead of water? Delightful story to spark the imagination of and discussion by all students. Short and fun to read out loud.

Pickles to Pittsburgh by Judi Barrett
Continues the story of the town of Chewandswallow where food falls from the sky three times a day. Written for ages 4 to 8, and works well with all ages to stimulate creative thought.

What If? Mind-Boggling Science Questions for Kids by Robert Ehrlich
Designed for students in grades 5 and 6. Collection of thought-provoking questions to entice students to look outside the box.

Vocabulary List

Use this list to explore new vocabulary, create idea webs, or brainstorm related subjects.

<table>
<thead>
<tr>
<th>Background</th>
<th>Horizon line</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detail</td>
<td>Imaginary</td>
<td>Unlikely</td>
</tr>
<tr>
<td>Fantasy</td>
<td>Improbable</td>
<td>Vertical line</td>
</tr>
<tr>
<td>Fiction</td>
<td>Middle ground</td>
<td></td>
</tr>
<tr>
<td>Foreground</td>
<td>Movement</td>
<td></td>
</tr>
</tbody>
</table>

Artwork by students from Tonalea Elementary School, Scottsdale, Arizona. Teacher: Mary Clark
Career Possibilities
Exploring Career Information
From the Bureau of Labor Statistics www.bls.gov/k12

- **Creative director**: a person sometimes referred to as an “imaginer” who often comes up with the concept and works with others to create the other elements of an overall design.

- **Science fiction illustrator**: a person who uses imagination to create pictures for books, magazines, video games, posters, toys, and other uses. Multi-media may be used to create illustrations.

- **Theme park designer**: a person who works with others to create an exciting venue filled with unexpected surprises for visitors.
### Suggested Preparation and Discussion

Read books and look at pictures that inspire creative thinking about improbable events. Ask students to identify improbable events. Brainstorm other improbable events. Ask students provocative questions such as…

- What if…animals could talk?
- What if…people could fly?
- What if…we all lived underwater?

Review pictures and stories suggesting the improbable, such as talking trees and flying people. If the world’s climate changes, how might the environment and people’s lives be affected? Picture silly or sane changes that would benefit people or help them enjoy life. Provide an outrageous or “scientific” explanation for the changes.

Discuss various media choices for making drawings that picture the improbable. A variety of materials are suggested. Use what works best with your students.

<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think about the various features of animals. What if those features were combined to create a whole new species? What would the new animal look like? What would it do? Where would it live?</td>
<td>Think about a tool or a job that might be needed in the future. What is it? What would it do? What would it look like? How would it function?</td>
<td>Think about the places people live or go for entertainment. Where are those places now? How might they change in the future? What materials might they be made of? What features would they need?</td>
</tr>
</tbody>
</table>

### Crayola® Supplies

- Colored Pencils
- Tempera Paint
- Glitter Glue
- Markers
- Paint Brushes
- Construction Paper™ Crayons
- Watercolors

### Other Materials

- Drawing paper
- Paper plates
- Paper towels
- Recycled newspaper
- Water containers

### Set-up/Tips

- Cover art surface with newspaper.
- Place paper on a bed of newspaper when coloring or using pencils to achieve thicker layers with greater ease.
- Use paper plates as palettes for mixing paint colors.

---

*Untitled*

*Artist: Bill Skrips*

*Found objects assemblage, wood, metal*

*Private Collection.*
<table>
<thead>
<tr>
<th>K-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process: Session 1</strong>&lt;br&gt;20-30 min.</td>
<td><strong>Process: Session 1</strong>&lt;br&gt;20-30 min.</td>
<td><strong>Process: Session 1</strong>&lt;br&gt;20-30 min.</td>
</tr>
<tr>
<td><strong>Create an impossible animal</strong>&lt;br&gt;1. Choose the shapes for drawing an improbable animal.&lt;br&gt;2. Sketch the most important animal shapes. Fill the paper with a drawing of the animal and its habitat.</td>
<td><strong>Draw an impossible invention</strong>&lt;br&gt;1. Decide on the geometric shapes needed for drawing an improbable tool or job.&lt;br&gt;2. Sketch the most important foreground shapes. Add light background lines to fill the paper.</td>
<td><strong>Design an impossible place</strong>&lt;br&gt;1. Select shapes needed for drawing an improbable place.&lt;br&gt;2. Lightly sketch the foreground. Add light background lines.</td>
</tr>
<tr>
<td><strong>Process: Session 2</strong>&lt;br&gt;15-20 min.</td>
<td><strong>Process: Session 2</strong>&lt;br&gt;15-20 min.</td>
<td><strong>Process: Session 2</strong>&lt;br&gt;15-20 min.</td>
</tr>
<tr>
<td>3. Add color and detail, using one of the following techniques.&lt;br&gt;• Use bright colors to call attention to the most unusual areas.&lt;br&gt;• Use a variety of markers. Darker colors in the background make a lighter-color foreground pop.&lt;br&gt;• Mix media. Outline important shapes in crayon or colored pencil. Fill in other shapes with tempera or watercolor. Air-dry paint.</td>
<td>4. Continue to add color to the art. Add glitter glue or more paint as needed to provide detail and sparkle. Air-dry the painting.</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment</strong>&lt;br&gt;• Students clearly describe their art in a paragraph detailing their situation and the “scientific” or improbable solution.&lt;br&gt;• Display art with lesson objectives and standards.&lt;br&gt;• Ask students to reflect on this lesson and write a DREAM statement to summarize the most important things they learned.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extensions</strong>&lt;br&gt;Exchange written statements. Students match statements with each others’ art. Discuss what details lead to the matches.&lt;br&gt;Recreate the new object with Crayola Model Magic®. Add backgrounds and details to make the new scene come alive.&lt;br&gt;Students group their art and statements into common themes.&lt;br&gt;Advanced students write and illustrate short stories about improbable situations, either past or present.&lt;br&gt;Older students research predictions that came true—and those that didn’t.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insects! Recycled Robots<br>Crayola Model Magic®<br>Fusion®, recycled objects<br>Artist: Michael R. O’Brien<br>Private Collection.*
The lessons in this guide suggest types of art materials. This chart outlines the specific characteristics of different Crayola art materials. Use it to choose which variation best meets your needs and those of your students.

<table>
<thead>
<tr>
<th>CRAYONS/OIL PASTELS</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Crayons (3-5/8&quot; x 5/16&quot;)</td>
<td>• Brilliant colors; smooth, even color lay down.</td>
</tr>
<tr>
<td>Large Size Crayons (4&quot; x 7/16&quot;)</td>
<td>• Brilliant colors; smooth, even color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Larger size for younger child palm grip.</td>
</tr>
<tr>
<td>Triangular Crayons</td>
<td>• Brilliant colors; smooth, even color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Triangular shape helps guide correct pincer grip.</td>
</tr>
<tr>
<td></td>
<td>• Anti-roll.</td>
</tr>
<tr>
<td>Washable Crayons</td>
<td>• Brilliant colors; smooth, even color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Available in regular, large, and triangular sizes.</td>
</tr>
<tr>
<td></td>
<td>• Superior washability from walls, tables, and most surfaces.</td>
</tr>
<tr>
<td>Construction Paper™ Crayons</td>
<td>• Brilliant colors; smooth, even color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Color shows on dark paper, brown craft paper, and similar surfaces.</td>
</tr>
<tr>
<td>Fabric Crayons</td>
<td>• Permanent when drawing is heat transferred to synthetic fabric.</td>
</tr>
<tr>
<td>Twistables® Crayons</td>
<td>• Brilliant colors; smooth, even color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Durable plastic barrel.</td>
</tr>
<tr>
<td></td>
<td>• No sharpening with easy twist-up action.</td>
</tr>
<tr>
<td>Twistables Erasable Crayons</td>
<td>• Complete erasability of marks.</td>
</tr>
<tr>
<td></td>
<td>• Brilliant colors; smooth, even color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Durable plastic barrel.</td>
</tr>
<tr>
<td></td>
<td>• No sharpening with easy twist-up action.</td>
</tr>
<tr>
<td></td>
<td>• Eraser on each crayon.</td>
</tr>
<tr>
<td>Twistables Slick Stix™ Crayons</td>
<td>• Super-smooth color glides on paper.</td>
</tr>
<tr>
<td></td>
<td>• Water soluble upon application.</td>
</tr>
<tr>
<td></td>
<td>• Dries quickly with no smearing.</td>
</tr>
<tr>
<td></td>
<td>• Durable plastic barrel.</td>
</tr>
<tr>
<td></td>
<td>• Great for older student crayon techniques.</td>
</tr>
<tr>
<td></td>
<td>• Appropriate for students with special needs due to ease of color lay down.</td>
</tr>
<tr>
<td>Oil Pastels</td>
<td>• Opaque colors blend easily.</td>
</tr>
<tr>
<td></td>
<td>• Good color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Hexagonal shape prevents rolling.</td>
</tr>
<tr>
<td>Portfolio® Series Oil Pastels</td>
<td>• Opaque colors blend and layer well, with velvety lay down.</td>
</tr>
<tr>
<td></td>
<td>• Unique water solubility allows watercolor washes.</td>
</tr>
</tbody>
</table>
## MARKERS

<table>
<thead>
<tr>
<th>MARKERS</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regular Markers</strong></td>
<td>• Bright, brilliant, transparent colors.</td>
</tr>
<tr>
<td></td>
<td>• Conical tip draws thick and thin lines.</td>
</tr>
<tr>
<td></td>
<td>• Fine tip draws thin lines and detail.</td>
</tr>
<tr>
<td><strong>Washable Markers</strong></td>
<td>• Washability you can trust™—superior washability from hands and most clothing.</td>
</tr>
<tr>
<td></td>
<td>• Bright, brilliant, transparent colors.</td>
</tr>
<tr>
<td></td>
<td>• Conical tip draws thick and thin lines.</td>
</tr>
<tr>
<td></td>
<td>• Fine tip draws thin lines and detail.</td>
</tr>
<tr>
<td></td>
<td>• Wedge tip provides ease in broad strokes and vertical applications.</td>
</tr>
<tr>
<td><strong>Gel Markers</strong></td>
<td>• Bright, opaque colors that deliver bold marks on black and dark papers.</td>
</tr>
<tr>
<td></td>
<td>• World’s most washable marker with superior washability from hands and most</td>
</tr>
<tr>
<td></td>
<td>clothing.</td>
</tr>
<tr>
<td></td>
<td>• Writes on glass, foil, glossy, and other non-porous surfaces.</td>
</tr>
<tr>
<td></td>
<td>• Conical tip draws thick and thin lines.</td>
</tr>
<tr>
<td><strong>Overwriters® Markers</strong></td>
<td>• Bright “overcolors” magically color over darker “undercolors” for exciting and</td>
</tr>
<tr>
<td></td>
<td>dramatic effects.</td>
</tr>
<tr>
<td><strong>Color Changeables™ Markers</strong></td>
<td>• Students have fun seeing colors magically “pop out” over each other for new</td>
</tr>
<tr>
<td></td>
<td>creative expression possibilities.</td>
</tr>
<tr>
<td></td>
<td>• Increased color variety as “wand” changes 7 colors to 7 new colors.</td>
</tr>
<tr>
<td><strong>Twistables Markers</strong></td>
<td>• No lost caps!</td>
</tr>
<tr>
<td></td>
<td>• Bright, brilliant, transparent colors.</td>
</tr>
<tr>
<td><strong>Fabric Markers</strong></td>
<td>• Permanent bright color on cotton or cotton blends when heat set.</td>
</tr>
<tr>
<td></td>
<td>• Bullet tip for medium and fine detail.</td>
</tr>
<tr>
<td><strong>Dry-Erase Markers</strong></td>
<td>• Low odor, bold color that can be viewed from a distance.</td>
</tr>
<tr>
<td></td>
<td>• Chisel and bullet tips.</td>
</tr>
</tbody>
</table>

## COLORED PENCILS

<table>
<thead>
<tr>
<th>COLORED PENCILS</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colored Pencils</td>
<td>• Bright, vivid colors with opaque lay down.</td>
</tr>
<tr>
<td></td>
<td>• Good blending.</td>
</tr>
<tr>
<td></td>
<td>• Thick 3 mm lead; made from reforested wood.</td>
</tr>
<tr>
<td>Watercolor Colored Pencils</td>
<td>• Water soluble for watercolor and drawing effects.</td>
</tr>
<tr>
<td></td>
<td>• Bright, vivid colors with opaque lay down.</td>
</tr>
<tr>
<td></td>
<td>• Good blending.</td>
</tr>
<tr>
<td></td>
<td>• Thick 3 mm lead; made from reforested wood.</td>
</tr>
<tr>
<td>Erasable Colored Pencils</td>
<td>• Complete erasability of pencil marks.</td>
</tr>
<tr>
<td></td>
<td>• Bright colors with opaque lay down.</td>
</tr>
<tr>
<td></td>
<td>• Good blending.</td>
</tr>
<tr>
<td></td>
<td>• Eraser on each pencil.</td>
</tr>
<tr>
<td></td>
<td>• Thick 3 mm lead; made from reforested wood.</td>
</tr>
<tr>
<td>Twistables Colored Pencils</td>
<td>• Bright colors; smooth, even color lay down.</td>
</tr>
<tr>
<td></td>
<td>• Durable plastic barrel.</td>
</tr>
<tr>
<td></td>
<td>• No sharpening with easy twist-up action.</td>
</tr>
<tr>
<td>Twistables Erasable Colored Pencils</td>
<td>• Complete erasability of pencil marks.</td>
</tr>
<tr>
<td></td>
<td>• Bright colors; smooth, even color lay down.</td>
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<tr>
<td></td>
<td>• Durable plastic barrel.</td>
</tr>
<tr>
<td></td>
<td>• No sharpening with easy twist-up action.</td>
</tr>
<tr>
<td></td>
<td>• Eraser on each pencil.</td>
</tr>
<tr>
<td>Write Start® Colored Pencils</td>
<td>• Thick 5.3 mm lead and large hexagonal barrel is great for young students.</td>
</tr>
<tr>
<td></td>
<td>• Bright, vivid colors with opaque lay down.</td>
</tr>
<tr>
<td></td>
<td>• Anti-roll.</td>
</tr>
<tr>
<td></td>
<td>• Made from reforested wood.</td>
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</tbody>
</table>
## Modeling Compounds Characteristics

<table>
<thead>
<tr>
<th>Modeling Compounds</th>
<th>Characteristics</th>
</tr>
</thead>
</table>
| **Air-Dry Clay**   | • No firing, air-dry clay.  
|                    | • Good for high-detail projects.  
|                    | • Natural clay body to create solid, durable forms.  
|                    | • Suitable for all clay techniques.  
|                    | • White color suitable for all color/surface decoration.  
|                    | • Air-dries hard. |
| **Model Magic**    | • Soft, easy-to-manipulate compound.  
|                    | • Good for low-detail projects.  
|                    | • Good for young students and those who are developing manual dexterity.  
|                    | • Air-dries to consistency of a foam cup. |
| **Modeling Clay**  | • Traditional oil-based clay.  
|                    | • Non-hardening and reusable. |

## Paints Characteristics

<table>
<thead>
<tr>
<th>Paints</th>
<th>Characteristics</th>
</tr>
</thead>
</table>
| **Premier™ Tempera**                  | • Ultimate opacity and coverage.  
|                                       | • Creamy consistency flows smoothly and will not crack or flake.  
|                                       | • Intense, true hues for accurate color mixing. |
| **Artista II™ value-priced Tempera**  | • Fine-quality colors with good opacity.  
|                                       | • Creamy consistency flows smoothly and will not crack or flake.  
|                                       | • Good hue positions for excellent color mixtures.  
|                                       | • Washable from skin and fabrics. |
| **Washable Paint**                    | • Washability you can trust™—superior washability from skin and fabrics.  
|                                       | • Bright, clean colors for consistent color mixing.  
|                                       | • Smooth-flowing formula will not crack or flake. |
| **Acrylic Paint**                     | • Pigment-rich colors are intense even when diluted; achieve accurate color mixes.  
|                                       | • Thick, tube-like viscosity, for a variety of techniques from air-brushing to impasto.  
|                                       | • Permanent, water resistant, and flexible when dry. |
| **Washable Finger Paint**             | • Bright colors, thick consistency.  
|                                       | • Washable from skin and fabrics. |
| **Watercolors**                       | • Bright, intense, transparent colors.  
|                                       | • True hues for accurate color mixing.  
|                                       | • Ideal for opaque and transparent techniques. |
| **Washable Watercolors**              | • Washability you can trust—superior washability from skin and fabrics.  
|                                       | • Bright, intense, transparent colors. |