



Teacher's Guide

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The Kentucky
Network

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Introduction to the Series

Art On-Air, produced in collaboration with the Kentucky Arts Council and its Artist-in-Residence program, offers upper elementary students (and their teachers) 12 separate visual art lessons, taught by experienced KAC roster artists. Each 20- to 30-minute program also includes a discussion of artists, past and present, and their work; video field trips; and/or examples of student art.

- Art On-Air* is intended to help children
- understand and apply basic art concepts.
 - see themselves as artists.
 - value their own creativity as well as the creativity of others.
 - learn the “usefulness” of art.
 - participate in the process of making art from beginning to end.
 - explore a variety of media and tools.
 - increase their awareness of art and artists, past and present.
 - see the art present in the world around them.
 - understand the connections among art and other disciplines.
 - relate the process of making art to critical thinking skills such as decision making and problem solving.

All the information you need to introduce *Art On-Air* in your classroom is included in this guide. You’ll find suggestions for using the series with your students; biographies of the eight artist/instructors; a detailed section on each program, including lists of related artists and art, step-by-step instructions, extensions, and resources; a glossary of art terms, as well as a special glossary related to tessellations; and a list of arts resources and books on art.

How To Use *Art On-Air* in Your Classroom

The *Art On-Air* series introduces upper elementary students to 12 unique visual arts projects—projects they will be able to do themselves. Each program features an experienced artist-in-residence demonstrating techniques and processes and providing students with background information about related art works. The students also see projects created by their peers in response to the same lessons.

The programs are intended to inspire students and to provide them with a prompt for producing their own pieces of art. To help you facilitate the art projects, this guide provides lists of materials and instructions for each lesson; ideas for follow-up, exhibition, and extensions; and suggested resources. We suggest that you assemble and prepare all the materials needed for each project before your students view the program. At that point, you have at least two options for using the lessons:

1. Your students can view the entire program, at the time of broadcast or on videotape, and then begin on their own projects (with your assistance and guidance). This model—the one we had in mind when the programs were created—allows the presentations to have their full inspirational impact.
- or
2. You may think your students will get restless sitting through a 20-minute program without doing something themselves. Or you may want to play down your role as guide and instructor. In either case, you can choose to have your class view the taped program in segments as you start and stop the video. In this model, students are able to work along with the television instructor. To follow this approach successfully, you probably should preview the tape and decide when to take breaks ahead of time.

To make the lessons as effective as possible, we encourage you to allow your students to participate in a “Response to Art” activity after their pieces are completed and/or to exhibit their work in one of the ways suggested (or in some other way you and/or your students determine). The full lessons—including the videotape, any warm-up exercises, the work itself, the response to the work, and the exhibition of the work—are designed to help students see themselves as artists and to help them value their own work and the work of others, both classmates and professional artists.

Thank you for using *Art On-Air* in your classroom. We hope these lessons inspire creativity and encourage your students to discover the joy of expressing themselves through visual art.

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About the Artist/ Instructors

Maude Alexander

The artist/teacher appearing in “Celebrating Ancestors” has enjoyed a long career in education and the arts. Her experience includes working in program development for educational and recreational agencies; teaching and administering early childhood programs; directing a recreational center; serving as playground drama supervisor for a staff of 60; and providing workshops in art, puppetry, drama, poetry, and writing for children and adults. In addition, Maude has put her multicultural approach to learning and art into practice as an art instructor at King Elementary in Louisville and as a multicultural arts teacher for the Louisville Visual Arts Association. This year, she embarked on a new experience: teaching art to special-needs children at the Special Arts Festival at the Kentucky Center for the Arts and at Louisville’s Home of the Innocents.

Maude’s educational background includes a B.A. in sociology from the University of Louisville plus 33 additional credits from U of L, Montclair State College, Chicago Teachers College, Kean College, and Seton Hall University in children’s literature, child development and early childhood curriculum language development, learning disabilities, education of the black child, and multicultural education.

Cynthia Cooke

The instructor for “cARTography” and “Exploring the Third Dimension with Captain Cooke” is a roster artist and cartographer for the Kentucky Arts Council in Frankfort. Cyndi has been a guest speaker at numerous schools throughout Kentucky and Indiana and has written several successful grants for educational projects and activities. She specializes in teaching integrated portfolio projects to students at all levels.

Cyndi also provides education clinics and summer institutes to minority at-risk students at Louisville’s Lincoln Foundation and has taught cartographic techniques in the Geography Department at the University of Louisville. Her other experience includes designing hands-on activities for the Children’s Museum of Indianapolis and working as a cartographer for the Defense Mapping Agency in Louisville and in Washington, DC. Cyndi has a B.A. in geography from the University of Louisville.

Thomas Freese

The featured artist in “Tessellations” and “Combining Words with Art” has studied arts and crafts since 1976 in various locales, including the Southwest Craft Center in San Antonio, TX; the McNay Art Institute, also in San Antonio; and El Tecnológico de Estudios Superiores de Nuevo Leon in Mexico. He also spent 11 years in New Mexico, where he became familiar with Native American art and culture.



© Thomas Freese

Thomas has mastered a variety of crafts, including calligraphy, eraser carving, rubber stamp design, and jewelry making, and offers classes for schools in jewelry making, printing, Native American crafts and culture, the art of rubber stamping, and Spanish and Mexican folk-art crafts. His recent work experience includes an extended art residency at Spottsville Elementary in Henderson County, KY.

Rebecca Gallion

The instructor for “Walking the Line” is an artist-in-residence with the Kentucky Arts Council. She also serves as an art workshop specialist, providing on-site art workshops for social service and arts organizations, and as a film and video production artist, creating props and sets as well as paintings for promotions and special events. In 1994, under a Teacher Incentive Program Grant from the Kentucky Arts Council, Becky conducted a two-month arts workshop for special-needs and regular education students, ages 6 to 12, at Minors Lane Elementary in Louisville. A recent art residency took her to Rowan County Middle School in Morehead.

Becky has also served as education outreach coordinator for the J.B. Speed Art Museum in Louisville and has taught a variety of arts classes for children and adults. She frequently exhibits her work, most recently at the Kentucky Center for the Arts and at Louisville’s RIPE Gallery. Becky has a B.A. in painting from the University of Kentucky and an M.F.A. in drawing from the University of Cincinnati.

Ruben Moreno

The instructor for “Geo-Vistas” and “Animating Art” is an experienced artist and art educator who conducts school art residency programs in Florida, Kentucky, and Ohio. Ruben has an M.F.A. in painting with a minor in cinema from the University of Cincinnati. He has conducted numerous clay animation programs and has had animation projects featured in exhibitions at the Cincinnati and Lexington children’s museums.

Ruben’s recent projects include a one-month animation residency in Derry, Northern Ireland and service as an artist-in-residence with the Elizabethtown Independent Schools, where he designed visual arts curricula and worked with faculty and staff in grades P–6 at three elementary schools. He has also taught visual arts for the Kentucky Governor’s School for the Arts, Maysville Community College, and the University of Louisville and has served as the assistant coordinator for visual and performing arts for Hillsborough County Schools in Tampa, FL.

Alice Noel

The instructor for “Moving Lines” and “Turning Everyday Objects Into Art” has been an artist-in-residence at public elementary schools in Owensboro and Bowling Green. She has also been awarded Teacher Incentive Program grants to provide art classes at the Lutheran School and at Cumberland Trace Elementary in Bowling Green. Her previous teaching experience includes several years of private art instruction and four years as art teacher for special-needs students in Dawson Springs, KY.

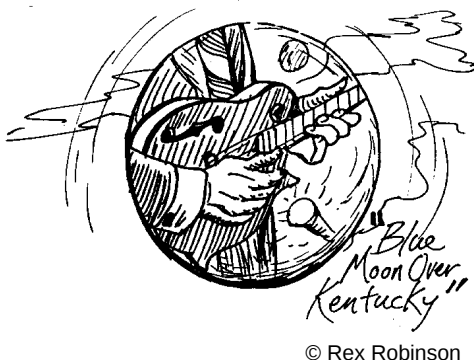
In the past few years, Alice has exhibited her own work in Louisville, Bowling Green, Nashville, and Chicago. Her artistic focus is mixed media sculptures involving interactive elements of motion and light, sculptures that reflect her West Tennessee background.

Alice has a B.F.A. from Murray State University with a dual concentration in painting and sculpture and a K–12 art education certification.

Rex Robinson

The featured artist in “Drawing Animals” is a veteran artist-in-residence, with 1996–97 residency programs at Drakesboro Elementary School, Daviess County High School, and Dawson Springs Middle School. He has more than 25 years’ experience in promoting students’ creativity and expression through workshops and demonstrations.

Rex is a successful visual artist whose realistic paintings have received numerous national and regional honors in competitions. He has completed more than 30 solo and group exhibits in museums and galleries across the country, and many of his works are included in corporate, private, and museum collections. Although Rex enjoys a variety of media and subjects, he mainly uses aqua-media to create portfolios on Southeastern states, including paintings of historic landmarks, gardens, the contemporary environment, and animals. He also has painted murals for Kentucky schools, businesses, and institutions.



A certified K–12 art education instructor, Rex earned a B.A. in art education from Kentucky Wesleyan College and completed additional graduate work at Western Kentucky University.

Catherine Rubin

The instructor featured in “Colors” is technical assistant/art consultant for the Collaborative for Elementary Learning. Catherine is also a practicing artist and a former artist-in-residence for the Kentucky Arts Council. Since 1985, she has conducted residences in 15 different schools throughout Kentucky. She has also developed and conducted workshops on multiple intelligences theory for a variety of school systems, state agencies, and organizations.

Catherine has a B.F.A. in printed/painted textiles and paper making from the National School for Decorative Arts in Kolding, Denmark. She has also studied at the Arrowmont School of Crafts in Gatlinburg, TN; the Haystack Mountain School of Crafts in Deer Isle, ME; the Penland (NC) School of Crafts; the Skals School of Crafts in Skals, Denmark; the Hindman Settlement School; the Vestbirk Folk School in Vestbirk, Denmark; and the John C. Campbell Folk School in Brasstown, NC. In 1991–92, Catherine received the Foxfire National Development Training at Berea College.

Walking the Line

Rebecca Gallion, Artist-in-Residence

In “Walking the Line,” artist/instructor Becky Gallion leads students through the process of contour drawing. Becky defines “contour” as the outline of something, especially something curvy or odd-shaped. She says contour drawings are fun to do because they’re fast and kind of funny-looking: “All you have to do is observe very closely the object you’re looking at and then draw that object very quickly. You are concentrating on just the shapes you see, not the details.”

Lesson Focus

An introduction to basic line drawing, including a definition, examples from art history, and three drawing exercises. Children will focus on drawing what they see rather than on drawing from memory.

Time Requirement

One hour would give enough time for an introduction, discussion, and three drawing exercises.

Skill Development

The cognitive skills developed in “Walking the Line” include eye/hand coordination, concentration and observation, and—most importantly—risk-taking. In doing contour line drawing, students experience the act of drawing. They see how to take a real object and let a continuous line capture its shape. They learn the concepts of positive and negative space, and they experience the enjoyment of manipulating a line, but only after the experience of having to relinquish control of the product. Contour drawing helps students learn to draw what they see rather than what they think they see, allowing them an opportunity to observe how each student perceives objects differently.

Purpose

The purposes of teaching contour line drawing to children are

- to show them how to observe real objects, people, and landscapes closely, and
- to teach them basic eye/hand coordination skills.

Related Artists/Art Works

Barry Flanagan (*Dry Point #1*)

William Scott (*Blue Cup and Plate*)

Andy Warhol (*Leonardo da Vinci*)

Connections to Educational Standards

“Walking the Line” relates to the following Kentucky Academic Expectations:

- 2.22:** Students create works of art and make presentations to convey a point of view.
- 2.23:** Students analyze their own and others’ artistic products.
- 2.26:** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Materials Needed

- four sheets of white drawing paper (9” × 12”) per student
- black felt-tip pens (markers)
- one object small enough to hold in one hand: a toy, stuffed animal, kitchen utensil, potted plant, hat, etc. Encourage each student to bring an object from home, and have an assortment of objects on hand to use as needed.
- students’ own shoes (for extension activity)

Vocabulary Used in the Lesson

dot
line
contour line
positive shape
negative shape
abstract lines
realism

Lesson Instructions

Guide students through the following process.

Exercise 1

1. Place the hand you write with, marker in hand, at the top of a 9” × 12” sheet of paper.
2. Make a design on the paper with one long, twisty line. Don’t lift up your marker until the design is completely finished. Create a design that fills the whole page.

Exercise 2

1. Place the hand you *don’t* write with at the bottom of your second piece of paper.
2. With the hand you draw with, start at the top right corner and, without looking at your paper, try drawing the shape of the whole sheet of paper. Go around the top, the left side, and the bottom of the page until you reach your hand.
3. When you reach your hand, feel your way around each finger, tracing the shape of your own hand.
4. Continue on up the right side of the paper to the point where you started.
5. Now look at your paper. A perfect contour line drawing should be looking back at you!

Exercise 3

Remember the rules! Don’t look at your paper, and don’t lift up your marker.

1. Place your object (a toy, a stuffed animal, etc.) on the table or desk in front of you.
2. Hold your object up in the air in front of you with the hand you don’t write with.
3. Place your other hand at the top of your object and, with your first finger, begin to trace around the outside shape. Go slowly, as if you were an ant crawling along the edges of your object, pulling a stinger behind it.
4. Fix your eyes on your object (still holding it in front of you)—not on your paper. Begin to draw with your marker in the same direction your eyes are moving along the outside shape of your object.

5. Don't look down at your paper and don't lift up your marker until you feel as if you have traced all the way around your object.
6. When you're through drawing, look at what you've done. It will look funny, but also beautiful and realistic.

Response to Art

Have students go around the classroom and show their drawings to one another. They can discuss how different each drawing looks and what they learned about perception and drawing what they see rather than what they think.

Exhibition Suggestion

The contour drawings look best displayed on colorful mats. Construction paper works well. Put glue on the back of the drawing at each corner and center the drawing in the middle of the construction paper mat. Be sure to have the students sign their names at the bottom of the drawings. This is important because it allows students to take pride in their finished products.

Extensions

There are many ways to conduct this exercise. A student or two can volunteer to pose for a figure drawing, or the interior of the classroom can be used as the subject. Students particularly enjoy drawing one of their shoes or their own hand. Innovative computer applications also abound. (IBM's Paintbox is just one program that works well. Students will learn to use the mouse instead of the pencil or other drawing tools.)

Resources

Edwards, Betty. *Drawing from the Right Side of the Brain*.

Moving Lines

Alice Noel, Artist-in-Residence

In "Moving Lines," artist/instructor Alice Noel guides students through the exciting process of gestural drawing—quick sketches of people or objects that incorporate large, directional movement. Alice's advice is to keep this activity fun, allowing students to get away from detail-focused drawing and to embrace the spontaneity of the moment.

Lesson Focus

An introduction to gestural line drawing providing basic definitions along with art history correlations. Children will be encouraged to focus on the energy, mass, and expression of the subject rather than on illustrated replication.

Time Requirement

Easily accomplished in a 45- to 60-minute period.

Skill Development

The cognitive skills developed include eye/hand coordination, observation, and concentration. Gestural drawing has an element of gross-motor skill development as well as the expected fine-motor skills. The concept of reproducing the essential posture of a figure (rather than specific details) is reinforced in this speedy process.

Purpose

Gestural drawing finds its value in loosening students up from the rigidity of tight, overly detailed drawing and fostering techniques necessary in producing quick sketches. Gestural drawing teaches the concept of making art for its intrinsic process-oriented value rather than for the production of a refined finished product. (However, teachers will delightfully discover many exciting and individualized drawings suitable for exhibition.)

Related Artists/Art Works

Henri Matisse
Edward Munch
Joel Shapiro

Connections to Educational Standards

"Moving Lines" has connections to the following Kentucky Academic Expectations:

- 2.22:** Students create works of art and make presentations to convey a point of view.
- 2.23:** Students analyze their own and others' artistic products and performances using accepted standards as they select the gestural drawing they like best and then offer reasons for their choice.
- 2.26:** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Materials Needed

- pencils, conté crayons, oil pastels, crayons, or markers
- inexpensive sketching paper (newsprint, for example)—the larger, the better
- lap boards or clipboards (if possible)
- a model or models—the instructor, one of the students, or both

Vocabulary Used in the Lesson

line
gesture
sketch

Lesson Instructions

1. Have each model (teacher and/or student) pose for 15–30 seconds at a time.
2. Remind students
 - to look at the person's body, not at the paper.
 - to forget detail (no eyelashes, no facial expression, etc.).
 - *not* to do contour drawing.
3. Have students quickly sketch the model, working through six to eight sketches (as many as time allows).

- Then have students review all their sketches and choose the one they like best.

General tips:

- ✓ Incorporate examples that are age-appropriate (see list of artists above).
- ✓ Tell students, “Anything you can see, you can draw.”
- ✓ Remind them that the more they draw, the better they get.
- ✓ Suggest to students that they stop “trying” and just have fun.

Response to Art

Have students take turns explaining to the class how they chose their favorite sketch. They may also want to title their work.

Exhibition Suggestions

Students often enjoy the instant gratification of exhibiting their work immediately after creating it. Many schools have large 4 1/2-foot rolls of colored paper to display in random lengths of 10, 12, or 14 feet along their hallways. Ask the students to create a display of all the “favorite sketches” from the class. They can quickly designate a title using the democratic process and then decide how to arrange the artwork on the colored background.

Mounting the gestural drawings on black construction paper first gives a more finished look, as well as giving the newsprint more rigidity.

This same presentation format may be used in a gymnasium, cafeteria, faculty conference room, or library.

Extensions

Any student visiting a dance class or organized sports practice has ample opportunity for gestural drawing. Since these quick sketches require poses of little more than 15–20 seconds, even a shopping mall, a bank, or a public library can be a prime setting. Children can also sketch on vacations and at family reunions and gatherings.

Color

Catherine Rubin, Collaborative for Elementary Learning

In “Color,” Catherine Rubin introduces children to the concept of warm and cool colors and encourages them to use contrasting colors in the creation of cut-paper collages. Children are offered the opportunity to work in groups as well as individually as they explore ways in which color can communicate ideas and convey mood.

Lesson Focus

Introduction to color relationships with a focus on warm and cool colors and the ways artists use them to create artwork. The students will assemble a cut-paper collage using a variety of colors.

Time Requirement

Two one-hour class periods: one hour for instruction and group warm-up activity and one hour for individual hands-on work.

Skill Development

Creative Problem Solving

Students will

- transform ideas from imagination to visual form.
- brainstorm ideas during group work.
- modify and eliminate parts of a design.
- experiment with design concepts to produce different effects.

Perceptual and Technical Skills

Students will

- practice using colored paper, scissors, and glue to produce art work.
- classify art works by color, style, mood, etc.

Responding to Art Works

Students will

- view and compare reproductions to stimulate classroom discussion.
- speculate on meanings of subjects and themes in works of art.

Critical Thinking Skills

Students will

- plan and organize visual execution of ideas.
- make informed decisions based on personal aesthetic criteria.
- discern elements of art and principles of organization in a work of art.
- perceive and describe works of art.

Purpose

“Color” will enable students to recognize and describe how artists use color to evoke mood and communicate ideas. They will also create their own art works reflecting this understanding of color, specifically contrasting warm and cool colors.

Artists/Art Works That Use Collage and Related Techniques

Romare Bearden (*Carolina Shout*)
 Stuart Davis (*Combination Concrete*)
 Henri Matisse (*Beasts of the Sea*)
 Faith Ringgold
 Sarah Mary Taylor

Connections to Educational Standards

The following Kentucky Academic Expectations are all related to “Colors”:

2.22: Students create works of art and make presentations to convey a point of view.

2.23: Students analyze their own and others’ artistic products.

2.24: Students appreciate creativity and values of the arts and the humanities.

2.25: In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

Materials Needed

- 9" × 24" or longer white paper (background paper for group activity)
- 18" × 24" or 12" × 18" white or colored paper, one piece per student (background paper for individual work)
- assorted colors of 9" × 12" sulfite construction paper (Tru-Ray and Pacon are two possible brands)
- scissors
- glue (glue sticks are less messy)
- art reproductions (see "Resources" below, under "Suggested Reproductions")

Alternative Materials

Sulfite construction paper is recommended because it has especially vibrant color. However, if sulfite paper is unavailable in your area, you can substitute regular construction paper in bright colors.

To alter the surface of the construction paper, students may choose to draw or color on the paper, creating more visual and textural interest. Students may also use bright colors cut out from magazines to create their collages. Or they can paint pieces of paper and use those in the collages.

Vocabulary Used in the Lesson

appliqué
collage
folk art
improvisation
cool colors
warm colors

Lesson Instructions

Pre-Lesson Motivation

- Introduce the lesson by talking about how colors create mood. Some colors are warm and exciting; others are cool and peaceful. The ways colors are combined in a picture help create the mood. You can also talk about how emotions are linked symbolically with colors, as in "tickled pink," "green with envy," "feeling blue," etc. (Ask students to come up with some examples.) Have students brain-

storm and list things they associate with warm and cool colors.

- Display reproductions and point out how the artist's choice of colors helps create the mood of the picture. Ask students to identify the colors they see, encouraging them to use descriptive words. What do they think was the artist's intent? What is the mood/feeling they see in the picture?

Part 1: Warm-Up Group Activity

1. Divide students into groups of no more than six.
2. Designate some groups as cool-color groups (blues, greens) and some as warm-color groups (reds, oranges, yellows).
3. Give each group a sheet of white background paper, 9" × 24" or longer.
4. Give the cool-color groups a variety of cool-color construction paper, 9" × 12" and 12" × 18" (greens, blues, and violets).
5. Give the warm-color groups a variety of warm-color construction paper (reds, oranges, and yellows).
6. Have students brainstorm within their group to come up with a theme for a cool- or warm-color collage.
7. Have the students use scissors to cut large shapes from the colored paper. Next have them start arranging the shapes on the background paper. Students do not use pencils. Instead, they use scissors as a drawing tool. Emphasize that they need to experiment with sizes, shapes, and the arrangement of their collage. Encourage them to cut big, interesting shapes and to overlap the shapes on the background paper.
8. After students have worked on arranging the shapes, give them glue or a glue stick to start gluing their collages.

Response to Art/Lead-In to Individual Activity

Hang the warm and cool compositions together and discuss the mood evoked, the choices of colors and themes, etc. This is also an opportunity to discuss how the individual groups worked together.

As a further response to the warm-up activity or as a lead-in to the individual activity, have students further analyze their group art work. Were they able to arrange colors and shapes in a unified composition? Were their designs varied and complete? How did the colors they chose relate to one another? Talk about how working like this is improvisational—as soon as you put another color on the background, the colors start to interact or "talk" (sometimes they scream) to one another. Each new color changes the picture. What kinds of "conversations" are the colors and shapes in their art work having?

Part 2: Individual Activity

1. Have each student choose a theme or story for an individual collage and think about what colors would best convey the theme.
2. Allow each student to choose a sheet of paper for background (18" × 24" or 12" × 18") and three colors (9" × 12") to cut and arrange on the background.
3. Follow Steps 7 and 8 from the group activity above.

Response to Art

- After students have worked on their collages for about 25 minutes, ask them to take a "walking break" and look at the pictures their peers have been working on.
- Hang and discuss students' art works (see above).

Exhibition Suggestion

Have students title their pictures. If you choose to display the pieces at school, you might try arranging them according to their colors—from hottest to coolest, for example. The students could determine what the order should be.

Another possibility would be to exhibit the collages in various community locations—everyday places like dentists' offices, restaurants, or banks rather than museums. Students could choose places they think would fit the mood or idea of their pieces.

Extensions

Students could create another paper collage. If their first collage was abstract, they might do a representational collage, or vice versa. A book that demonstrates a representational approach to a collage-like technique (appliqué) is Mary E. Lyons' *Stitching Stars: The Story Quilts of Harriet Powers*. It contains photographs of quilts created in the 19th century by a former slave.

Students might also create their own narrative collages—collages that tell a story. An interesting book to share with the children is *Arctic Memories* by Normee Ekoomiak. It includes photographs of Inuit narrative fabric collages, with the story each one tells printed beside it.

Students could also design a flag, using sayings and/or symbols particularly meaningful to them. Good examples of such flags may be found in *Asafo! African Flags of the Fante*.

Resources

Children's Books

- Ekoomiak, Normee. *Arctic Memories*. New York: Henry Holt, 1988.
- Lyons, Mary E. *Stitching Stars: The Story Quilts of Harriet Powers*. New York: Macmillan, 1993.
- Munthe, Nelly. *Meet Matisse*. Boston: Little, Brown & Co., 1983.
- Introduction to the cut-outs of Matisse with lessons on how to do them. Excellent lessons on color and shape.
- Yenawine, Philip. *Colors*. New York: Bantam Doubleday Dell, 1991.
- Discusses thoughts and feelings conveyed by colors and how they contribute to a work of art. Very user-friendly, with great reproductions.

Books for Teachers and Students

- Adler, Peter and Nicholas Barnard. *Asafo! African Flags of the Fante*. London: Thames & Hudson, 1992.
- Elderfield, John. *The Cut-Outs of Henri Matisse*. New York: Braziller, 1978.
- Waniman, Maude Southwell. *Signs and Symbols: African Images in African-American Quilts*. New York: Penguin Books, 1993.

Suggested Reproductions

Reproductions may be ordered from Shorewood Publications, 27 Glen Road, Sandy Hook, CT 06482.

- #624 *Beasts of the Sea* by Henri Matisse
- #1399 *Starry Night* by Vincent van Gogh
- #1407 *Combination Concrete* by Stuart Davis
- #1818 *Carolina Shout* by Romare Bearden

Related Materials

The Folk Art Society of Kentucky has a catalog of works by Sarah Mary Taylor and another folk artist from Mississippi, Mary Tillman Smith. You can purchase the catalog for \$4.50, including shipping. Write to the Folk Art Society of Kentucky, Box 22564, Henry Clay Station, Lexington, KY 40522.

Geo-Vistas

Ruben Moreno, Artist-in-Residence

Ruben Moreno's "Geo-Vistas" activity is an excellent way to encourage students' creativity. The project allows children to become descriptive and expressive as they demonstrate a rich sense of inner relationships through art. "Geo-Vistas" also encourages students to think and work in divergent ways and challenges them to express their information or story visually and to relate the two different parts of their story—the inside and the outside.

Lesson Focus

Creating a geometric cardboard sculpture covered with personal drawings.

Time Requirement

The entire "Geo-Vistas" activity, including construction and assembly, requires approximately two 45-minute class periods. (The time may vary based on the children's ages and abilities.)

Skill Development

This activity lets children practice isolating different sections of their artwork and creating structure and sequence within a visual storyline. It also fosters spatial engineering and construction skills by allowing children to work with balance and angles to put their final piece together. In the process, children develop their ability to manipulate and assemble two- and three-dimensional art pieces.

Purpose

- "Geo-Vistas" allows students to
- freely explore organic and geometric shapes in a sculptural manner.
 - explore and compare observations of two favorite and familiar places (one inside and the other outside) that children frequently see or visit.
 - take a closer look at favorite inside places, such as bedrooms where they play and sleep, and at favorite outside places, such as the park, woods, or yard where they play.

- observe and communicate visually complex things they see (such as rooms and settings), letting them isolate and break down the separate elements within spaces.

Related Art Works/ Buildings

pyramids

Gerrit Rietveld (Schroder House, Utrecht, the Netherlands; *Red and Blue Chair*)

Piet Mondrian (*Composition in Blue, Red, and Yellow*)

Moshe Safdie (“Habitat EXPO 67,” Montreal World’s Fair, 1967)

Lascaux, France, circa 15,000–13,000 BC (Hall of Bulls)

Egypt, circa 2530 BC (Geese of Medum)

villa of Juila Felix, Pompeii, pre-79 AD (*Still Life with Eggs and Thrushes*)

wall painting, Tarquinia, Italy, circa 510-500 BC (Tomb of Hunting and Fishing)

David Smith (*Cubi 19*, 1964)

The photographs of “Habitat Expo 67” (from the Montreal World’s Fair), the Lascaux Hall of Bulls, the Egyptian Geese of Medum, the *Still Life with Eggs and Thrushes*, and the wall painting from the Tomb of Hunting and Fishing are all reproduced in Henry M. Sayre’s *A World of Art* (Prentice Hall, Inc., Englewood Cliffs, NJ, 1994).

The photographs of Gerrit Rietveld’s Schroder House and of his *Red and Blue Chair* are reproduced in *Art Past, Art Present* (2nd edition, ed. David G. Wilkins, Bernard Schultz, and Katheryn M. Linduff, Prentice Hall, Inc., Harry N. Abrams, Publisher, 1990).

Connections to Educational Standards

“Geo-Vistas” connects to the following Kentucky Academic Expectations:

- 1.13:** Students make sense of ideas and communicate with the visual arts.
- 2.22:** Students create works of art and make presentations to convey a point of view.

2.26: Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

5.2: Students use creative thinking skills to develop or invent novel, constructive ideas or products.

Materials Needed

- mat board precut into simple geometric shapes—squares, rectangles, and triangles of varying sizes (Provide a square, a triangle, and a rectangle plus two more different shapes—a smaller square and a differently shaped triangle, for example—per child. Other geometric figures like ovals, circles, hexagons, octagons, etc. are also possibilities, but these can be more difficult to cut out and to glue together.)
- crayons
- graphite pencils
- colored pencils
- markers
- cool glue guns (as opposed to hot) for final construction and assembly (Younger students will require adult assistance, and all students will need supervision.)

Alternative Materials and Construction Methods

- mat board: any flat, stiff, two-dimensional surface that can be drawn on. It could be poster board, cardboard, note cards, or even thin pieces of wood.
- gluing: Notching the shapes so they can be fitted together is a possible alternative to using glue guns. You can also use Elmer’s glue or other liquid glue, but you must figure out a way to hold the sculptures together while the glue dries. One method is inserting straight pins at the junctures between pieces; another is wrapping rubber bands around the sculptures.

Vocabulary Used in the Lesson

organic
geometric
negative space

positive space
square
rectangle
triangle
oval
hexagon
octagon
polygon

Lesson Instructions

Guide students through the following process:

1. Choose two favorite places, one inside such as your bedroom—where you do lots of things like dream, sleep, play, and do homework—and one outside where you like to play—the yard, woods, park, etc.
2. Begin with the largest piece of mat board (usually a square or a rectangle). Draw and color one entire side of the piece with an inside scene of your bedroom or other inside place. Feel free to use lots of colors.
3. Turn the piece over to make a new drawing—this one of your favorite outdoor area. Include enough visual clues in your picture so a person could find the places in your pictures as you explain them.
4. Once you’ve completed both sides of your piece, stop and look at your inside picture. Find an object you like—a TV, for example. Now take a second, different shape and show more about that part of your picture. For instance, take your TV and show me what you’re watching or what’s on the screen.
5. On the other side of the second shape, make a detailed drawing of one part of your outside scene. For example, take the tree you drew and show who lives inside the tree and what the tree dweller is doing.
6. If time allows, choose another object from your original pictures of your inside and outside places. Make a detailed drawing of the objects on opposite sides of a third mat shape. If possible, continue this process, drawing on a minimum of two more shapes (for a total of five different shapes).

- Determine a way to put your mat pieces together to create a three-dimensional sculpture. Think about the story you're telling, the relationship between the drawings, and the stability and visual design of your structure. Use the glue gun to glue the mat pieces into the structure you've chosen (or have an adult help you to assemble the structure).

Response to Art

Interview students about their shape pictures—what they made and why—or have them share this information with classmates.

Exhibition Suggestions

Exhibiting sculptures is always a challenge. You need lots of space, and you need a display area that allows people to see all sides of the sculpture (like a table in the middle of a room). Plus, the “Geo-Vistas” sculptures are easily broken if people knock into them. If you do not have a suitable space for exhibiting all your students' sculptures, you might consider exhibiting a few at a time and then rotating the display until everyone's sculpture has been exhibited.

Another idea is to videotape the students holding the sculptures and explaining what they represent. You can get close-up angles on the sculptures and have the students rotate them so the camera can see all sides. You can also take snapshots of the sculptures. Get at least three different angles for each piece, and photograph them against a dark background and surface so you will have enough contrast. Students as well as teachers could be involved in the videotaping and photography process. The photographs or videos can be presented at parents' night or at other gatherings.

Extensions

Have your students title their sculpture pieces and write creative stories that involve their artwork. Students could also do a similar project using organic or free-form shapes.

Tessellations

Thomas Freese, Artist-in-Residence

In “Tessellations,” artist/instructor Thomas Freese shows students how they can make a tessellating stamp and use it to create an interlocking pattern. The lesson integrates mathematics and art as the children use geometry, measurement, repetition, and patterning to create unusual, appealing designs.

Lesson Focus

An introduction to the world of tessellations: definition, examples, and the construction of a tessellating stamp. Children create a paper template of a modified square, a grid based on that square, a foam and Plexiglas stamp, and a checkerboard-stamped pattern on their grid page.

Time Requirement

Two 90-minute sessions would allow for the hands-on work and a minimum of discussion on the geometry involved.

Skill Development

“Tessellations” encourages children to explore the cognitive and observational skills required to understand relative conservation of space in a two-dimensional, repetitive pattern of an interlocking shape or unit. The activity allows children to learn and review basic geometric terms, definitions, and theory, including regular polygons, lines, angles, points, etc. Children employ basic mathematical skills in creating their stamp and their tessellating art: They use a ruler to measure and form a grid with sections and parallel borders, they find the center of the page, and they construct a uniform stamping grid of same-size squares.

The activity requires dexterity and coordination of craft materials to create a stamp within acceptable standards. This is a basic lesson in understanding the printing process: how images reverse and the need to register the mini-prints precisely within the grid guidelines. And it allows the child to create a recognizable creature or symbol from an irregular tessellating contour.

Purpose

This lesson helps students understand tessellations through a combination of art and mathematics concepts and then put their intellectual understanding to work through the construction of a paper template of tessellating shape, the use of measurement to make a stamping grid, and the creation of a stamp with a unique and possibly recognizable image.

Related Artists/Art Works

M.C. Escher (*Lizard II*, *Bird*, *Fish*)

Lizard II appears in Jill Britton and Dale Seymour's *Introduction to Tessellations* (Palo Alto, CA, Dale Seymour Publications, 1989). *Bird* and *Fish* are both reproduced in Doris Schattschneider's *M.C. Escher: Visions of Symmetry* (New York, W.H. Freeman & Co., 1990).

Connections to Educational Standards

The following Kentucky Academic Expectations are all related to “Tessellations”:

- 2.9:** Students understand space and dimensionality concepts and use them appropriately and accurately.
- 2.10:** Students understand measurement concepts and use measurements appropriately and accurately.
- 5.1:** Students use critical thinking skills such as analyzing, etc.
- 5.2:** Students use creative thinking skills to develop or invent novel, constructive ideas or products.

Materials Needed

- index cards
- pencils
- rulers and scissors
- 9" × 12" light-colored construction paper
- craft foam
- doublestick foam
- glue (if doublestick foam is not available)
- 2-1/2" Plexiglas squares
- stamp pads
- ink
- scrap paper to protect surfaces from ink

Alternative Materials/Sources for Materials

index cards: any card stock that is crisp, not soft like construction paper—tag board or scrap paper from a print shop is fine.

Plexiglas: Plexiglas scraps are available from hardware, glass, or frame shops. They are cheap; in fact, store owners often will donate them to teachers or schools. Other materials, such as cardboard, could be used to mount the stamps; the advantage to the Plexiglas is that you can see through it. Dale Seymour (see “Resources” below) makes materials that stamp: a foam sponge class kit for printing on paper and fabric. Students could also carve potatoes, erasers, or linoleum blocks to create stamps for this activity.

doublestick foam: If doublestick foam is not immediately available, you can glue together two layers of craft foam to make the stamps. Craft foam is available from arts and crafts stores. If you don’t have an arts and crafts store in your community, look for craft foam and/or doublestick foam at office supply stores or K-Mart or Wal-Mart. If your students carve rubber into stamps, you won’t need Plexiglas, craft foam, or doublestick foam at all; but this method is recommended for older students only—4th grade and up.

Vocabulary Related to the Lesson

acute angle
equiangular triangle
equilateral triangle
glide reflection
hexagon
interior (stamp) details
line of reflection modified square
mosaic
obtuse angle
octagon
paper template
parallelogram
pentagon
perpendicular lines
plane (surface)
polygon
print registration
quadrilateral
rectangle
reflection (in a plane)

regular polygon
rhombus
right angle
rotation (in a plane)
scalene triangle
symmetry
tessellation (plane)
tessellation (space)
tiling
transformation
translation
translational symmetry
trapezoid
vertex (of a polygon)
vertex (of an angle)

Lesson Instructions

Guide students through the following process:

Constructing a Paper Tracing Shape

1. Place your finger on the bottom right corner of an index card or other piece of stiff paper stock.
2. Using a ruler to measure the distance, place a pencil mark 1-1/2” to the left on the bottom of the card and 1-1/2” above the right corner of the card, on the right edge.
3. Place your ruler upright on the bottom 1-1/2” mark so the ruler is parallel to the right edge of the card.
4. Using the 1-1/2” mark on the right edge of the card as a guide, mark a point 1-1/2” up.
5. Using the ruler, connect the three 1-1/2” marks to form a 1-1/2” square at the corner of the index card.
6. Along each side of the square, measure off 1/2” spaces, making two marks evenly spaced along the side. Carefully connect the marks to form two sets of parallel lines—two horizontal lines and two vertical lines. (See the illustration on page 14.)
7. Now make two changes to the square, going from the square’s two open sides. For example, you could draw a simple half-circle going in from the bottom side and a triangle going in from the right side. (See the illustration on page 14.)

Hints: Avoid placing changes on the corner. Also, simpler figures will be easier to cut out with your scissors.

8. Cut out the two pencil-drawn changes, taking care to cut along the drawn lines and to remove the cut-outs in one piece.
9. Slide the two cut-out pieces to their respective opposite sides and place them, pointing the same direction as the cut-out sections, even with the square’s line. (See the illustration on page 14.) Trace the cut-out pieces and then cut out the entire shape for a final, tessellating template or tracing form.

Making a Full-Page Grid

1. On a piece of light-colored 9” × 12” construction paper, find the center by marking a point 4-1/2” up on each of the 9” sides. Then connect these two points with a straight line. Then place a mark at the 6” center point of the 12” sides and connect these two points with a straight line.
2. Draw a tiny circle around the point where these two lines intersect—this is the center point of the paper.
3. Measure and mark every 1-1/2” along the two center lines. Then use these marks to draw horizontal and vertical lines. (See the illustration on page 15.)

Assembling the Stamp

1. Place your tracing form on top of the craft foam and trace and cut out the shape.
2. Repeat Step 1 with the doublestick foam.
3. Check to see whether the two cut-out foam pieces are accurate to the tracing form.
4. Remove one side of the doublestick foam’s paper covering and mount the craft foam.
5. Remove the other side of the doublestick foam’s paper covering and attach the combined forms to the Plexiglas. The Plexiglas provides a mount for your stamp.

- If you wish, use a pencil to press into the foam and draw line patterns. These will stamp out white and provide interior details to the tessellating shape (see the illustration on page 14).

The Stamping Process

- Always line up the corners of your 1-1/2" square stamp with the inside corners of the squares on your 9" × 12" construction paper grid.
- Working with a partner and using a single color of ink, fully stamp the page in an alternating pattern to create a checkerboard effect (half of the squares will be stamped and half blank). Place scrap paper under your grid to protect your desk or table from ink stains. Keep your stamp in the same position; don't flip or rotate it.
- Rinse your stamp in running water, dry it, and then start stamping the blank squares in a second color. Once again, keep your stamp in the same position, neither flipping nor rotating it.

Response to Art

Children can create creatures, designs, or messages within the form of their tessellating shape. They can talk about these embellishments and how they fit in the contour of the shape. They also can review and report on the basics of the lesson: the definition of tessellation; examples; how they created a modified, parent polygon (from a square); how they made a grid and stamp; what challenges to stamping or printing they encountered; and how they solved these problems (they may have learned to inscribe letters in reverse into the foam).

Exhibition Suggestions

- Make cards for a sale.
- Stamp on large, foam-core sheets and suspend them as mobiles in a large indoor space.
- Make T-shirts to wear.
- Put the 9" × 12" stamped paper sheets all together in a hallway mosaic.

- Laminate the prints and use them as placemats.
- Put prints on posters (along with student-written instructions) for display and for teaching other students about tessellations.

Extensions

What would the students like to do next with tessellations? Possibilities include more stamping; creating a different stamp, different details, or a different parent polygon and grid; stamping T-shirts; etc.

Additional extension ideas:

- constructing larger stamps for a paper-print mural
- designing tessellating figures on a computer
- making tessellating shapes out of wood for a puzzle
- finding and photo-documenting tessellations in building construction
- researching Islamic tile patterns
- doing a study of M.C. Escher and the influences that led to his work with tessellations
- doing a video interview with a quilt maker
- creating new kinds of tessellations by starting with different parent polygons (rectangles, triangles, hexagons)
- researching the geometry—the sum of the angle measurements—which prove the tiling theory
- creating prints on fabrics
- creating tessellating shapes from fabric and sewing them together
- locating a tessellation in your home or town, sketching it, and writing a basic analysis
- studying patterning in nature (have a beekeeper visit and show the hexagons of the honeycomb)
- cutting out non-tessellating polygons and experimenting to find repeating shapes that could fill in the gaps
- exploring M.C. Escher's books to discover and analyze underlying grids

By the way, students' papers about tessellations, along with examples of the tessellating patterns they have created, make excellent portfolio entries.

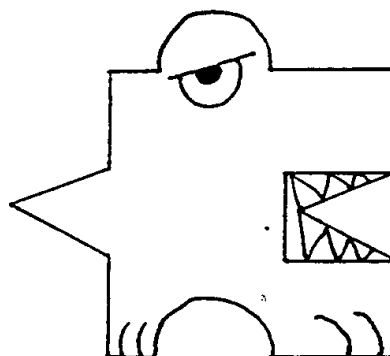
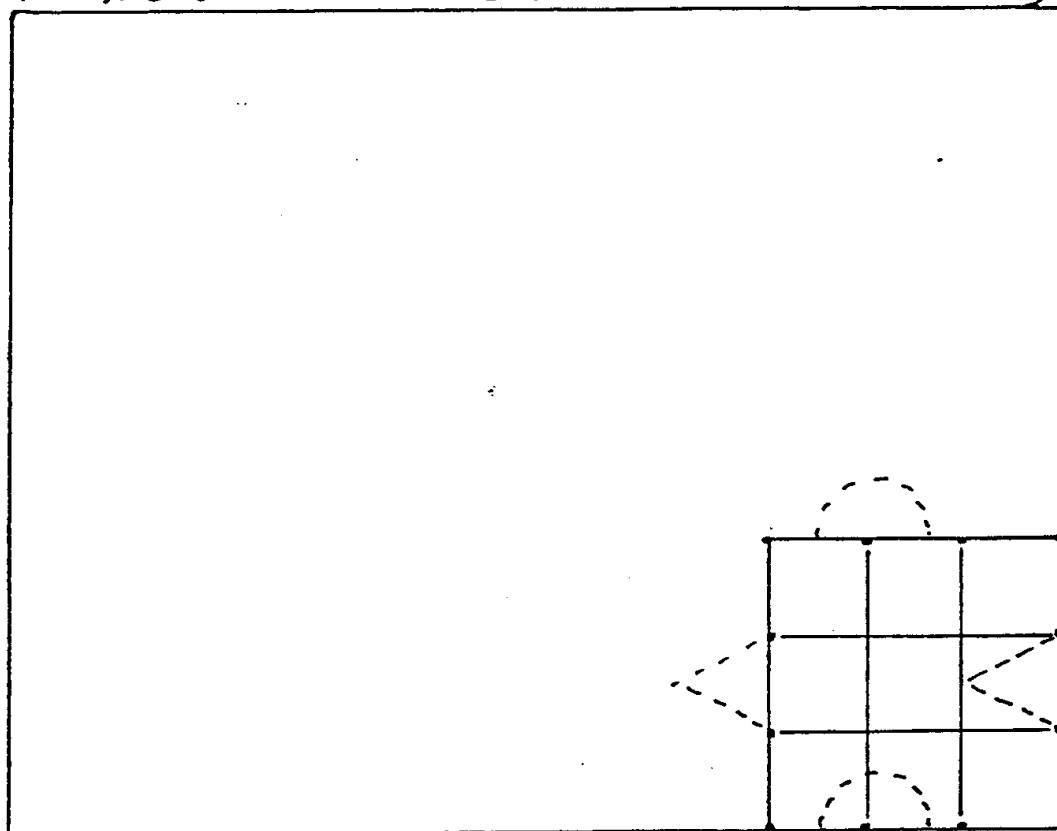
Resources

- books by and about the Dutch artist M.C. Escher
- local quilt makers
- mathematics teachers
- Books, materials, manipulatives, and posters related to tessellations are available from Dale Seymour Publications, P.O. Box 10888, Palo Alto, CA 95303, (800) 872-1100. The company offers an extensive catalog that includes these items as well as other K–8 educational and teacher resource materials in mathematics, science, and the arts.
- Craft foam (the non-sticky variety) is available from local craft stores or from "S" and "S" Arts and Crafts, Norwich Avenue, Colchester, CT 06415, (800) 937-3482.
- Order the doublestick foam for the stamps from Imaginair Designs, 1007 Woodland Avenue NW, Albuquerque, NM 87107, (505) 345-2308.
- Tesselmania is a software program designed to help children or adults create tessellations in black and white or color. It is available from Educational Resources, 1550 Executive Drive, P.O. Box 1900, Elgin, IL 60121-1900, (800) 624-2926 or Egghead, (800) 726-3446.

Tessellations

by Thomas Freese

4 1/4" x 5 1/2" POSTCARD (1/4 OF 8 1/2 x 11 CARD STOCK)





cARTography

Cynthia Cooke, Kentucky Arts Council Roster Artist/Cartographer

In “cARTography,” artist/cartographer Cynthia Cooke shares a method for creating a map of an imaginary island. Cyndi’s approach to cartography offers teachers a unique way to blend art, science, mathematics, social studies, and writing while providing their students with a fun and creative activity.

Lesson Focus

An introduction to the world of cartography: definitions, examples, and the construction of a map. Children create their own map or space using scientific terminology and a variety of point, line, and area symbols.

Time Requirement

Minimum of one hour for the hands-on work. Teachers can allocate more time as needed for students to write journal entries about imaginary voyages to their islands.

Skill Development

“cARTography” provides skill development across the curriculum in art, math, science, and the humanities. The activity encourages students to take intellectual and creative risks as they depict scientific information artistically. Students learn to design ideas on paper with accuracy and to use all the basic elements of art—shape, line, color, texture, and space. They also learn the techniques of the artist/cartographer—researching and gathering information; designing the basic layout of geographical information with title, text, scale, legend, north arrow, etc.; making a mosaic or compilation of the information with point, line, and area features; and creating a legend to include all represented symbols.

Purpose

“cARTography” gives students the opportunity to experience maps as works of art, historically and culturally; as expressions of perceptions and ideas; as tools for information using art techniques; and as products of value in the world of work.

Connections to Educational Standards

“cARTography” helps students meet the following Kentucky Academic Expectations:

- 2.22:** Students create works of art and make presentations to convey a point of view. (The students’ maps display their point of view about a place—real or imagined—to others.)
- 2.23:** Students analyze their own and others’ artistic products and performances using accepted standards (presenting their map projects to peers after having learned the basic mapping principles and techniques).
- 2.25:** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history. (Maps are composites of art, history, language, and culture.)
- 2.26:** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes. (Differences and similarities are easily discerned through area, line, and point symbols and through maps from different places and times.)

Materials Needed

- pencil
- lined notebook paper
- colored pencils or markers
- rulers

Vocabulary Used in the Lesson

archipelago
altitude
area/symbols
atlas
bay
canyon
cartography
cape
charts
coast
contours
cove
cultural features
delta
depression
depth
direction
distortion
drainage
east
elevation
equator
fjord
geography
geology
geomorphology
globe
gulf
harbor
hemisphere
island
key/legend
lake
landmarks
latitude
longitude
linear symbols
map
maze
model
mountain
mountain range
mouth
nomenclature
north
peninsula
physical features
plain

plateau
point symbols
political features
Prime Meridian
relief
river
scale
sea
sound
south
strait
survey
symbols
terrain, topography
tributary
valley
vegetation
west

Lesson Instructions

Preparation

Have filler paper, pencil, colored pencils or markers, and rulers on hand; have the students number the lines on the paper in the far left margin before they begin. (See the illustration on page 19.)

Guide students through the following process:

1. To first see your amazing island, start out on a quiet lake in a boat. To represent water, make a slightly wavy pencil line across line 3 of the filler paper.
2. On the left side, make three marks for height: 0' at the water line (line 3), 100' at Line 2, and 200' at Line 1.
3. Draw your island rising above the waves, like a volcanic eruption from the bottom of the lake! Draw with wavy lines a little above the 200' mark with one side steeper, one side gentler.
4. Begin to create a view of the same island as if you are a bird flying over it by dropping very light straight lines from both ends of the island down to line 15 with your pencil (these will be erased later). Line 15 is your baseline.

5. Draw a curvy line between the points where the two lines intersect the baseline. This is one side of your island's coastline. To make your island big, curve the line down at least 8 to 10 lines.
6. Continue the coastline by drawing a curving line going up 8 to 10 lines between the points of intersection. Your island's shape is now complete.
7. Drop light lines down to the baseline from the points on the original island that are 100' and 200' high—the points where the 100' and 200' lines (lines 2 and 3) intersect or cross the island. (There should be a total of four such points—two on the right side of the island and two on the left—and four parallel lines leading down to the baseline.)
8. Draw a similar, but smaller, island shape between the points where the 100' lines cross the baseline (inside your bird's-eye drawing of the island's outline). Within this concentric shape, draw a still smaller version of the island's shape, this time between the points where the 200' lines cross the baseline. Now you have a representation of the sea-level, 100', and 200' elevations of your island using the shape of your contour lines. Contour lines are one of many symbols you can show on your island.
9. Erase the light parallel lines you drew to help you create the island's contours accurately.

10. With this wonderful start on your island, create and use other symbols. Make a record of all of them in a legend (using the bottom lines of your paper). Use three groups of symbols: areas, lines, and points. Areas are features such as forests. Lines are features like roads or rivers—with beginning and end points. And points are features such as dots that can look like squares to represent houses. Use symbols to show real objects and places—like little pictures. You can also use lots of colors to make interesting symbols. Begin with the areas you want to show, then the “line” kinds of things, then the “point” kinds of things. Add each symbol you use to your legend. And think carefully where you really want everything to be.

Response to Art

Have students share their island and their ideas with classmates. Students may even make up a story about the island—about how they and maybe some friends got there and what they did there.

Students can also create a journal about their adventures. They should remember that their maps could help somebody find them. As artists, we want to be accurate in portraying things. By using their skill and creativity together, students can make an accurate map of their island.

Exhibition Suggestions

- Create a festive presentation occasion featuring products and letting all the students present their maps and read excerpts from their journals. The audience could be the class itself, other classes, and/or parents.
- Laminate the maps and have students use them as placemats. Display the placemats in the school hallways.
- Create posters with travel brochures for the mapped islands. Display the maps, posters, and brochures in the hallways.

Extensions

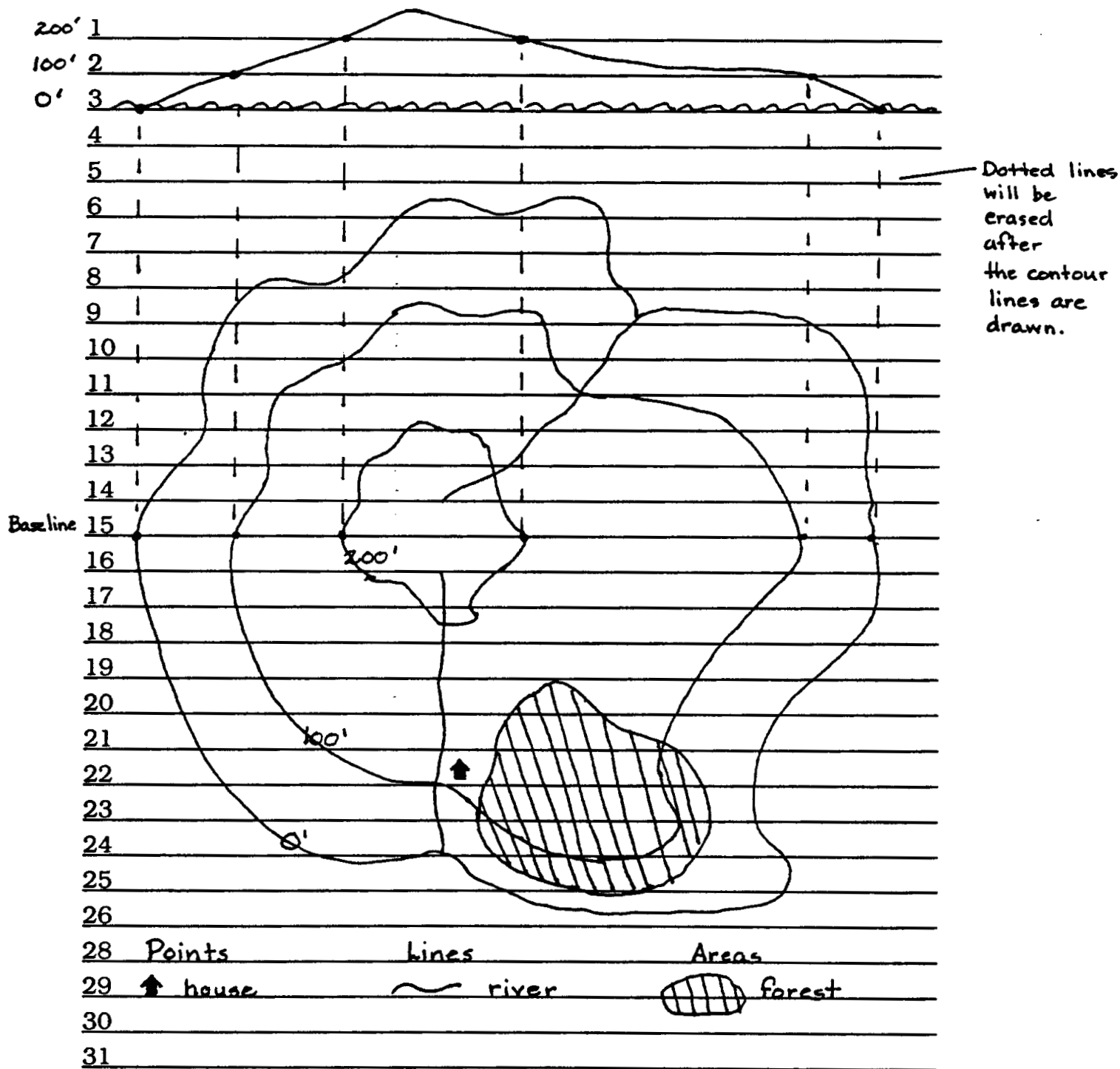
Students can also discuss as a group what kind of government and what rules might exist on their islands, what the climate and economy of their islands would be, how they would plan the islands' development, etc. They could then make their personal choices concerning their island's government, rules, climate, economy, and development plan and record these choices in their journal.

Resources

- Cassidy, John. *Earthsearch: A Kids' Geography Museum in a Book*. Palo Alto, CA: Klutz Press, 1994. ISBN 1-878257-74-9.
Perhaps the greatest geography book yet! Klutz Press' address is 2121 Staunton Court, Palo Alto, CA 94306.
- Claridge, Marit and Paul Dowswell. *Geography Quizbook*. Tulsa, OK: EDC Publishing, 1993. ISBN 0-7460-0710-8
Usborne is the British publisher of *Geography Quizbook*. EDC's address is EDC Publishing, 10302 E. 55th Place, Tulsa, OK 74146.
- Green, Nicolette. *Junior Atlas of the World*. London: Bracken Books, 1993. ISBN 1-85891-065-X.
Richly illustrated. Available from Bracken Books, an imprint of Studio Editions Ltd., Princess House, 50 Eastcastle Street, London, W1N 7AP, England.
- Heimann, Rolf. *Amazing Mazes: Mind Bending Mazes for Ages 6–60*. Watermill Press, 1989. Produced by Joshua Morris Publishing Inc. in association with The Five Mile Press. ISBN 0-8167-2201-3.
- Knowlton, John and Harriett Barton. *Maps and Globes*. New York: HarperCollins Children's Books. ISBN 0-690-04457-7.
A brief history of mapmaking, a simple explanation of how to read maps and globes, and an introduction to different kinds of maps.
- Miles, Lisa and Carol Varley. *Geography Encyclopedia*. London: Usborne Publishing, Ltd., 1993. ISBN 0-7460-0955-0.
Very comprehensive. Available from Usborne Publishing Ltd., Usborne House, 83-85 Saffron Hill, London EC1N 8RT, England.

- Morris, Scott. *How To Read a Map*. Chelsea House Publishers, a division of Main Line Book Co., 1993. ISBN 0-7910-1812-1.
Describes how to use and understand maps and apply them in the study of geography.
- My Sticker Book Atlas*. New York: Dorling Kindersley Publishing, Inc., 1994. ISBN 1-56458-714-2.
Gives children the opportunity to decorate their own atlas with picture stickers. Available from Dorling Kindersley, 95 Madison Avenue, New York, NY 10016.
- Myers, Norman. *GAIA: An Atlas of Planet Management*. New York: Anchor Books by Doubleday, 1984, 1993. ISBN 0-385-42626-7.
Beautifully illustrates global issues, conditions, and resources. Anchor Books by Doubleday is a division of Bantam Doubleday Dell Publishing Group, Inc., 666 5th Avenue, New York, NY 10103.
- Taylor, Barbara. *Maps and Mapping*. New York: Kingfisher Books, Grisewood and Depsey Inc., 1993. ISBN 1-85697-863-X.
Explains what maps are and why they are used, introduces symbols, and explains how cartographers map the world. Includes activities. Available from Kingfisher Books, 95 Madison Avenue, New York, NY 10016.

Illustration for cARTography



Drawing Animals

Rex Robinson, Artist-in-Residence

In “Drawing Animals,” Rex Robinson demonstrates a three-step method of drawing animals. By following this process—and by practicing—artists are able to draw anything they want. Student artists can learn to draw anything they want, too!

Lesson Focus

Drawing animals as an example of the process of “representational linear description” (or, how to draw anything you want!).

Time Requirement

One hour is generally enough time to begin on the third step, when students finish the face or accent area and complete a contour (outline) of the animal. Another session would provide time to complete the image and its basic environment. Practice in the skills increases confidence, accuracy, and speed.

Skill Development

The challenge of drawing something develops the greatest degree of observation and awareness as well as hand-eye coordination skills. The more realistic the drawing is, the more intense the experience becomes.

Purpose

“Drawing Animals” will

- increase observation skills and awareness, enabling the viewer to “see” what the student is looking at.
- inspire the investigation of natural design and function.
- allow students to break complex subjects into workable large, medium, and small shapes by using the process of general to specific.
- encourage students to cross the creative threshold of self-expression comfortably. Beginning around the 4th grade, students need examples and assistance for their drawing ability to mature.
- increase self-confidence and freedom of expression.

- demystify fine art and visual expression and make it more accessible to students.
- proclaim to students that we are all art students together (if we use both sides of our brains).
- propose that the main differences between an experienced art student (artist) and young art students are an understanding of process and practice, practice, practice.
- demonstrate that people who can write their names can draw (with desire and practice).
- help students communicate ideas, solve problems, and express themselves.

Related Artists/Art Works

All the numbered reproductions are available from Art Connection (see the resource list on page 22).

John James Audubon, **Wild Turkey* (#7534, \$22 retail), **Mallard Ducks*, *Cardinal Gross Beak*, *American Gold Finch*

Debra Butterfield, **Untitled* (horse sculpture, Speed Museum Collection)

Albrecht Dürer, **Young Hare* (#2040, \$9 retail), *Little Owl* (#2033, \$7 retail)

Charles Landseer, *The Sutherland Children* (Speed Museum Collection)

Pablo Picasso, *Bullfight* (#5105, \$18 retail)

Frederic Remington, *Arizona Cowboy* (#1146, \$3.50 retail)

Norman Rockwell, *A Boy and His Dog—Pride of Parenthood* (#2684, \$7 retail)

* Particularly good examples to use with students.

Additional Examples

John James Audubon, *Robin*, *Canvas-back Ducks*

Albrecht Dürer, *Squirrels* (#2037, \$8 retail)

Edward Hopper, *Cape Cod Evening* (#1003, \$3.50 retail)

Georgia O’Keeffe, *Ram’s Skull with Brown Leaves* (#7573, \$25 retail)

Paulus Potter, *The White Horse* (#1123, \$3.50 retail)

Frederic Remington, *The Scout: Friends or Enemies* (#1197, \$3.50 retail)

The Yoruba People, “Carved Door Panels” (coiled snake carving, Speed Museum Collection)

Connections to Educational Standards

The following Kentucky Academic Expectations are all related to “Drawing Animals”:

- 1.13:** Students make sense of ideas and communicate with the visual arts.
- 1.3:** Students make sense of the various things they observe.
- 2.22:** Students create works of art and make presentations to convey a point of view.
- 2.23:** Students analyze their own and others’ artistic products.
- 2.24:** Students appreciate creativity and values of the arts and the humanities.
- 2.25:** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
- 2.26:** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.
- 5.1:** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
- 5.2:** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
- 6.3:** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

Materials Needed

- pencils (2b, 4b, 6b, or any drawing tool)
- eraser (gum, kneaded)
- paper (drawing or all-purpose)
- models (Photographs or pictures from such sources as *Audubon*, *Ranger Rick*, *National Geographic*, or nature posters may be used—the larger the better. Mounted animals are preferable; these can sometimes be borrowed from university biology or history departments, parents, taxidermists, museums, or other sources.)

Alternative Materials

- watercolor pencils and markers
- watercolor brushes (larger for wash, smaller for detail)
- watercolor paper

Other approaches could include any drawing tools and paper.

Vocabulary Used in the Lesson

awareness
blocking in
color
composition
contour line
creativity
crosshatching
cylinder
demonstration
edge
foreshortening
form
geometric shapes
negative space (shape)
pushing
realistic art
sighting (sight measuring)
value

Lesson Instructions

Pre-Lesson Inspiration

Students are highly motivated by animals and have an urgency to communicate the subject with believability and accuracy. As young art students mature, their technical drawing ability generally requires demonstration and assistance from a more experienced artist. Once students see the process broken down, they can apply it to any subject. Show-

ing examples of realistic art highlights the beauty, design, and information that inspired the artist to apply the required discipline and effort. After students can express themselves realistically, other modes of expression are opened up.

Process

The best inspiration is the real thing. Animals have complex detail and exact proportion difficult to see in a living, moving creature. Using borrowed mounted animals as models, students can take their time to follow each step of the demonstration. If such models are not available or if you have a personal objection to using them, photographs may be used as described under “Materials” above. While students work, each animal is demonstrated to round out the example and increase the understanding of the process. Personal assistance and encouragement should always be available.

1. Have students align their pencils to the subject and find the longest, straightest lines vertically and horizontally, then lightly start placement on paper. They should block in with pencil and lightly draw the largest, most basic shapes. Next they add medium and smaller shapes.

**Helpful hint: Have students check their drawing using measurement, at least by comparing height to width. With their arms straight toward the subject, they hold the pencil perpendicular. Then they should sight over the top at the edge of the animal and slide the thumb down until they sight the measurement.*

2. Have students round off the geometric shapes with a more naturalistic contour line. At this point, they define features (eyes, ears, and nose) and other medium-size areas.
3. Have students fill in areas with lines of information (i.e., textures, colors, values, size/length, and direction). They should emphasize how the lines follow the form; for example, radiating lines around a cylinder (a tail) brings out the form

or creates a three-dimensional effect. Having one main light source on the subject brings out light, medium, and dark values. Pushing or exaggerating the value range and textures in line clarifies the drawing. Suggest that students finish the work with some suggestion of grass or the animal’s natural environment.

As a final check, tell students to squint at their drawings, closing their eyes almost all the way, to see the strongest lights and darks. Generally, good value range makes a work more visible and follows a formula of 1/4 lights, 1/4 darks, and 1/2 middle values.

Follow-Up

After the pencil process is practiced and understood, students could add color with watercolor pencils and/or markers. They should continue to use lines of information rather than “color in” outlines. Using a damp brush and a little water can soften under edges and areas. The top and forward areas should be kept dry.

Tips for Teachers

If possible, provide students with side views of animals. Profile views have less foreshortening and are less involved with perspective, so they are less complicated. Remind students to start with light lines, which are easier to adjust.

Don’t tolerate the phrase “I can’t draw” or other negative excuses about artistic ability. Encourage students to try the steps and visual drawing aids like blocking in basic shapes and drawing them lightly. Students should compare their progress only to themselves and be reminded that everyone improves with practice.

Teachers should be available for encouragement (the only “wrong” effort is not trying) and assistance (positive suggestions—i.e., try this). More importantly, though, teachers should set the example with their own drawing, freely making mistakes, expressing themselves with determination and passion, and revealing their excitement about the subject, their observations

about it, and their motivation to make their best effort. Stress the idea that Fun + Discipline = Success. Doing a good job takes effort; but as practice increases, so do freedom of expression, satisfaction, and, yes, fun!

Exhibition Suggestion

- After students use the technique to create several drawings, pick the best and exhibit it with a “before” animal drawing.
- Create a collage environment wall, including drawings of large trees, etc., and place the larger-scale animals down front and the smaller ones behind.
- Draw from photos marked with basic shapes and show the photos with the drawings.
- On one piece of paper, have students draw all three steps and then exhibit them behind a wide paper panel with a window so the drawings can be slid to show sequence.

Extensions

- Survey how artists have responded to nature and animals from cave drawings to the present.
- Cut out animal drawings, reinforce them with stiff paper, make a set, and choreograph a play showing actions and reactions between animals and between animals and people.
- Concentrate on grade-appropriate themes: a backyard pond; Kentucky animals; endangered species; animals of the continents, history, or pre-history.
- Create collages of animal photos in the shapes of states, continents, etc.
- Take a photo trip to a zoo.
- Illustrate poems, stories, or songs about animals, nature, and pets.

Resources

Field Trip Destination

Game Farm
Department of Fish and Wildlife
Resources

#1 Game Farm Road
Frankfort, KY 40601

Call (502) 564-6508 for information about programs and materials available to schools. The Game Farm provides students with the opportunity to observe a variety of Kentucky wildlife.

Book

Edwards, Betty. *Drawing on the Right Side of the Brain*.

Sources for Reproductions

Art Connection
Attn: Sue Jarvis
111 East Second Street
Owensboro, KY 42301
(502) 685-3770

John James Audubon reproductions are available from:

Audubon Museum Gift Shop
P.O. Box 576
Henderson, KY 42420
(502) 826-2247
Don Boarman, Director

Speed Museum Collection reproductions are available from:

J.B. Speed Art Museum
Gift Shop
2035 South Third Street
P.O. Box 2600
Louisville, KY 40201
(502) 636-2893 for tours

Available from Nasco Arts & Crafts
(1-800-558-9595):

Art Lessons for Children, Volume 5
(videotape) (\$29.95)

de Reyau, Rudy. *How To Draw What You See* (\$16.95)

Foster, Walton T. *How To Draw Dogs*
(also Horses, Animals, Cats, and Trees) (\$6.95 each)

How To Draw Dinosaurs (also Animals) (\$4.95 each)

Of Animals and Birds (art history)
seven-print collection (\$67.65)

The Usborne Complete Book of Drawing (\$14.95)

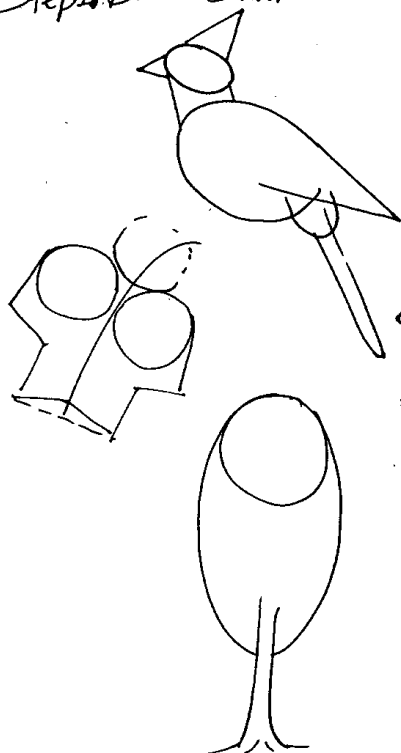
Acknowledgments

Thanks to the J.B. Speed Museum for allowing KET to reproduce two images from its collection:

Deborah Butterfield, American,
born 1949
Untitled (Horse), 1981
Paper and stick on wire armature
Height: 8'6"; Length: 14'; Depth: 3'
Acc. No. 82.1; Gift of Mr. and Mrs.
Henry Heuser Sr.

attributed to Charles Landseer,
British, 1799–1879
The Sutherland Children
Oil on canvas
Height: 23-3/4"; Width: 19-3/4"
Acc. No. 64.31.6; Gift of Mrs.
Blakemore Wheeler

Step 1. BASIC SHAPES

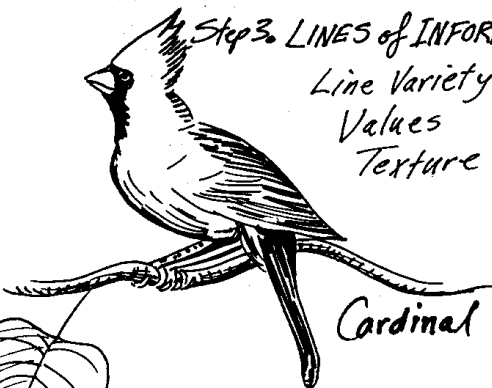


Step 2. CONTOUR LINE

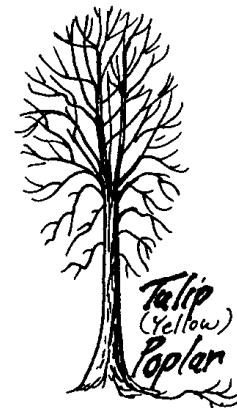
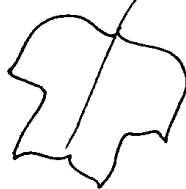


Step 3. LINES of INFORMATION

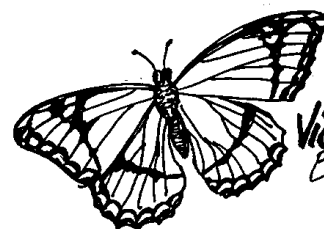
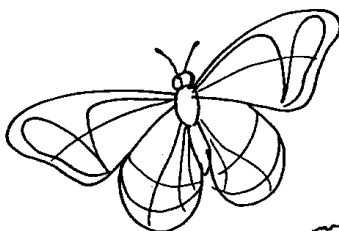
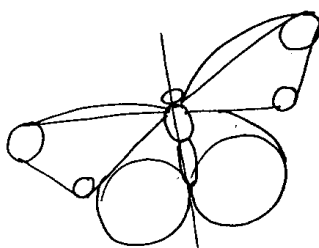
Line Variety
Values
Texture



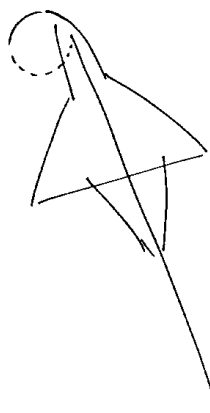
Cardinal



Tulip
(yellow)
Poplar



Viceroy
Butterfly



Goldenrod

Grey Squirrel

Ray Robinson



Turning Everyday Objects Into Art

Alice Noel, Artist-in-Residence

In this program, Alice Noel introduces students to the art of assemblage—the process of taking ready-made materials (plastics and other synthetics, fabric, glass, metals, even lights) and ordinary “found” objects and using them to create sculptures. She shares some examples of portrait boxes and then shows students how they can build their own portrait boxes—“me-boxes”—using a variety of objects and materials chosen to represent themselves.

Lesson Focus

Creating an imaginative self-portrait using the materials and methods of assemblage sculpture.

Time Requirement

This activity can be accomplished in one to two class periods.

Skill Development

Through this activity, students gain skills in analysis and reflection. They also learn how to express themselves through visual means (specifically through assemblage) and how symbols can be used to represent personality traits and experiences.

Purpose

Students will

- understand that sculpture can be made by assembling and joining ready-made and discarded materials.
- understand that ready-made and discarded materials can be imaginatively recycled to create sculpture.
- create a self-portrait by assembling and joining found objects in a “me-box.”
- explore their identity and share something about who they are with others.

Related Artists/Art Works

Jerry Ross Barrish, *Citroën*, 1989

Marcel Duchamp, *Bicycle Wheel*, 1951
(Museum of Modern Art, New York)

Photographs of these two assemblages may be found in *Adventures in Art* (see the resource list below).

Jacque Parsley

You can see examples of Jacque Parsley's assemblages by visiting the *Art On-Air* Web site:

<http://www.ket.org/Education/KidArt.html>

or by visiting Jacque's Web site:

Jpcollage@aol.com

Connections to Educational Standards

The following Kentucky Academic Expectations are all related to “Turning Everyday Objects Into Art”:

- 1.13:** Students make sense of ideas and communicate with the visual arts.
- 2.22:** Students create works of art and make presentations to convey a point of view.
- 2.23:** Students analyze their own and others' artistic products.
- 2.24:** Students appreciate creativity and values of the arts and the humanities.
- 2.26:** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.
- 5.1:** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
- 5.2:** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
- 6.3:** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

Materials Needed

- shoeboxes
- wallpaper or other colorful paper for covering boxes (boxes may also be painted)
- permanent markers

- scissors
- glue (a low-heat glue gun is the best choice)
- assortment of materials for decorating the boxes (colored glue, lace, stickers, fabric swatches, ribbon, etc.)
- assorted found objects (small toys, photographs, cards, etc.) brought in by the students to represent themselves
- wire to attach to the back of the box so it can be displayed on a wall

Alternative Materials

The method students use to attach objects to their boxes depends upon the weight of the objects. Attaching heavy objects might require wires, bolts, or screws rather than glue.

Vocabulary Used in the Lesson

assemblage
color
concept
consistent
icon
portrait concept
sculpture
symbol

Lesson Instructions

Lead your students in the following process:

1. Fit your paper to your shoebox, cutting it as needed. Carefully crease the paper at the corners and along the edges. When the paper is well fitted to the box, glue it down. (An alternative is painting your box or using a combination of paint and paper.) Think about how you will display your box and what the viewer will be able to see. Cover all the surfaces that will be visible.
2. Decide which materials and objects you will use in your box. Think about choosing colors that blend or contrast and about the placement of your objects. When you are ready, begin gluing the objects inside your box with the low-heat glue gun. If the objects are heavy, you may have to use an alternative method to attach them to your box, such as wires or screws.

- When you are through assembling your box, attach a wire to the back or top of the box so you can hang it up on the wall for display.
- Remember: How your box looks is not as important as what it says about you.

Response to Art

Students should be encouraged to talk about their boxes with one another, sharing what the objects and symbols represent and asking questions about their classmates' creations. Students can also include private symbols in their boxes whose meanings are not shared with the class.

Tips for Teachers

The most important part of this project is the process of analyzing who and what you are and how much you're willing to share. Students should feel successful because they have experienced this process of self-discovery and expressed their concept of self through the collection and placement of objects in their "me-boxes." The products themselves are secondary to the process.

Exhibition Suggestion

Display the boxes at child's-eye level along a hall. By displaying the sculptures one after another in a long line, you will create the effect of a single large sculpture without losing the impact of each individual self-expression.

Extension

Read about and research the life of a famous person in order to create that person's portrait box.

Resource

Chapman, Laura. *Adventures in Art*. The Discover Art Program. Worcester, MA: Davis Publishers, 1994 (ISBN 87192-254-1)

Exploring the Third Dimension with Captain Cooke

**Cynthia Cooke,
Artist-in-Residence**

With the British explorer and cartographer James Cooke as inspiration, "Exploring the Third Dimension with Captain Cooke" shows students how to use contour lines to create a three-dimensional map of an island. As artist/cartographer Cyndi Cooke says, students are limited only by their imagination in choosing the islands' shapes and features. The project can also provide opportunities for portfolio writing as students explore their islands' government, plant and animal life, history, and more.

Lesson Focus

An exploration of the way in which topographical maps are created. Children construct their own three-dimensional map of an island using scientific terminology, contours, and a variety of point, line, and area symbols.

Time Requirement

A minimum of one to two hours is needed for the hands-on work. Teachers need to schedule the activity over two or more days so the glue used in the project will have time to dry between sessions.

More time can be allocated as needed for students to write portfolio pieces about their islands.

Skill Development

"Exploring the Third Dimension with Captain Cooke" provides skill development across the curriculum in art, math, science, and the humanities. The activity encourages students to take intellectual and creative risks as they depict scientific information artistically. Students learn to build a three-dimensional map using all the basic elements of art—shape, line, color, texture, space, and form. They also learn the techniques of the artist/cartographer—researching and gathering information; designing the basic layout of geographical infor-

mation with title, text, scale, legend, north arrow, etc.; making a mosaic or compilation of the information with three-dimensional contours and point, line, and area features; and creating a legend to include all represented symbols.

Purpose

"Exploring the Third Dimension with Captain Cooke" gives students the opportunity to experience maps as works of art, historically and culturally; to make connections between topographical maps and other three-dimensional art works; and to see maps as expressions of perceptions and ideas and as tools for information using art techniques.

Related Artists/Art Works

M.C. Escher, *Self-Portrait in Spherical Mirror* (1935), *Reptile* (1943), *Drawing Hands* (1948) (Photographs of these works appear in Meulenhoff's *M.C. Escher*, published in 1983 by Harry Abrams Publishing; ISBN 0-8109-2268-1.)
Vincent Van Gogh, *Landscape of Arles* (1889)
Claude Monet, *Field in Spring* (1887)
Ed Hamilton (of Louisville, KY), Civil War memorial sculpture to African-American soldiers (a work in progress for Washington, DC)
Kano Ikkei Joryo, detail from Japanese folding screen, c. 1650
Egyptian wall relief mural, c. 2550 B.C.
Stenosaurus fossil relief, c. 160,000,000 B.C.
architect's model by H. Hollein for Abteiberg City Museum, Germany

Connections to Educational Standards

The following Kentucky Academic Expectations are all related to "Exploring the Third Dimension with Captain Cooke":

2.22: Students create works of art and make presentations to convey a point of view. (The students' maps display their point of view about a place—real or imagined—to others.)

2.23: Students analyze their own and others' artistic products and performances using accepted standards (by presenting their map projects to peers after having learned the basic mapping principles and techniques).

2.25: In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history. (Maps are composites of art, history, language, and culture.)

2.26: Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes. (Differences and similarities are easily discerned through area, line, and point symbols and through maps from different places and times.)

Materials Needed

- graph paper
- pencil
- colored markers, pencils, or crayons
- fabrics, yarn, or other materials to represent features on the maps
- scissors
- low-heat glue gun
- glue sticks
- 3-D material (preferably foam, available from craft or fabric stores. Baer Fabrics, 515 East Market Street, Louisville, KY 40202, 1-800-769-7778, offers great discounts to schools on foam. When you call, ask for Kevin Payne.)
- heavy paper or cardboard (for mounting contours)
- cardboard box

Vocabulary Used in the Lesson

area
contours
three-dimensional
two-dimensional
key
legend
line
pattern

perspective
symbol
(For additional geographic terms related to mapping, see “cARTography.”)

Lesson Instructions

Guide your students through the following process:

1. Using graph paper, draw the coastline of your island. This can be a free-form shape or a tracing of something else, like your hand. The coastline is the island's sea-level contour. Add a variety of interesting coastal features, such as bays, capes, or fjords—long, narrow, deep river valleys with steep cliffs.
2. Repeating the shape of your coastline, draw the contour line representing 100 feet above sea level. Label it 100'. Remember, contour lines never cross, and they should be kept far apart. One exception is drawing steep cliffs, like the cliffs bordering a fjord. The contour lines up to the height of the cliff are drawn close to or conjoining the lower contour lines.
3. Draw the contour line for 200 feet above sea level, still echoing the shape of your coastline. Label it 200'.
4. Draw the highest contour line, the line 300 feet above sea level. Label it 300'.
5. Decide what features you want to have on your island and where they will be placed. Features might include lines, like rivers, creeks, roads, and railways; areas, like forests, beaches, and lakes; and points, like houses, schools, and other buildings.
6. Choose symbols or patterns for your features—a dashed line for a stream, a piece of blue yarn for a river, a crosshatched pattern for the beach, etc. The symbols should match the symbols you provide in your map legend.
7. Using colored pens, pencils, crayons, or other materials, add the features to your map.
8. Cut out each contour level of the map, using the innermost part of the scissors and your other hand to move the paper.

9. Glue the 100', 200', and 300' contours to the foam. Glue the sea-level contour to the heavy piece of paper. (If you're using a cardboard box, pre-cut the paper to fit inside the box.) Make sure you allow enough room to include your map's title, compass, key, and scale. Wait overnight or longer to be sure the glue has bonded properly.
10. Cut out the 100', 200', and 300' contour levels around their outside edges and then assemble the map as you would a puzzle, stacking each one on the map and gluing them together. Make sure you line up the pieces correctly.
11. Color your map. If you like, you can add bits of material or three-dimensional objects for more detail and interest.
12. Add your title, legend, compass, and scale. You can create these items separately and then glue them to your paper base, or draw them directly on the paper.

Response to Art

Have students share their islands and their ideas with classmates. They can also keep a journal about their adventures discovering and exploring their island.

Exhibition Suggestions

Create a festive presentation occasion featuring the islands. Let each student present his or her own map and read an excerpt from the journal or portfolio piece inspired by the activity. The audience could be the class itself, other classes, and/or parents.

These maps also make a colorful presentation when mounted side by side on a hallway wall or on tables in the halls or classroom.

Extensions

Social Studies

Have students discuss and/or write about one or more of the following topics:

- What happens if someone already lives on your island when you discover it? What if someone comes to live on your island after you're

already there? What happens to the other people's traditions? To your traditions?

- What is the currency of your island? What do the residents exchange in trade? What is your island's economy based on?
- What rules do the people of your island follow? Do they need to have rules? What kind of government would you pick for your island? Monarchy? Democracy? Dictatorship? Why?

Mathematics

Determine your island's dimensions—its length, width, altitude, perimeter, circumference, area—using the scale you have set up (one inch = 10 miles, one inch = 1,000 miles, etc.).

Language Arts

- Create a descriptive piece on the life forms (unique plants and animals) found on your island. This piece could be illustrated with drawings of the life forms.
- Write a personal narrative describing how you arrived at your island, how your island looks, and what you did to survive.
- Create different writing pieces based on your island (a journal, an advertisement to attract tourists, a scientific study).
- Write a poem about your island for your writing portfolio. Like your contour map, a poem reflects patterns—both auditory patterns such as rhythm and rhyme and patterns of meaning (repeating words, images, and phrases). Putting together a poem can resemble putting together a puzzle as you figure out what words you want to use, possible rhymes for those words, a rhythm pattern you want to follow, etc.

Resources

Field Trip Destination

Printing House for the Blind
1839 Frankfort Avenue
Louisville, KY 40206
1-800-223-1839

The Printing House has a great museum for students to visit.

Books

- Bednarz, Sarah. *Geography for Life*. National Geographic Society, 1994. ISBN 0-7922-2775-1
- Berthon, Simon and Andrew Robinson. *The Shape of the World: The Mapping and Discovery of the Earth*. (Also a PBS series.) Rand McNally, 1991. ISBN 0-528-83419-3
- Carlisle, Madelyn W. *Marvelously Meaningful Maps*. Barron's Books, 1992. ISBN 0-8120-4735-4
- Starkey, Dina. *Atlas of Exploration*. New York: Scholastic, 1994. ISBN 0-590-27548-8
- Strain, Priscilla and Frederick Engle. *Looking at Earth*. Turner Publishing, 1993. ISBN 1-8786885-24-4
- Taylor, Barbara. *Maps and Mapping*. Kingfisher Books, 1993. ISBN 1-85697-936-9

Internet Sites

- Space Environment Center: <http://www.sec.noaa.gov>
- National Oceanic and Atmospheric Administration (NOAA) Home Page: <http://www.noaa.gov>
- University of Illinois Public Gopher (good central ftp site locator): <telnet://uxl.cso.uiuc.edu>
- EINet Galaxy: WWW sources for science, math, other: <http://www.einet.net/galaxy.html>
- Catalog of WWW resources: http://cui_www.unige.ch/w3catalog
- NCSA Internet Resources Meta-Index: <http://www.ncsa.uiuc.edu>
- NASA Home Page: <http://www.nasa.gov>
- JASON Electronic Field Trips: <http://seawifs.gsfc.nasa.gov/JASON/JASON.html>
- NASA K-12 Gopher: <gopher://quest.arc.nasa.gov>
- NASA Spacelink: <gopher://spacelink.msfc.nasa.gov>
- The Observatorium: <http://observe.ivv.nasa.gov/observe.html>
- Questacon—National Science and Technology Centre, Australia: <http://sunsite.anu.edu.au/Questacon>
- The Math Forum: <http://forum.swarthmore.edu>
- Cornell Theory Center Math and Science Gateway: <http://www.tc.cornell.edu/Edu/MathSciGateway>

- VolcanoWorld: <http://volcano.und.nodak.edu>
- U.S. Geological Survey Hydroclimatology of San Francisco Bay: <http://s101casr.wr.usgs.gov/~mddettin>
- University of Arizona Students for the Exploration and Development of Space: <http://www.seds.org>
- Science Education Archive: <ftp://ftp.bio.indiana.edu>
- Stanford Software Archive for Macintosh: <ftp://sumex-aim.stanford.edu>
- Access to Macintosh Software: <http://www.netam.net/~baron/infomac>
- NSF Science and Technology Information System: <gopher://stis.nsf.gov>
- The Exploratorium (San Francisco): <http://www.exploratorium.edu>
- National Education Bulletin Board (with supercomputer access): <telnet://nebbs.nersc.gov,login:nebbs>
- Federal Government Information: <telnet://fedworld.gov,login:new>
- U.S. Library of Congress: <telnet://marvel.loc.gov,login:marvel>
- NetFind User Lookup: <telnet://bruno.cs.colorado.edu,login:netfind>
- "Uncover" Periodical Database: <telnet://database.carl.org>
- MidContinent Regional Education Laboratory: <gopher://gopher.mcrel.org>
- MIDI Music Archive Lists: <ftp://ftp.cs.ruu.nl>
- Annenberg Science and Math Initiatives: <http://www.c3.lanl.gov/~jspeck/SAMI-home.html>
- GLOBE Program (Global Learning and Observations To Benefit the Environment): <http://www.globe.gov>
- Monterey Bay Aquarium: <http://www.usw.nps.navy.mil>
- Boulder (Colorado) Community Network: <telnet://bcn.boulder.co.us> or <http://bcn.boulder.co.us>
- Xerox Map Viewer: <http://www.xerox.com/PARC/docs/mapviewer.html>
- Cleveland Freenet (with access to other community networks): <telnet://freenet-in-c.cwru.edu>
- Education Library: <http://www.csu.edu.au/education/library.html>

Celebrating Ancestors

Maude Alexander, Artist

After artist and teacher Maude Alexander shows students examples of African masks, she challenges them to visualize one of their ancestors and create a mask that will emphasize, through applied features, that ancestor's major characteristics.

Lesson Focus

Using a “hands-on” activity, students will understand that African masks were and are more than aesthetic artifacts: They are functional implements of the many cultures of the African continent. Students will develop their masks using the symbolism, style, and naturalism used in the masks of Africa—exaggerations, animal features, geometric shapes, protrusions, ornaments, and natural fibers—to enhance their feelings and expressions.

Time Requirement

90 minutes will allow the application of plaster craft to dry enough for painting, adding features, and gluing on ornaments.

Skill Development

- Whether students choose to represent their masks with a natural or a more stylized form, they will develop skills in spatial relationships, geometric design, multimedia usage, and symmetry.
- Students will learn cultural meanings of color, contrasts, patterning, form, and dimensions.
- Students will develop skills in identifying locales of some of the hundreds of mask designs and cultural functions of the mask in societal rituals and ceremonies.
- Students will be able to list the many materials and symbols used in mask making in Africa.

Purpose

Through mask making, students will combine social studies and art. They will compare masks historically and culturally all over our world, using the masks of many societies. Learning about masks as spiritual and ritualistic expressions will encourage them to view art artifacts both culturally and aesthetically.

Related Artists/Art Works

Lois Mailou Jones, *Magic of Nigeria* (1971), *Les Fétiches* (1938)

Photographs of Jones' art works appear in Tritobia Benjamin's *The Life and Art of Lois Mailou Jones* (see the resource list below).

Pablo Picasso, *Les Demoiselles d'Avignon* (1907)

Les Demoiselles d'Avignon and a 1908 photograph of Picasso seated in front of African masks are both reproduced in Juliet Heslewood's *Introducing Picasso* (see the resource list below).

Wadsworth Jarrell, *The Jocks #2* (1981)

Included in Robert L. Douglas' *Wadsworth Jarrell—The Artist as Revolutionary* (see the resource list below).

Connections to Educational Standards

The following Kentucky Academic Expectations are all related to “Celebrating Ancestors”:

- 2.22:** Students create works of art and make presentations to convey a point of view. (Students will create a mask conveying the value of one of their ancestors.)
- 2.23:** Students analyze their own and others' artistic products. (Students will exhibit their finished masks before their peers and tell about the meanings of all the features on their masks.)
- 2.25:** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history. (Students will state what

types of ceremonies their masks represent and where in history their masks might have been used.)

- 2.26:** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes. (Students will have an opportunity to compare masks from around the world using real masks and magazine photos; a list of common features will be made and differences noted.)

Materials Needed

- plaster craft (available from medical supply companies and from arts and crafts stores—for example, Preston Arts and Crafts, Dee's in Louisville, or Michael's)
- masking tape (1" or 1-1/2")
- newspaper
- plastic grocery store bags
- cardboard sheets to protect the desks from paint and paste
- acrylic paint
- paintbrushes
- rulers
- scissors
- low-heat glue gun
- glue sticks
- tacky glue
- junk items for features
- raffia (available from florists or arts and crafts shops)
- old jewelry
- cowrie shells (available from stores that sell African products or from bead stores)
- fur (fake fur from fabric stores is probably the best bet)
- hair (old wigs are a good source)
- feathers
- bells
- beads
- dried berries, beans, seeds

Vocabulary Used in the Lesson

abstract
armature
attributes
characteristics
color
design
form
function

geometric shapes
high contrasts
line
multimedia
naturalism
patterns
primary hues
rhythm
sculpture
secondary hues
shape
space
symmetry
technique
texture
three-dimensional
two-dimensional
value

Lesson Instructions

Preparation

Have the plaster craft cut into four- or five-inch pieces. Basins of water should be ready, or you can use squirt bottles to dampen material. You may also want to pre-stuff plastic bags with crushed newspaper for the masks' armature. Have the four stages of mask making ready as examples:

1. plastic bag stuffed,
2. application of first layers of plaster craft,
3. features added, and
4. paint applied and ornaments added.

Process

Guide students through the following process:

1. With the flat side of the bag on a large piece of cardboard, begin to place wetted strips of plaster on your mask. You will need at least four layers of material before you begin to add features.
2. Now think about one of your ancestors and create the mask's features to represent that ancestor's characteristics. Was it someone with great vision or someone who was wise? If so, you might create a large forehead for your mask or plan to decorate the forehead to emphasize that feature. If the person told great stories, enlarge the mouth. If he or she was a great listener, exaggerate the ears, using cut-out cardboard for ears. Animal

teeth indicate protection for the group; slit eyes symbolize femininity. Cowrie shells indicate wealth and symbolize women. Horns are symbols of fertility, and elephant features represent strength.

3. After the plaster dries, apply a complete coat of paint. Use black, brown, or white for the base. Remember that colors have symbolic meanings (i.e., red for the ancestor or white for death).
4. Apply additional colors, geometric designs, horns, teeth, jewelry, etc.
5. Complete the mask with raffia. African masks are considered art in motion, so all masks should include something movable.

Response to Art

Students should take turns telling about their ancestors by exhibiting their masks and pointing out how the features on the masks relate to the characteristics of the people.

Exhibition Suggestion

- Students can mount their masks, label them, and place them in the hallway or in an exhibit area for public viewing.
- Students may also share their masks with family members on a school family night. The school might organize a family night featuring the displayed masks along with African food, dancing, and storytelling.
- Teachers may check with libraries (in school and citywide) to find out whether they would like to exhibit the masks during African-American History month. Museums and senior citizens' facilities also may enjoy these colorful art pieces.
- If students used actual African masks to inspire their work, the two sets of masks could be exhibited together. Research on the actual use of the mask will be necessary so our use will not offend. (For example, some masks are not seen except by certain people in the societies.)
- Ethnic and cultural festivals and parades will offer more opportunities for students to exhibit the

masks. Masks may also be lent to other schools that are trying the same project or want decorations.

Extensions

- Study masks and their use the world over. Each student or group of students can research a different country and make sample masks or create large posters showing their use. The December 1994 issue of *Smithsonian* magazine would be a good starting point for this activity.
- Make head-to-toe costumes for each mask using raffia, burlap, and cloth.
- Choose an African mask and research its use, draw it in full color, or make it in three dimensions using cardboard. Then share the mask, its locale, its use, and its place in the history of African people with classmates.
- Visit museums, stores, and collectors' homes to view a variety of African masks. Two excellent storehouses of African masks are Kente International and the African American Heritage House, both in Louisville (see the resource list for more information).

Resources

Children's Books on African Art and Culture

- Allen, William D., Jennings, Jerry E., and Thomas, Benjamin E. *Man in Africa*. Grand Rapids, MI: The Fideler Company, 1974.
- Aardema, Verna. *Who's in Rabbit's House?* New York: The Dail Press, 1977.
- Dakari, Hru. *Joshua's Masai Mask*. New York: Lee and Low, 1993.
- Davison, Basil. *African Kingdoms*. New York: Time-Life Books, 1966.
- Davrell, Elphinstone. *Why the Sun and the Moon Live in the Sky*. Boston: Houghton Mifflin Company, 1968.
- Grifalconi, Ann. *Fly Away Girl*. Boston: Little, Brown and Company, 1992.
- Heslewood, Juliet. *Introducing Picasso*. Boston: Little, Brown and Company, 1993.

Kreikemeier, Gregory S. *Come with Me to Africa*. New York: Golden Books, 1993.

McCoy, Brendeema. *ABC Africa Coloring Book*, Volume II. Atlanta, GA: World Publishing Co., 1990.

McDermott, Gerald. *The Magic Tree*. New York: Holt, Rinehart and Winston, 1973.

———. *Zomo the Rabbit*. San Diego: Harcourt Brace, 1992.

Meyer, Lare. *Arts and Crafts of Africa*. Paris: Pierre Terrail Publishers.

Monti, Franco. *African Masks*. London, New York: Paul Hamlyn, 1966.

Musgrove, Margaret. *Ashanti to Zulu*. New York: Dial Books for Young Readers, 1976.

Onyefulu, Ifeoma. *A Is for Africa*. New York: Cobblehill Books, Dutton.

Paris, Peter J. *The Spirituality of African People*. Augsburg: Foress, 1996.

Parrinder, Geoffrey. *African Mythology*. New York: Peter Bedrick Books, 1986.

Rupert, Janet E. *The African Mask*. New York: Clarion Books, 1994.

Savory, Phillis. *Zulu Tales*. New York: Hastings Publishing Co., 1961.

Sibbett, Junior. *Ancient Egyptian Design Coloring Book*. New York: Dover Publications, 1978.

The Smiley Lion Book. New York: Golden Press, 1964.

Terzlan, Alexandra M. *The Kid's Multicultural Art Book*. Charlotte, VT: Williamson Publishing, 1993.

Warren, Sean and McKinnan, Elizabeth. *Small World Celebrations*. Everett, WA: Warren Publication House Inc.

Yarbrough, Camille. *Cornrows*. New York: Coward-McCann, Inc.

Books for Teachers/ Advanced Students

Adler, Peter. *African Majesty*. New York: Thames and Hudson, 1992.

African Studies Handbook for Elementary and Secondary Teachers, 3rd edition. University of Massachusetts, Center for International Education, School of Education, 1993.

Bascom, William. *African Art in Cultural Perspective*. New York: W.W. Norton Company, 1973.

Bearden, Romare. *History of African American Artists*. San Francisco: Pomegranate Art Books, Inc. 1992.

Benjamin, Tritobia Hayes. "Lois Mailou Jones: The Decorative Pattern of Her Life." *American Visions*, June/July 1993, pp. 16–20.

———. *The Life and Art of Lois Mailou Jones*. San Francisco: Pomegranate Art Books, 1994.

Bolling, John. *Soul Force: The Psycho-Spiritual Development of Black Folks*. Mandala Risingi Press, 1988.

Boltin, Lee and Douglas Newton. *Masterpieces of Primitive Art*. New York: Alfred A. Knopf, 1978.

Christoph, Henning, Hans, and Oberlander. *Voodoo: Secret Power in Africa*. New York: Taschen Publishers. (Selected photographs and information on the use of masks suggested.)

Contemporary African Art. New York: Studio International and Africana Publishing Corporation, 1968.

Corwin, Judith Hoffman. *African Crafts*. New York: Franklin Watts Company, 1990.

Douglas, Robert L. *Wadsworth Jarrell—The Artist as Revolutionary*. San Francisco: Pomegranate Art Books, 1996.

Fagg, William and John Pemberton. *Yoruba Sculpture of West Africa*. New York: Alfred A. Knopf, 1982.

Frayling, Christopher. *The Face of Tutankhamun*. Boston: Faber and Faber, 1992.

"Round and Round the World: Life Is a Masquerade." *Smithsonian*, December 1994, pp. 94–99.

Glubok, Shifley. *The Art of Egypt Under the Pharaohs*. New York: McMillan Publishing Co., 1980.

Gordon, Rene. *African Continent Revealed*. New York: St. Martin's Press, 1988.

Kerina, Jane. *African Crafts*. New York: The Lion Press, 1970.

Koloss, Han-Joachim. *Art of Central Africa*. New York: The Metropolitan Museum of Art, 1990.

LaDuke, Betty. *Africa Through the Eyes of Women Artists*. Trenton, NJ: African World Press, 1991.

Matthews, Rupert O. *Africa: The Mighty Continent*. Gallery Books, 1988.

Mazrui, Ali A. *The Africans*. Boston: Little, Brown and Co., 1986.

Perry, Regina A. *Free Within Ourselves*. San Francisco: Pomegranate Art Books, Inc.

Preston, George Nelson. *African Art Masterpieces*. New York: Macmillan Co., 1991.

Rosman, Abraham and Paula Rubel. *The Tapestry of Culture*. New York: Random House, 1989.

Segy, Ladislav. *Masks of Black Africa*. New York: Dover Publications, 1976.

Steiner, Christopher B. *African Art in Transit*. Cambridge: Cambridge University Press.

Thompson, Jerry and Susan Vogel. *Close Up*. New York: The Center for African Art, 1990.

Thompson, Robert F. *Flash of the Spirit*. New York: Vintage Books, 1984.

Walther, Ingo F., ed. *Pablo Picasso*, Volumes I and II. Benedikt Taschen Publishers, 1995.

Whiti, John. *African Religions and Philosophy*. Portsmouth, NH: Heinemann, 1969.

Willet, Frank. *African Art*. New York: Thames and Hudson, 1993.

Other Materials

Art Deck (playing cards featuring 53 African artifacts). Manufactured by Aristoplay Ltd., Ann Arbor, MI 48107.

Recommended magazines: *American Visions*, *Archaeology*, *Caribbean*, *Contemporary Africa*, *Ebony*, *Focus on Africa* (Bush House, London), *National Geographic*, *Smithsonian*

Museums and Field Trip Destinations

The African American Heritage House Museum
521 W. Ormsby Avenue
Louisville, KY 40203
(502) 636-3754

This museum is dedicated to the documentation, preservation, and perpetuation of the historical, cultural, educational, and spiritual experiences of African Americans. It includes artifacts from the African continent and African-American culture from the colonial period through the present.

J.B. Speed Museum
2035 South Third Street
P.O. Box 2600
Louisville, KY 40201
(502) 636-2894; fax (502) 636-2899

In addition to its permanent collection of African art, the Speed Museum offers schools suitcase exhibits of artifacts and objects, including one on African culture. Contact the Speed for more information.

Background Information on African Masks

Thanks to Dr. Robert Douglas, director of Pan African Studies at the University of Louisville, for supplying this information.

Types of Masks

1. Face Mask: Worn over the face to hide the identity of the wearer and to focus the people on the function of the mask.
2. Head Pieces: Masks carved of wood worn on the front of the head.

3. Helmet Masks: Large carved or metal masks made to rest on the shoulders.

Philosophical Ideas and Practices Governing Mask Use and Functions

These ideas may exist in only one culture group, or they may be common to many African culture groups.

- When masks are used, there is usually a transcendence of the spirit.
- The mask is a symbol of a force or deity. Sometimes the mask represents important people or an ancestor. (Close resemblance to the actual person is forbidden.)
- Masks often include something feminine to reinforce the cherished idea that men can do nothing without women.
- Music and dance may accompany the wearing of the mask, but not always.
- The entire costume is considered the mask.
- The mask spirit does not speak to the people. An interpreter is used to give the people the spirit's message.
- The masked person needs time to transcend to the "higher plane" and often requires time to return to reality after the appearance. We would call this de-briefing.
- Africans do not use any image to represent the God force.
- The masks represent lesser gods or deities.
- The mask wearer becomes possessed.
- The mask is an attempt to put things in balance between the forces and man. The use of the mask is also an attempt to control the forces that affect humankind.
- Ancestors are not worshipped; but they are revered, commemorated, and respected.
- All things have spiritual force (earth, wind, fire, man, water, and animals—all things have the water force).

As we study African masks, we must interpret them in their cultural context of functions and attributes. When we do this, we shall truly be looking at African culture honestly, as "We Wear the Mask."

Masks: Their Functions, Use, and Purposes

African masks have many uses. The list below indicates a few:

- to celebrate
- to honor ancestors or important persons
- to symbolize spirits
- to elegize group members
- to control deities (forces: air, land, and water)
- to vitalize and extol certain group members
- to give energy (for dangerous or strenuous tasks)
- to use for sacrifice (to use in circumcision and initiation ceremonies such as the rites of passage)
- to identify (every masked priest is recognized by the "Maa go"—small mask—he carries on his person)
- to teach and continue the passing of the group's traditions
- to honor the spirits of the larger masks
- to give courage to fight dangers
- to encourage peace, stop wars, and praise victories
- to identify with social authority
- to teach etiquette by doing the wrong thing dramatically
- to empower, uplift, and sometimes subdue the group members
- to judge, punish, and set group limits
- to exemplify calmness, fierceness, or any needed attribute
- to appease spirit forces
- to encourage the fertility of the land
- to protect group members from evil
- to heal and make women fertile
- to install a successor or political figure
- to propitiate the ancestors when a disaster threatens the village

Combining Words with Art

Thomas Freese, Artist-in-Residence

In “Combining Words with Art,” Thomas Freese teaches children how to make an accordion-fold book. The program also provides an introduction to calligraphy, a review of the vocabulary of visual art, and a chance to learn by doing.

Lesson Focus

An introduction to the making of a folded-page book, including the definition of a “book,” examples of accordion-fold books, and a brief study of written forms (calligraphy).

Time Requirement

Two one-hour sessions would work well for making a practice book (in pencil only) and the finished book.

Purpose

To help students understand and appreciate the creation of a simple, hand-made book. Topics covered include a historical perspective of bookmaking, the elements of a simple story or theme, layout and folding, construction, and calligraphy.

Skill Development

- This lesson provides an opportunity for students to analyze a hand-made book using the vocabulary of visual art.
- Children are able to focus on the written letter and to construct two-dimensional calligraphic forms.
- The accordion-fold book is an engineering experiment; students learn by doing how to encapsulate letters and images within the confines of a folded strip of paper.
- Children must plan a story using a sequence of words and sentences; often the stories demonstrate physical cause-and-effect reasoning.
- Children must divide the paper strip into even segments by folding or by first measuring and then folding.

- The activity helps develop children’s reading and writing skills.
- Making a book can become an opportunity for social interaction.
- Books can be created in conjunction with traditional academic areas such as science or social studies.

Related Artists/Art Works

- Carolyn Whitesel, regional artist and bookmaker (examples of her work are featured in the program)
- An excellent source for photographs of unusual books to share with students is Shereen LaPlantz’s *Cover-to-Cover* (see the resource list).

Connections to Educational Standards

The following Kentucky Academic Expectations are all related to “Combining Words with Art”:

1.2, 1.3, 1.7, 1.9, 2.10, 2.22, 2.32, 2.35, 2.45, 5.2, and 5.51. In particular, the lesson helps students meet expectations 1.2 and 1.7 (reading and writing); 1.9, 2.21, and 2.35 (visual aesthetics); 2.10, 2.45, and 5.2 (measurement skills and other skills used in book construction); and 2.32 (perspective on the history of books and writing).

Materials Needed

- 4" × 18" tag board strips of paper
- two 4" × 4-1/2" pieces of colored paper (for covers)
- pencil and pen
- markers, crayons, or colored pencils
- glue
- scissors
- calligraphy marker (optional)

Alternative Materials

Any medium-weight, flexible paper which is blank or blank on one side; e.g., recycled paper or “construction” paper. Print shops often throw away or recycle very nice paper stock (sometimes in long strips) which can be wonderful for accordion-fold books!

Vocabulary Used in the Lesson

accordion-fold
calligraphy
script
storyboard
versal

Lesson Instructions

Lead your students through the following procedure:

1. Take a 4" × 18" strip of tagboard and fold it in half, to a 4" × 9" size. Match the edges carefully and crease the fold by firmly pressing it with your fingernails.
2. Take one of the open ends of the paper and fold it in half again, doubling it up even with the closed end. Do the same thing with the other open end of the paper strip. Once again, the folds should be creased. Now you should have an accordion-folded strip of paper measuring 4" × 4-1/2".
3. Check for alternation of folds by holding your strip up with the pages slightly spread apart. From an edge view, the strip of paper should make a “W” pattern. If you see an “M,” you simply need to turn your strip over. If necessary, refold to make the “W” pattern. Now you are ready to write in your book!
4. Using very small writing, number your pages at the bottom, from left to right, 1 through 4.
5. Think of an original story or a creative way to retell a traditional tale. Story ideas could come from academic themes, personal experiences, family history. Young children can simply put a word and a drawing on each page.
6. In this first version (“rough draft” or “storyboard”), you should write or sketch in pencil, so you will be able to erase and modify. Remember to keep your sentences within the page (rather than writing a single sentence across several pages).
7. The teacher should show how to use “versals” (beginning, capital letters) and “script” (neat printing or writing in a particular style).

8. Fold a second strip for your improved, final copy.
9. Trace your folded, 4" × 4-1/2" book twice on colorful paper to have an outline for the cover paper (or use a ruler to measure two 4" × 4-1/2" pieces). Then cut out the cover sheets and glue them to the back of pages 1 and 4. Don't use too much glue!
10. In the final copy, you can use markers, colored pencils, or crayons to create color illustrations. You also can come up with a creative title. And you might like to note your authorship of the book with a "pen name," an imaginary name for yourself. Before writing in the final copy, practice calligraphy or versal capitals on separate sheets of paper.

Response to Art

Encourage children to share, admire, and read one another's books. You also might lead children in discussing some or all of the following questions:

- What is a book, and how have books shaped history?
- How do you feel about a book that has no illustrations? What about a book that has no writing?
- Can a song become a book?
- If you could watch the movie, why would a book of the same story still be important?
- What ideas do you have for additional projects?
- Why can't all books be accordion-fold books?
- Can you design alphabet letters based on animals or people?
- Books can take a lot of time and money to produce; why would people burn them?

Exhibition Suggestion

- Have a book fair or connect all the children's books together for a long hallway display.
- Scan the accordion-fold books (with the authors' permission) onto a computer for other children to discover.
- Copy the book pages onto a single sheet and collate into a copyable master book.

- Make a very large accordion-fold book by connecting poster-sized pages. Carry it to younger children's classrooms to teach a lesson or to tell a story.
- Videotape the children reading their books.
- Do a school bulletin board display of calligraphy that connects different scripts with their matching country and historical period. For example:
 Roman alphabet—100 A.D.
 Celtic "uncial"—600 A.D.
 German "Gothic"—1200 A.D.
 Italian "italic"—1500 A.D.

Extensions

- Practice lettering, doing quotations or names. Children can sell their calligraphy to buy a book about calligraphy.
- Do a literature search for book arts, lettering, calligraphy, fonts, scripts, bookmaking, papermaking, and bibliotherapy.
- Tape two pencils together, tips even, and write letters displaying thick and thin parts.
- Make a bound book.
- Make an accordion-fold book where the page folds turn corners (such as a "spiral book").
- Make an "old-fashioned" pen or quill out of a feather. Experiment with writing using a bottle of ink and the quill.
- Invite an author, illustrator, or bookmaker to share his or her stories about bookmaking and to show sample books at various stages of production.
- Tour a book publishing company or a print shop.
- Make mini-books to document news events or humorous events from your school.
- Make a longer accordion-fold book that is autobiographical.
- Make a book with a page for each letter of the alphabet.
- Rubber-stamp on your book pages. Design and hand-carve stamps for your book.

- Mount children's smaller drawings or watercolors into an accordion-fold book.
- Combine pop-up card techniques with accordion-fold book construction.

Resources

Books on Calligraphy and Bookmaking

- Baker, Arthur. *Celtic Hand, Stroke by Stroke*. New York: Dover Publications, 1983. (ISBN 0-486-24336-2) Available from Dover Publications, 180 Varick Street, New York, NY 10014.
- Hiner, Mark. *Paper Engineering for Pop-Up Books and Cards*. Norfolk, England: Tarquin Publications, 1985. (ISBN 0-906212-49-9)
- Johnston, Edward. *Writing, Illuminating, and Lettering*. London: Pitman, 1979.
- LaPlantz, Shereen. *Cover-to-Cover: Creative Techniques for Making Beautiful Books, Journals, and Albums*. Asheville, NC: Lark Books, 1995. (ISBN 0-937274-81-X) Available for \$24.95 from Lark Books, 50 College Street, Asheville, NC 28801.
- Suaren, Jacqueline. *Written Letters*. Freeport, ME: Bond Wheelright Co., 1980. (ISBN 0-87027-161-X)
- 2000 Years of Calligraphy*. Baltimore: Baltimore Art Museum, Peabody Institute, Walter's Art Gallery, 1965.

Materials

A bookmaking kit is available at the following address: "The Bookmaker Kit," P.O. Box 346, Corona del Mar, CA 92625; phone (714) 673-7319.

Sample Calligraphy
by Thomas Freese

"Chancellory Cursive":
abcdefghijklmnopqr
stuvwxyz
ABCDEFGHIJKLMNO
PQRSTUVWXYZ

Sample Calligraphy Script
"Bookhand"

abcdefghijklmnop
qrstuvwxyz
ABCDEFGHIJKL
MNOPQRSTUVWX
yz

"Versals":

A B C D E F G
H I J K L M
N O P Q R S
T U V W X Y
Z

Vocabulary

BOOK- a collection of thoughts, words, images, ideas, explanation of a story; usually in written segments called "pages".

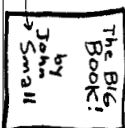


ACCORDION-FOLD -folding a section of paper; often a narrow strip, alternately; as in making an accordion-fold, or "concertina" book.



AUTHOR- the originator of the ideas; the creator of a book; usually the person who writes the words of the book.

author



ILLUSTRATOR- in making a book; the person who does the artwork (pictures, drawings, paintings, etc.) and usually not the same person as the author of the book.

illustration



CALLIGRAPHY- the ancient art of writing using many styles of alphabets

VERSAL- a capital letter, usually large, and often decorated which begins a word. Or, a capitalized word which begins a sentence.



Once there was...

SCRIPT- in lettering, or calligraphy, the unique set of alphabetic letters; originating from a certain country, and characteristc to a particular historic period.



STORYBOARD- the sequential layout of the plan for a story- showing location of pictures and variety of perspective.

Animating Art

Ruben Moreno, Artist-in-Residence

In “Animating Art,” artist/instructor Ruben Moreno takes students on a quick trip through movie-making history and then shows them how they can make their own animations by creating zoetropes. Children will expand their understanding of how film replicates motion and see how movie-making combines science, technology, and art.

Lesson Focus

Students will learn the basics of animation and cinematic motion through building the zoetrope. The emphasis will be on understanding and using the scientific concepts of the phi phenomenon and “persistence of vision” to make an animated strip. Students will learn about the history of animated images and the connection between their animated strips and the process used to develop “movies” through animated cartoons.

Time Requirement

The initial activity takes students 30 minutes to one hour to complete. Allow at least another hour for students to create their own picture strips.

Skill Development

Skills developed by the lesson include visual thinking, measuring, cutting, building, and drawing. The lesson is not about being a “good” artist: Anyone can learn to make a series of images appear to move. Students will learn how to transfer their still images into moving images and to transform their visual images into a series of other moving images.

Purpose

“Animating Art” will help students understand light, vision, and film motion as well as how to use visual thinking to build a sequence of images.

Related Artists/Art Works

- 19th-century mechanical toys (examples are shown in *Paper Movie Machines*—see the resource list below)
- Edward Muybridge, pioneer in shutter photography. His photographs of horses at Leland Stanford’s farm in California chronicled the stride of Kentucky filly Sally Gardner and established that horses do lift all their feet off the ground at once. (See the strips of moving horses included for use in making the zoetrope.)
- Thomas Edison, photographer and early pioneer in motion picture making
- Gregory Barsamian, creator of the revolving sculpture at the base of the tower in the Creative Discovery Museum in Chattanooga, Tennessee

Connections to Educational Standards

The following concepts and skills are used in the process of creating zoetropes:

- art concepts—visual composition, use of shape and line, visual thinking, and developing a logical visual sequence
- music concepts—rhythm and timing sequences
- logical and mathematical skills—determining how many frames are needed to create certain forms of movement such as running or walking
- kinesthetic and spatial skills—learning how movement is depicted through animated space and time.

Materials Needed

- clear plastic cup (short highball style)
- scissors
- glue
- tape
- pencil
- protractor/compass
- ruler
- black poster board
- push pins
- needle-nose pliers

Alternative Materials

In lieu of the black poster board, you can use white poster board and black (matte) poster paint.

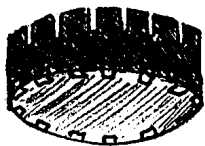
Vocabulary Used in the Lesson

animation
frame
kinestasis
magic lantern
persistence of vision
phenaskistoscope
phi phenomenon
stroboscopic
thanumatrope
zoetrope

Lesson Instructions

Before beginning the lesson, make two copies of the horse figure panels on page 38 for each child and one copy of the blank panels (page 39). You also may want to use a compass to pre-draw 5-3/4" circles on poster board for the children. (Ruben usually cuts the board into pieces, with one circle on a piece, and allows students to cut out the circles themselves.) To provide a mount for the panels, pre-cut the poster board into 3" x 18" strips. Then instruct the children in the following process:

1. Cut out the disk and the two riding panels.
2. Glue the horse figure panels to the tag board. The other side of the poster board should be black for high contrast. (If you don't have black poster board, use black paint.) Cut out slits as marked above the riding figures.
3. Glue the rider panels together to form a cylinder around the disc (the rider panels go on the inside of the cylinder; the black surface on the outside). Tape the disc to the bottom of the cylinder.



4. Insert a push pin through the center of the disc and then through the bottom of a plastic cup. Bend the pin from inside the cup with a pair of needle-nose pliers.



5. Spin the cylinder to achieve the illusion of movement.
6. Now use the blank panels (on page 39) to create your own animation drawings. These new panels can be placed over the horse panels in your original zoetrope. Or you can follow steps 1 through 4 to create another zoetrope. (You can glue

your drawings over the horse figures on a copy of the riding panels so you will have guidelines for cutting slits on your new zoetrope.)

Response to Art

Before the students make their original animation drawings but after they create the zoetropes using the riding figures, discuss what animators need to know in order to draw successful animations. What makes the horse look as though it is really moving? How can students analyze motion in order to create a natural-looking effect?

Exhibition Suggestion

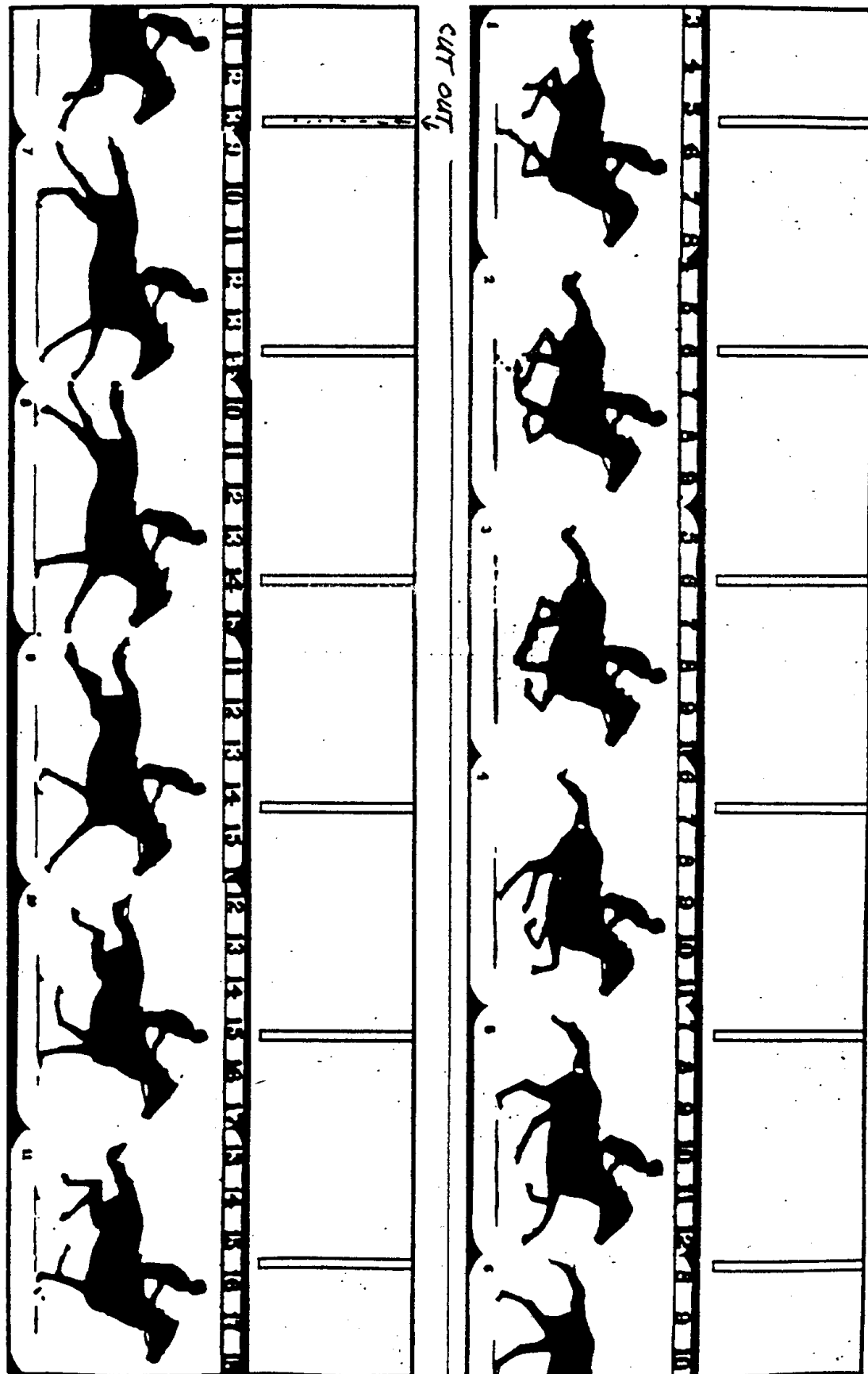
To display your group's animations, collect all the available turntable record players from your media center and/or bring in record turntables from home. Use the moving turntables as portable display stands for your students' work. If you don't have enough to display all the zoetropes, display them on an alternating basis.

Extensions

Other related projects include making flip books, thanumatropes (a flat disk with pictures on either side that is suspended with string and then spun), and phenaskistoscopes (a wheel of images constructed like a top).

Resources

- Lafe, Locke. *Film Animation Techniques: A Beginner's Guide and Handbook*. White Hall, VA: Betterway Publications, Inc., 1992. (ISBN 1-55870-236-9)
- Laybourne, Kit. *The Animation Book*. New York: Crown Publishers, Inc., 1979. (ISBN 0-517-52946-7)
- Wenz, Bob. *Paper Movie Machines*. San Francisco: Troubadour Press, 1975.



The image shows four identical, empty vertical rectangular boxes arranged horizontally. Each box is defined by a thin black border and is intended for data entry.

Resources and Books on Art for Students and Teachers

Reproductions of Art Works

Shorewood Reproductions, 27 Glen Road, Sandy Hook, CT 06482.

Universal Color Slide Co., 1221 Main Street, Suite 203, Weymouth, MA 02190.

Museum Reproductions (Catalogs Available)

Asian Art Museum of San Francisco, Golden Gate Park, San Francisco, CA 94118.

Metropolitan Museum of Art, 255 Gracie Station, New York, NY 10028-0198.

Museum of Fine Arts, Boston, P.O. Box 244, Avon, MA 02322-0244.

Museum of Modern Art, 11 West 53rd Street, New York, NY.

Children's Books on Art and Artists

Bjork, Christina. *Linnea in Monet's Garden*. New York: R & S Books, 1985.

Blizzard, Gladys S. *Come Look with Me* (series). Charlottesville, VA: Thomasson-Grant, Inc., 1991, 1992. Includes *Enjoying Art with Children*, *Exploring Landscape Art with Children*, *Animals in Art*.

Bober, Natalie S. *Marc Chagall, Painter of Dreams*. Philadelphia and New York: The Jewish Publication Society, 1991.

Brenner, Leah. *An Artist Grows Up in Mexico*. Albuquerque, NM: University of New Mexico Press, 1987.

Brown, Laurene K. and Marc Brown. *Visiting the Art Museum*. New York: E.P. Dutton, 1986.

Chapman, Laura H. *Adventures in Art*. Worcester, MA: Davis Publications, Inc., 1994.

Cumming, Robert. *Just Imagine: Ideas in Painting*. Middlesex, England: Kestrel Books, 1982.

—*Just Look: A Book About Paintings*. New York: Charles Scribner's Sons, 1979.

Cummings, Pat, editor and compiler. *Talking to the Sun: An Illustrated Anthology of Poems for Young People*. New York: Bradbury Press, 1992.

Daffron, Carolyn. *Margaret Bourke-White, Photographer*. New York: Chelsea House, 1988.

D'Alelio, Jane. *I Know That Building: Discovering Architecture with Activities and Games*. Washington, DC: The Preservation Press, 1989.

Edeen, Susan and John. *Artists and Women Artists*. Palo Alto, CA: Dale Seymour Publications, 1988.

Edmonds, Mary Jane. *Samplers and Samplermakers: American Schoolgirl Art 1700–1850*. New York: Rizzoli Publishers, 1987.

Epstein, Vivian. *History of Women Artists for Children*. Denver: VSE Publishers, 1987.

Everett, Gwen. *Li'l Sis and Uncle Willie*. New York: Rizzoli Publishers, 1992.

Florian, Douglas. *A Potter*. New York: William Morrow & Co., 1991.

Garza, Carmen Lomas. *Family Pictures, Cuadros de Familia*. San Francisco: Children's Book Press, 1990.

Gordon Parks, *Photographer*. Black Americans of Achievement Series. New York: Chelsea House, 1991.

Grant, Joan. *The Blue Faience Hippopotamus*. La Jolla, CA: Green Tiger Press, 1984.

Herberholz, Barbara and Donald. *The Real Color Book*. Gold River, CA: 1905 Studebaker Place, 1985.

Hollingsworth, Patricia and Stephen. *Smart Art, Learning To Classify and Critique Art*. Tucson, AZ: Zephyr Press, 1989.

Isacson, Philip. *Round Buildings, Square Buildings, and Buildings That Wiggle Like a Fish*. New York: Alfred Knopf, 1990.

—*A Short Walk Around the Pyramids and Through the World of Art*. New York: Alfred A. Knopf, 1993.

Lamarche, Melene. *Miró for Children*. Montreal: Montreal Museum of Fine Arts, 1986.

Lepscky, Ibi, translated by H.R. MacLean. *Pablo Picasso*. Woodbury, NY: Barron's, 1984.

Lerner, Sharon. *The _____ in Art* (series). Minneapolis: Lerner Publishers, 1970. Includes *Self-Portrait in Art*, *Kings and Queens in Art*, *Warrior in Art*, *Farms and Farmers in Art*, etc.

Macauley, David. *Cathedral, the Story of Its Construction; also Castle and others*. New York: Doubleday, 1973.

Mayers, Florence. *ABC, The Museum of Fine Arts*. Boston: Museum of Fine Arts, 1986.

Micklethwait, Lucy. *I Spy: An Alphabet in Art*. New York: Greenwillow Books, 1990.

Millbrook Arts Library Series. *Stories in Art; People in Art; Places in Art; Nature in Art*. Brookfield, CT: Merlion Publishing, Ltd., 1991.

Morris, Ann, photos by Ken Heyman. *Houses and Homes*. New York: Greenwillow Books, 1992.

Munthe, Nelly. *Meet Matisse*. Boston, MA: Little, Brown & Co., 1983.

O'Neill, Mary. *Hailstones and Halibut Bones*. New York: Doubleday, 1989.

Raboff, Ernest. *Art for Children* (series). New York: J.B. Lippincott, 1987-88.

Richardson, Wendy and Jack. *The World of Art Through the Eyes of Artists* (series). Chicago: Children's Press, 1991. Includes *The Natural World*, *Animals*, *Cities*, *Entertainers*, *Families*, *Water*.

Richmond, Robin. *Children in Art: The Story in a Picture*. Nashville, TN: Ideals Children's Books, 1992.

Ringgold, Faith. *Dinner at Aunt Connie's House*. New York: Hyperion Books, 1993.

Sills, Leslie. *Inspirations: Stories About Women Artists*. Niles, IL: Albert Whiteman & Co., 1989. Includes Georgia O'Keeffe, Frida Kahlo, Alice Neel, Faith Ringgold.

Sky-Peck, Kathryn, editor. *Who Has Seen the Wind?* New York: Rizzoli Publishers, 1991.

Sullivan, Charles. *Imaginary Gardens: American Poetry and Art for Young People*. New York: Henry N. Abrams, 1989.

Turner, Robyn Montana. *Portraits of Women Artists* (series). Boston: Little, Brown & Co., 1991. Includes Rosa Bonheur, Frida Kahlo, Mary Cassatt, Faith Ringgold, Georgia O'Keeffe.

Ventura, Piero. *Great Painters*. New York: G.P. Putnam's Sons, 1987.

—*Michelangelo's World*. Kirkwood, NY: The Putnam Publishing Group, 1989.

A Weekend with ... (series). New York: Skira/Rizzoli, 1991. Includes Degas, Picasso, Rembrandt, and Renoir.

Willard, Nancy. *Pish, Posh, Said Hieronymus Bosch*. New York: Harcourt Brace Jovanovich, Inc., 1992.

Wilson, Forrest. *What It Feels Like To Be a Building*. Washington, DC: The Preservation Press, 1988.

Winter, Jeanette and Jonah. *Diego*. New York: Alfred A. Knopf, 1991.

Woolf, Felicity. *Picture This: A First Introduction to Paintings*. New York: Doubleday, 1989.

Yenawine, Philip. *How To Show Grown-Ups the Museums*. New York: Museum of Modern Art, 1985.

—*Shapes, Lines, Colors, Stories* (series). New York: Bantam Doubleday Dell, 1991.

Zadrynska, Ewa. *The Girl with a Watering Can*. New York: Chameleon Books, Inc., 1989.

Art from Diverse Cultures

Alden, C. *Sunrise Island: A Story of Japan and Its Arts*. New York: Parents' Magazine Press, 1971.

Baylor, Byrd. *When Clay Sings*. New York: Charles Scribner's Sons, 1987.

Brown, Marcia, translator and illustrator. *Shadow*. New York: Charles Scribner's Sons, 1991.

Fillerup, Michael. *Don't Tell Anybody But ... There Are Anasazi in Canyon de Chelly*. Chinle, AZ: Navajo Curriculum Development and Production Center, 1990.

Kanawa, Kire Te. *Land of the Long White Cloud: Maori Myths, Tales, and Legends*. Boston: Little, Brown & Co., 1990.

Sullivan, Charles, editor. *Children of Promise*. New York: Harry N. Abrams, Inc., 1991.

Wisniewski, David. *Sundiata*. New York: Clarion Books, 1992.

Books About Children's Art for Teachers

Cole, Natalie Robinson. *Arts in the Classroom*. John Day Co., 1940.

Herberholz, Barbara and Lee Hanson. *Early Childhood Art*. Dubuque, IA: Wm. C. Brown Publishers, 1985.

Schuman, Jo Miles. *Art from Many Hands: Multicultural Art Projects*. Worcester, MA: Davis Publications, Inc., 1981.

Topal, Cathy Weisman. *Children and Painting*. Worcester, MA: Davis Publications, Inc., 1992.

Education Programs from the Kentucky Center for the Arts

Kentucky Center Express: A Transportation Subsidy Program of the Kentucky Center for the Arts

The Kentucky Center Express program provides matching funds (up to 50%) for the cost of transporting students from Kentucky's public and non-public schools to educational arts activities and performances at the Kentucky Center for the Arts and venues managed by the KCA, such as the Louisville Gardens and the Macauley Theatre.

In 1994/95, the bus subsidy program served approximately 13,000 students from 81 schools in Kentucky. These students traveled more than 23,000 miles on 310 school buses to attend activities and performances at the Kentucky Center and its venues. Information on this program is mailed annually to all Kentucky principals.

Arts Education Showcases (ARSC)

The Arts Education Showcases are day-long events where parents, educators, and administrators gain firsthand knowledge about arts education programs and resources available to their students. The showcase day consists of live performances and demonstrations by artists. Audience members can also view exhibits by additional artists, museums, and cultural institutions. The participating artists and institutions are required to audition for the program and, if accepted, may showcase at as many of the eight Kentucky locations as they choose. The showcases are held in March of each year in Ashland, Bowling Green, Crestview Hills, Lexington, Louisville, Owensboro, Paducah, and Whitesburg.

More than 100 artists and cultural organizations participated in the 1996 showcases across the Commonwealth.

Kentucky Institutes for Arts in Education (KIAE)

A joint program of the Kentucky Center for the Arts, Eastern Kentucky University, Murray State University, and the University of Louisville, the Kentucky Institutes for Arts in Education are two-week professional development seminars for teachers, school administrators, parents, and others interested in promoting and implementing arts in education. The institutes are designed to involve participants in "hands-on" experiences in creative writing, dance, drama, music, and visual art. The "students" explore their own creative potential in the arts while designing arts education curricula for their classrooms. In addition to the valuable professional development opportunities, participants can receive graduate credit from the partner universities. The institutes typically take place in June of each year.

For information on Kentucky Center for the Arts education programs, call (502) 562-0151. The address for the KCA is 5 Riverfront Plaza, Louisville, KY 40202-2989.

Kentucky Arts Council: Education Grants, Programs, and Resources

The Kentucky Arts Council, a state agency in the Education, Arts, and Humanities Cabinet, makes matching grants to schools and other nonprofit organizations that wish to sponsor arts residencies or performances in Kentucky.

Teacher Incentive Program (TIP) Grants

TIP grants support innovative one- or two-week residencies designed by one or more teachers in collaboration with a professional artist to integrate the arts into the regular classroom or to strengthen or enrich teaching in the arts. Application deadlines for December TIP grants are in October of the preceding year (for example, the deadline for December 1997 TIPs was October 15, 1996). Call the Kentucky Arts Council and request a TIP Grant application.

Artists-in-Residence (AIR) Grants

Outstanding professional artists conduct residencies in Kentucky schools and communities to demonstrate their art forms and share their ideas, creativity, and talents. In schools, emphasis is placed on involving students directly in the process of making art and providing professional development for teachers. Residencies are available for 20 days, 12 weeks, or nine months in all arts disciplines. An artist roster available from the Kentucky Arts Council lists approved artists in each discipline. The application deadline for the coming school year is in January (for example, the deadline for the 1996/97 school year was January 22, 1996). Call the Kentucky Arts Council for details.

Project Grants

Project grants support projects that demonstrate the value of arts in education, such as performances, consultations, model arts curriculum and assessment development, and summer institutes. The application deadline for projects occurring between July 1 and June 30 of the following year is in the spring (i.e., the deadline for projects between July 1, 1996 and June 30, 1997 was March 30, 1996). Call the Arts Council and request a project grant application.

Kentucky Craft Marketing Program Craft Resources

The Kentucky Craft Marketing Program, a division of the Kentucky Arts Council, can provide numerous resources related to crafts in Kentucky. In addition to an extensive listing of crafts people (many available for class demonstrations, lessons, etc.), the program staff can refer teachers to craft organizations, events, exhibits, suppliers, publications, and more. Staff members will be happy to help teachers and others locate sources appropriate to your special needs. In-school presentations or slide sets on craft marketing may also be available.

KAC Publications and Handbooks

Publications include

- *An Artist in Our Midst* (Artists-in-Residence Program publication)

- *A Guide to Arts and Cultural Education Programs and Services in Kentucky* (a 1992 publication listing the education programs of 148 Kentucky organizations statewide), and
- *The Blue Moon* (the Kentucky Arts Council's quarterly newsletter).

For ideas on integrating craft education into the classroom, the Craft Marketing Program has a directory, *Year of American Craft Education Resource Directory*, available at the address below. Additional information in specific arts education program areas includes handbooks on long-range program planning, cultural resource planning, arts education advocacy information, and more.

For more information about Kentucky Arts Council grants, programs, and resources, contact the Kentucky Arts Council, 31 Fountain Place, Frankfort, KY 40601-1942, phone (502) 564-3757, or the Crafts Marketing Program, 39 Fountain Place, Frankfort, KY 40601-1942, phone (502) 564-8076.

KET Arts Programming and Related Professional Development Opportunities for Elementary Teachers

Arts Programming for Children

Check the arts section of your current KET instructional resources book for descriptions of arts programs for elementary-age children and broadcast dates and times. A Star Channels Calendar with updates and changes is mailed monthly to all Kentucky schools.

Sampling of KET Professional Development Seminars Available on Tape

Please note: Videotapes of past KET Star Channels Professional Development Seminars, along with accompanying print materials, may be purchased from KET at a reasonable cost. Call the professional development staff at (800) 432-0951 for more information or to place an order. Or check out our professional development catalog in the School Resources section of the KET World Wide Web site: <http://www.ket.org>

Arts and Meeting KERA Goals

(two 90-minute seminars, first aired live 1992)

In this two-part series, experienced teachers demonstrate how they translate core arts concepts and academic expectations into integrated classroom projects and units. Seminar 1 focuses on the concept of patterns; Seminar 2 explores integrating arts into the curriculum, developing thematic units, and identifying arts resources in the community. (P-8)

Arts In and Across the Elementary Curriculum: Extending Different Ways of Knowing

(six 90-minute seminars, first aired live 1996-97)

This six-part series shows how teachers can use the philosophy and approach inherent in "Different Ways of Knowing" to incorporate the arts into their classroom

instruction. Topics include dance, drama, visual arts, music, writing, and integrated arts.

Classroom Transformation Through Different Ways of Knowing

(six 90-minute seminars, first aired live 1995/96)

This series focuses on transforming the elementary classroom through the use of six DWoK curriculum modules linking curriculum and assessment through thematic instruction. Seminar topics include the arts, writing, diverse learners, assessment, mathematics connections, and science connections.

Education Reform the Dramatic Way

(two 90-minute seminars, first aired live 1994)

This series shows how teachers can successfully incorporate creative dramatics into their classrooms and how creative dramatics can help students meet educational goals. Included are strategies for making literature and writing come alive for students. (grades 4–8)

Museums, Schools, and Education Reform: Creating Classroom Museums

(one 90-minute seminar, first aired live 1996)

In *Museums, Schools, and Education Reform*, four teams, each made up of a classroom teacher and a museum educator, demonstrate how to incorporate museum resources into the curriculum and how students can create classroom museums. The teams showcase their projects, describe the process involved, and provide ideas for other classroom museums.

National Standards in the Arts: Implications for Kentucky

(one 90-minute seminar, first aired live 1994)

Four presenters from visual arts, dance, music, and drama demonstrate how to apply the national arts standards to classroom planning and instruction. (all levels)

Posters, Books, and Writing: Design for Elementary Teachers

(two 90-minute seminars, first aired live 1996)

Seminars 1 (“Posters”) and 2 (“Books”) take teachers through the design process so they will feel comfortable teaching it to their students. The series also explores how writing can be integrated into the process of creating art and how writing can inspire art and visa versa.

Up to Speed: Learning from Objects

(two 90-minute seminars, first aired live 1995)

This series showcases the traveling exhibits and other resources available to Kentucky teachers through the J.B. Speed Art Museum in Louisville and demonstrates how these resources can be incorporated into the P–12 classroom.

The Galef Institute—Kentucky Collaborative for Elementary Learning

The Collaborative for Elementary Learning, based in Louisville, supports elementary schools in their implementation of restructuring initiatives at the preschool, primary, and upper elementary levels. The school reform initiative Different Ways of Knowing is the cornerstone of the work of the collaborative in supporting reforms in curriculum, instruction, and assessment to ensure learning success for every child in the elementary schools of Kentucky.

The Galef Institute is a nonprofit educational organization whose primary goal is to work with educators in public schools, schools of education, and other reform agencies to improve student achievement and accelerate school reform by strengthening the teaching profession.

To achieve its goal, the Galef Institute has developed and successfully field-tested Different Ways of Knowing, a whole-school change initiative for teachers and students in kindergarten through grade 6. Different Ways of Knowing connects professional development for teachers and administrators with a content-rich interdisciplinary history and social studies curriculum that integrates literature, the arts, writing, reading, math, and science.

Different Ways of Knowing is a philosophy of education with positive expectations for all children, thematically integrated instruction across disciplines, active student participation, early intervention, teacher collaboration, and parental involvement. It supplies a powerful curriculum including planning guides for teachers; strategies for reaching at-risk populations; a library of culturally diverse literature and reference books for every classroom; historical documents, maps, videos, and related media; thematically integrated math and science connections; and visual and performing arts materials. Different Ways of Knowing also provides teachers with a three-year course of study for professional growth, including annual summer institutes, seminars and workshops, in-class demonstrations and technical assistance, fellowships and leadership training, and teacher-to-teacher communications.

For more information about Different Ways of Knowing, contact:

Dr. Linda Hargan, Executive Director
The Galef Institute—Kentucky Collaborative for
Elementary Learning
Watterson Tower, Suite 403
1930 Bishop Lane
Louisville, KY 40218
Phone: (800) 825-8739
Fax: (502) 451-7594

**Check out KET's Web site at
<http://www.ket.org>
for our *Art On-Air* Web pages and for
additional resources and materials related
to other KET arts programming for children.**

Glossary of Art Terms

abstract art: art works that stress the importance of the elements and principles of design rather than recognizable subject matter. (Abstract artists select and then exaggerate or simplify forms suggested by the world around them.) A second definition refers to works having no recognizable subject matter.

accordion-fold: a technique for folding a long strip of paper, alternately in and out, applied to the construction of a hand-made book.

aesthetics: branch of philosophy dealing with the study of beauty. It involves elements of art and principles of design as well as psychological, sociological, cultural, and historical concepts.

analysis: the critical examination of art works using elements of art and principles of design.

animation: the study of movement; making something come alive or move (from *anima*, meaning life or soul).

appliqué: stitchery technique in which layers of cloth are stitched or glued to a background cloth to form a design.

appreciation: recognition of the inherent values of art forms resulting from historical, cultural, and aesthetic issues.

armature: the underlying structure of a sculpture.

art criticism: skill of studying, understanding, and judging a work of art (description, analysis, evaluation, and interpretation).

assemblage: a significant sculptural form of the 20th century that uses a variety of materials—often in combination—including plastics and other synthetics, fabric, glass, found objects, metals, and even lights. Welding metal has become an important construction technique for assemblages. Some of these sculptures also are kinetic art—an art form that adds movement to the sculpture, using air currents, water, motors, or other devices to provide motion. Also referred to as *construction*.

asymmetrical balance: a way of organizing the parts of a design so that one side differs from the other without destroying the overall harmony. Also known as “informal” balance. The two sides are visually equal without being identical.

attribute: a characteristic or quality of a person or thing; an object used in literature or art as a symbol for a person or thing.

author: the originator of the ideas in a written artwork; the original writer of the words in a book.

awareness: consciousness; the act of “taking account” of an object, a person, or the surroundings. Possible synonyms are *seeing* and *cognition*.

blocking in: sighting past a pencil or straight tool to clarify the basic shape of an object.

book: a collection of thoughts, words, images, ideas, explanations, and/or a story; usually in small segments called *pages*.

calligraphy: the ancient art of hand-writing using one of the many styles of the alphabet.

characteristic: a distinguishing trait, feature, or quality.

collage: art work made of materials attached or glued to a flat surface; i.e., cut paper, photographs, string, fabric, etc.

color: a result of the reflection or absorption of light by a surface. The sensation of color is aroused in the brain by response of the eyes to different wavelengths of light. Color is an element of art with three properties: hue, intensity, and value.

additive colors: colors made by using light rays. The primaries are red, blue, green, and sometimes violet.

subtractive colors: colors made by using pigments. Primaries are red, blue, and yellow.

color properties: As used in the subtractive system (pigment), color has three properties: hue, value, and intensity.

hue: refers to the name of the actual color (red, yellow, red-violet, etc.).

primary hues: red, yellow, blue—hues that cannot be produced by a mixture of other hues but are used to mix all other colors.

secondary hues: orange, green, violet—achieved by mixing two primary colors.

intermediate hues (tertiary): colors achieved by mixing a secondary and an adjacent primary. The primary color is always the first-named color of a tertiary hue: red-orange, blue-green, etc.

value: lightness or darkness.

tint: a high-value color made by adding white.

shade: a low-value color made by adding black.

intensity: the purity (brightness or dullness) of a color. Intensity may be controlled by manipulating a surface. For example, smoothing a surface should brighten it, while roughing a surface should dull it. Intensity may also be controlled by the mixing of colors. It may be changed by diluting a color, adding white or black, or adding other hues. Each hue is inherently more intense at a particular place on the value and hue scales. For example, yellow is pure when at a high level on the value scale. Blue, by contrast, is usually pure when at a lower level on the value scale. A hue may also have its intensity changed by the addition of another hue such as its complement. For example, yellow may be dulled by the addition of its complement, violet.

color relationships: groupings of colors that have certain likenesses or differences (schemes or families).

monochromatic: consisting of variations of a single hue and using black and white.

complementary: any two colors that are opposite each other on the color wheel. When mixed, they will tend to subdue the intensities and produce a grayed hue. When placed side by side, they produce optical vibrations.

analogous: colors closely related, neighbors on the color wheel (i.e., yellow, yellow-orange, and orange) with no more than a 1/3 ratio of the color wheel.

triadic: three colors equidistant from one another on the color wheel, forming an equilateral triangle; e.g., red, yellow, and blue; orange, green, and violet; and red-orange, yellow-green, and blue-violet.

cool: family of related colors ranging from the greens through the blues and violets. Usually associated with water, the sky, and foliage. They appear to recede in space.

warm: family of related colors ranging from the reds through the oranges and yellows. Usually associated with fire, the sun, and the earth. They appear to advance in space.

color wheel: primary, secondary, and intermediate (tertiary) colors as they appear on a circular or hexagonal chart.

composition: the ordered arrangement of elements (colors, shapes, lines, etc.) in a work of art, usually according to the principles of design.

construction: See *assemblage*.

contour: a continuous line that follows the edge of a form.

creativity: the ability to find new solutions to a problem or new modes of expression; the bringing into existence of something new to the individual.

critique: to analyze and evaluate the quality of an art work.

crosshatching: a series of intersecting sets of parallel lines used to indicate shading or volume in a drawing.

demonstration: a descriptive example to benefit others of how an experienced art student follows a process.

design: the organization, plan, or composition of a work of art. An effective design is one in which elements and principles have been combined to achieve an overall sense of unity. May also be used as a verb.

dot: a single point in space.

edge: in drawing, the place where two things meet, denoted by a change in value, texture, etc. A realistic effect is pursued by less emphasis on an outline and more on edges.

elements of art: the basic components of visual communication. They include line, space, shape, form, texture, value, and color (definitions may be found by alphabetical listing).

focal point: that area at which the emphasis is greatest (center of interest).

folk art: art that originates among the common people, who transmit the artistic culture of their group through succeeding generations.

foreshortening: a perspective technique in which parts of a form or object are contracted to make them look farther away, creating the illusion of spatial depth.

form: an element of design that is three-dimensional and encloses volume.

frame: a single image in a strip of movie film; a single picture in a series of related pictures.

free-form: invented or improvised form.

function: a special duty or performance required in the course of work or activity.

geometric shapes/forms: mechanical shapes or forms such as squares, triangles, circles, spirals, pyramids, and cubes.

gesture: that which captures the essence of an image without detail—usually quick and spontaneous.

illustrator: a person who does visual artwork (pictures, drawings, paintings, etc.) for books or other printed media.

improvisation: creating something on the spur of the moment, without any preparation.

interpretation: the understanding of works of art and their styles in relation to their cultural, historical, and aesthetic contexts.

kinestasis: the study of how motion is represented.

line: An identifiable path of a point moving in space. Lines may vary in character, width, direction, and length. A line may define contour.

magic lantern: an old-fashioned term for a slide projector.

medium: a material used by an artist to produce art (paint, charcoal, or clay, for example). Also, in paint, the vehicle that carries pigments is a medium.

mixed-media: the use of more than one material in an art work.

naturalism: a faithful adherence to nature; realism.

negative space: the area around images in a two- or three-dimensional form which defines those objects.

neutral colors: black, white, grays, and browns. Colors may be “neutralized” by mixing complements.

organic shapes: the opposite of mechanical or geometric shapes. Free-form, or derived from nature.

persistence of vision: the tendency of the human retina to retain an image for a brief time after the physical object has disappeared. This phenomenon is what allows filmmakers and animators to create the illusion of smooth movement.

phenakistoscope: the earliest animation device, consisting of a wheel of images that is spun like a top to make it appear the images are moving.

phi phenomenon: the psychological tendency to see two images close together as related.

positive space: the primary images in a work of art, as opposed to the background or unoccupied space.

principles of design: concepts for organizing elements of art into successful two- and three-dimensional art forms. None of these is absolute, but all serve as general guidelines.

balance: the arrangement of the parts of an art work to create a sense of equilibrium. The weight or size of objects, their placement, and colors are all balanced in a work of art.

contrast: a principle of design that refers to the differences in values, colors, textures, and other elements to achieve emphasis and/or a center of interest. Contrasting patterns or colors add excitement, drama, and interest to the picture.

emphasis: concerned with dominance. The development of a main idea or focal point. Subordination is also necessary to achieve emphasis.

movement: the arrangement of the parts of a design to create a sense of motion by using lines, shapes, colors, and patterns that cause the eye to move over the work.

pattern: the repetition of shapes, lines, colors, etc. in a design. The pattern can also be a model or mold designed to be copied.

proportion: the relationships of height, width, and depth to the whole. In determining proportions, it is necessary to see an image or shape in relationship to its surroundings or how it relates in scale. Proportions may be distorted to heighten the visual effect or emotional quality the artist is attempting to achieve.

rhythm: implies visual movement of the eye through a design, creating a sense of tempo or beat. It may be achieved through planned arrangements of shapes, colors, textures, and lines.

subordination: the opposite of emphasis. While emphasis provides the view with a focal point in a composition, subordination moves the eye away to less dominant areas. (See *emphasis*.)

transition/gradation: refers to a series of gradual design changes in the combination of elements of art. Unlike contrast, which stresses sudden changes in elements, gradation refers to a step-by-step change. Gradual changes from dark to light values or from large to small shapes are examples.

unity/harmony: the quality that is achieved when the art elements and principles of design function together in an integrated way, each supporting the other.

variety: refers to the combination of art elements in involved ways to achieve intricate and complex relationships. Variety is often obtained through the use of diversity and change by artists who wish to increase the visual interest of their work. Themes can be enhanced by variation.

pushing: exaggerating an effect (value, texture, etc.) to clarify the image.

realism: picturing people and things as it is thought they really are.

realistic art: the objective depiction of objects, forms, and figures attentively perceived. Also called *naturalism* and *believability*.

representational: using identifiable subject matter.

script: the unique set of alphabet letters characteristic of a particular country and/or time (for example, Roman, Celtic, and Italic).

shape: an element of art. It is an enclosed space defined and determined by other art elements such as line, color, value, and texture. Shape can be divided into two basic classes: geometric (square, triangle, circle) and organic.

sighting: in drawing, measuring relative sizes by means of a constant measure (the pencil held at arm's length is the most usual measuring device); determining relative points of an object compared to the same section of the drawing.

sketch: a simple, rough drawing or design, done rapidly and without much detail.

space: the area in which a two- or three-dimensional art work is composed. (See *positive space* and *negative space*.)

storyboard: the sequential planning of a story or film; experimenting with a variety of layouts, actions, perspectives, etc.

stroboscopic: light going on and off.

symmetrical: a way of organizing the parts of a design so that each side equals the other. Also called formal balance.

technique: the method of procedure (with reference to practical or formal details), or way of using basic skills, in rendering an artistic work.

tessellation: a pattern of one or more shapes that completely covers a plane without any gaps or overlaps.

texture: an element of art which refers to surface quality (its smoothness, roughness, softness). Textures are actual or simulated. Actual textures can be felt. Simulated textures are suggested or implied.

thanumatrope: a flat disk with pictures on either side. When suspended with string and spun, it creates the illusion of movement.

value: the degree of lightness or darkness, as compared to white or black. (See *color properties—value*.)

versal: the capital letter, usually large and often decorated, that begins a word (or the full number of letters in the first word in a sentence). Versals are often stylized Roman capital letters.

zoetrope: an animation device employing paper strips of pictures to create the illusion of movement.

Glossary of Terms Related to “Tessellations”

acute angle: an angle that measures less than 90°.

congruent angles: angles that have the same measure.

equiangular triangle: a triangle with all three angles congruent (of equal measure).

equilateral triangle: a triangle with all three sides congruent (of equal length).

glide reflection: a transformation that moves a figure in a slide and mirrors it.

hexagon: a polygon with six sides.

interior (stamp) details: within the exterior line of the shape used for the stamp; the lines and pattern that create an artistic image.

line of reflection: a line in a plane that lies equidistant from any two corresponding opposite points in a figure that has reflective symmetry; also called mirror line.

modified square: the original polygon (square) that has been changed according to geometric rules in order to tessellate.

mosaic: synonym for tessellation or tiling.

obtuse angle: an angle that measures more than 90° but less than 180°.

octagon: a polygon with eight sides.

paper template: the cut-out tracing form of a tessellating shape used to construct the stamp.

parallelogram: a quadrilateral whose opposite sides are congruent and parallel.

pentagon: a polygon with five sides.

perpendicular lines: lines that meet at right angles in a plane.

plane (surface): a two-dimensional, flat surface that is infinite.

polygon: a simple closed shape, bounded by line segments.

print registration: lining up the stamped image according to the grid guidelines and shape.

quadrilateral: a polygon with four sides.

rectangle: a quadrilateral that contains four right angles.

reflection (in a plane): a transformation that mirrors a figure in a plane.

regular polygon: a polygon with all its sides congruent and all its angles congruent.

rhombus: an equilateral quadrilateral.

rotation (in a plane): a transformation that turns a figure about a point in a plane.

scalene triangle: a triangle with sides of three different lengths.

tessellation (plane): a covering of a plane, without any gaps or overlaps, by a pattern of one or more congruent shapes.

tessellation (space): a filling of space, without any gaps or overlaps, by a pattern of one or more three-dimensional shapes.

tiling: synonym for tessellation or mosaic.

transformation: in this book, a movement of a figure to a new location, leaving the figure unchanged in size and shape.

translation: a transformation involving a slide of a rigid figure without rotation.

translational symmetry: characteristic of a figure that coincides with itself after an appropriate translation or slide.

trapezoid: a quadrilateral with exactly two parallel sides.

vertex (of a polygon): the point of intersection of any two adjacent sides of the polygon.

vertex (of an angle): the point of intersection of the two rays that form the angle.

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