

ArtReach Teacher Preparation Checklist

3D Sculpture

Before the Visit, Please

- ❑ Do the Pre-Visit Activity: ART TALK.
- ❑ Let the students know an educator from the Boise Art Museum will be visiting the classroom.
- ❑ Make large nametags for the students with their first names only and have students wear them during the visit.

An ArtReach Educator will contact you prior to the visit to discuss ways in which the experience can be tailored to your classroom curricula.

During the Visit, Please Provide

- ❑ Your normal classroom discipline.
- ❑ 90 uninterrupted minutes for the program.
- ❑ An electric power source, projection screen (or paper-covered wall), space for discussion and a hands-on activity.
- ❑ The nametags on a visible place on the students.

After the Visit, Please

- ❑ Complete and send in the evaluation card that you will receive from the ArtReach educator. Your comments are important in helping us tailor our programs to suit your needs.
- ❑ Do the enclosed **Make It!** activity.
- ❑ Consider using related ideas listed in Curricular Connections.

Thank you for participating in the *3D Sculpture* ArtReach visit!

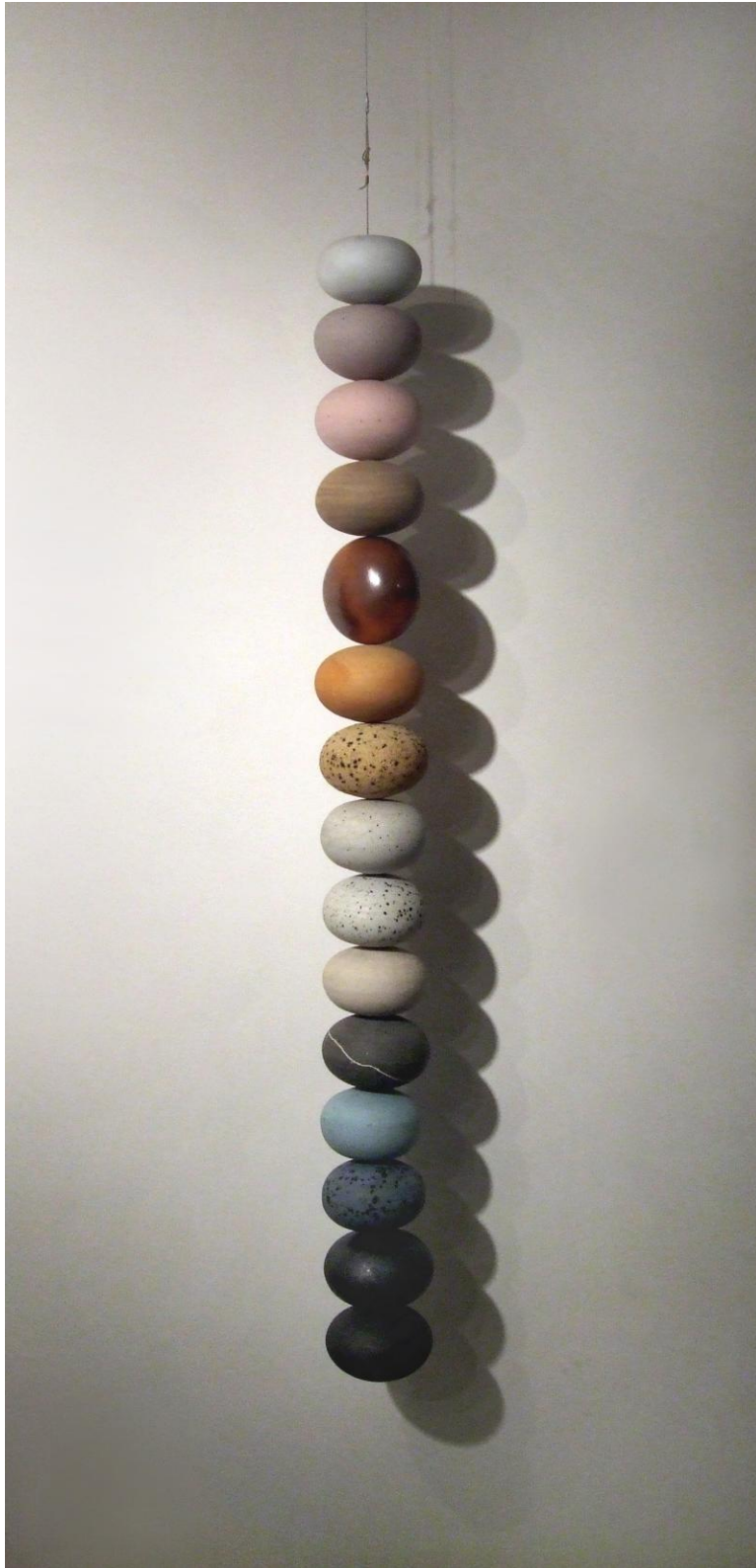
ArtReach Visit Vocabulary

3D Sculpture

Form	Three-dimensional element that encloses volume. Cubes, spheres and cylinders are examples of various forms.
Medium	A specific kind of artistic technique or process as determined by the creative methods involved: <i>the medium of lithography</i> . The materials used to make art: <i>oil as a medium</i> .
Media	The plural of medium.
Sculpture	A Three-dimensional work of art that can be made by shaping or carving materials such as stone, metal, wood, cardboard, and fabric, or other materials. There are two types of sculpture: relief sculpture, which cannot be seen from all sides; and sculpture in the round, which is freestanding or suspended sculpture surrounded on all sides by space.
Shadow	The dark shape cast upon a surface by an object catching the rays from a source of light.
Shape	The flat outline of an object.
Two-dimensional	Having the three dimensions of height, width and depth.
Three-dimensional	Having the two dimensions of height and width.



Akio Takamori
Girl in Jumper; Boy with Hands In Pocket; Small Boy, 1999
Stoneware with under-glaze
Permanent Collection



David Shaner
Strand of Stoneware Balls, early 1980's
Stoneware
Permanent Collection

ArtReach Pre-Visit Activity: ART TALK

3D Sculpture

Please view the two reproductions with your class and lead a discussion using the following questions as guidelines. There are no “right” answers. The questions are meant to guide the group discussion. Students will re-visit and discuss these works as well as others during the ArtReach visit. The vocabulary in this packet will aid discussion.

Research and experience have shown that students feel more comfortable when they can connect with something familiar when the Museum educator conducts the program. The students enjoy sharing their insights from the pre-visit discussion with the educator.

The *3D Sculpture* ArtReach experience focuses on three-dimensional artwork in BAM’s Permanent Collection. The visit helps bridge a student’s experience from two-dimensional to three-dimensional works of art. Throughout history artists in every culture and society have created sculptures. Sculptures come in many different shapes and sizes, are made using all kinds of materials and a variety of processes and techniques including modeling, carving, casting and assembling. As an art form, sculpture differs from painting in that it exists in space. It can be seen, touched, and even walked around. Paintings may hope to suggest or imply on flat surfaces the illusion of space, but it is actual space that is important to a sculptor. Sculptures fill out space creatively with three-dimensional forms. Such forms may express actual appearances, emotions, or ideas.

Akio Takamori

Girl in Jumper, Boy with Hands in Pocket, Small Boy, 1999

Stoneware with under-glaze

Permanent Collection

- What are these people wearing?
- Do you wear clothes like these?
- What do you think they are doing?
- Do these look like real people to you?
- Who do you think they might be?
- Can you tell what this artwork is made of just by looking at it?

David Shaner

Strand of Stoneware Balls, early 1980’s,

Stoneware

Permanent Collection

- How is this piece different from the one we just looked at? How is it the same?
- Can you tell what it is made of just by looking at this photograph of it?
- What colors do you see?
- What shapes do you see?
- What textures do you see? (What do your eyes tell you it might feel like?)

3D Sculpture

Teachers can adapt the following curricular connections to meet the needs of any grade level.

Technology

- Have students visit the Pixar and DreamWorks websites to learn about how two-dimensional, hand-drawn characters are transformed on the computer into realistic three-dimensional characters.
<http://www.pixar.com/howwedoit/index.html> and
http://www.dreamworksanimation.com/dwa/opencms/inside/how_we_make_movies/intro/story.html
- Have students visit <http://www.karmatoons.com/drawing/drawing.htm> to learn how to draw 3-D animated objects and characters.
- Create a digital photo library of two- and three-dimensional objects found in the neighborhood, town, or school building. Take a walking tour of these locations and snap digital photographs of different objects (these could range from windows, doors and walls to bridges and birdhouses). Use the images to create a digital library that can be accessed by other students at your school, or print the pictures and create a class collage illustrating two- and three-dimensional objects.

Reading and Writing

- Talk about ways to describe shapes using words such as sides, corners, lines, and angles. Analyze familiar 2-dimensional plane figures, such as squares, triangles, and rectangles. Identify properties that make each shape unique. Compare familiar 3-dimensional space figures such as cubes and pyramids. What properties make these forms unique? Use these words to add to a class spelling or vocabulary list. Have each student select one shape and one form to describe with words, either out loud or in writing. Discuss how the descriptions are the same and different.
- Have students create stories in three-dimensional form by using their story pages and fashioning cubes or pyramids so that each side tells or illustrates a part of the story.
- Read the story of Mount Rushmore. Discuss why this three-dimensional monument is an important part of American history.
- Have students choose a famous/significant sculpture to research (Example: The Statue of Liberty.) Write a short illustrated story about it.

Math

- Learn how mathematics is used as a tool to construct artwork. Have students learn about the Golden Mean, Golden Ratio, The Divine Proportion, Phi and Fibonacci Numbers by studying various artworks. Refer to the website <http://www.princetonol.com/groups/iad/lessons/high/Grace-golden.htm> for lesson plan ideas and web links for teaching these mathematical concepts.
- Have students learn the difference between shapes and forms. Have them construct their own two-dimensional and three-dimensional shapes and forms. Begin by having students cut out and measure different angles in order to construct a shape. Use these shapes as tracing templates in order to construct three-dimensional forms. Visit http://mathforum.org/sum95/math_and/poly/polyhedra.html as a reference.
- Take the three-dimensional classroom and translate it into two dimensions. Measure your own classroom as a class project. Calculate its square footage. Practice taking measurements by recording the size of windows, doors, and other three-dimensional elements within the room. Use these measurements to draw an accurate two-dimensional floor plan of the classroom. Use ratios and scale to create an accurate design. For example have students use the ratio of 1/4 inch = 1 foot. The design of the room, the furniture, and the objects should all fit into this ratio.
- Have students create three-dimensional scale models. www.discovery.com/lessonplans/programs/architectsinaction/ (Discovery Channel Lesson Plans - middle school lesson using ratios and scale to create models)

Science/Physics

- Have students create shapes and forms using toothpicks and mini-marshmallows. Which shapes and forms are structurally the strongest? Which forms are most difficult to construct? Why?
- Have students use simple wood or plastic blocks in a variety of forms and sizes to create structures.
- Use the *ArtReach* visit as a springboard for science lessons on mass, volume and space and/or states of matter (solids, liquids, gases). Sculptures can be created as solid forms or can be made of curved or flat planes that enclose space to create volume and suggest mass. Masses exist within space, occupy it, are surrounded by it and some even allow space in. Can the students determine which sculptures are thick masses, hollow masses, slender masses, etc.? Have students describe the masses (rounded, angular, one mass, a collection of separate masses, etc.) Are there areas where space can move around the outside of the masses? Are there openings where space can move through the masses? Is the sculpture mostly about space, mostly about mass or balanced between the two?

Related Web Sites

For Teachers

<http://www.ket.org/artonair/artists/morenoguide.htm> (Lesson plan on making geometric mat board sculptures.)

<http://www.artcyclopedia.com/media/Sculptor.html> (Explores artists working in sculpture by type of medium, time period and location.)

<http://www.sculptor.org/category.html> (Good teacher website for finding different genres and images of sculptures to use in the classroom.)

<http://www.aolatschool.com/search?query=sculpture&s=1&l=10&tab=websites&gr=&sort=> (Lists a number of links to sculpture-related lesson plans.)

<http://www.historyworld.net/wrldhis/PlainTextHistories.asp?historyid=ab21> (History of sculpture.)

For Teachers and Kids

<http://www.artfaces.com/artkids/sculpture.htm> (Website for students to learn about the history of sculpture.)

http://www.sanford-artedventures.com/create/tech_forms.html (Art site that demonstrates step-by-step instructions on how to make 3-d forms for sculptures or architectural models.)

<http://www.cs.berkeley.edu/~sequin/SCULPTS/sculpts.html> (Shows a wide range of abstract sculptures made from a variety of materials and focuses on the close relationship between math and art.)

<http://42explore.com/sculpture.htm> (Link to a wide variety of sculpture websites for kids.)

For Teachers and Students

<http://www.childrensmuseum.org/artworkshop/sculpture/index.html>

(The Children's Museum of Indianapolis: Sculpture- website that answers questions about what sculpture is and what sculptors do)

<http://artwork.asu.edu/arts/students/line/index.htm>

(ArtsWork - Exercises dealing with line, shape, form, and pattern for kids to experiment with)

<http://www.artsconnected.org/toolkit/index.html>

(The Artist's Toolkit- Interactive website for kids that explores elements of art such as line, shape, form, and color)

<http://www.nga.gov/kids/lizzy/lizzy.htm>

(National Gallery of Art for Kids: Lizzy Visits the Sculpture Garden-interactive story for kids about a visit to a sculpture garden)

<http://www.kid-at-art.com/>

(The Imagination Factory- site for kids that explores recycling and using found materials to create art, architecture, and sculpture)

<http://www.tate.org.uk/learning/kids/city/>

(Tate Kids Imaginary City- Interactive site for kids to build their own cities)

ArtReach Post-Visit Activity: MAKE IT!

3D Sculpture

To extend the ArtReach experience and connect the visit to your curriculum, consider using or adapting this lesson plan suggestion.

From Shape to Form

Discussion

The ArtReach visit gave students the opportunity to learn more about three-dimensional works of art and the idea of relationships that change depending on the arrangements of forms. This activity allows students to create a three-dimensional sculpture using foam core shapes to create a symbolic representations of their family structure into three-dimensional form including expressing how they see themselves fitting into the sculpture.

For younger students, this project could be finished after step #6 so as to avoid working with the foam core and x-acto knives. The tag board sculptures could also be suspended like David Shaner's artwork rather than displayed on table tops.

Materials

- 12" x 18" tag board
- Scissors
- Masking tape
- ¼" foam core sheets ranging from 16" x 20" to 40" x 32"
- Metal straight edge
- X-acto knives
- Straight pins
- Five-minute epoxy
- White gesso

Instructions

1. Have students list qualities about significant family members including themselves.
2. Then have them draw shapes that would best represent each person. Discuss examples of how this might be done, giving students time to think about their own family members. For instance, a gentle person could be represented with curved or flowing shapes; anger could be represented as sharp angular shapes. A structured person could be represented with geometric or repeated shapes. Warm personality traits might be better shown with rounded forms. A controlled or contained person could be represented as a shape within a shape, utilizing negative space.
3. Ask students to use their sketchbooks or scratch paper to draw a series of shapes that best represent each person in their family. Since people are multifaceted, a number of shapes may be needed to give a full symbolic representation. There is one restriction students must observe as they develop their projects and that is to avoid obvious symbolism such as

arrows, hearts, tears, peace signs, or question marks. The symbols the students develop should be their own.

4. Have students use tag board, which is stiff but easy to work with, to create small models (or maquettes). Have students make their small models approximately 8" in size using scissors and masking tape. Remind students to refer to the symbolic shape drawings they made as they create their mini-models. The objective is to construct a combination of shapes for each person and then to place these shapes together to form one flat unit. Each family member or unit will be put together with the others to form the whole sculpture.
5. Ask students to consider the size relationships of each individual until. Ask students to think about the following questions:
 - a. Who is the most significant person in the family?
 - b. Would you represent this person with the largest set of shapes?
 - c. Where are you in relationship to the rest of the family?
 - d. What are your shapes?
6. Allow students time to make adjustments to their mini-models so that the final visual statement shows individual family members together forming a whole family unit.
7. When students finish their small oak tag models, have them create their final sculptures in white foam core. Foam core enables students to construct larger works due to its strength and thickness.
8. Have students cut the foam core using X-acto knives and metal straight edges.
9. Use leftover illustration board and cardboard to protect desktops and tables while cutting. Tell students to connect one shape to another with five-minute epoxy and straight pins.
10. Limit students in their use of color. Because the focus of the project is symbolic representation of family members thought shapes and combining those shapes to make three-dimensional form, finished sculptures will remain white.

Optional Extension: Allow students the option of using one small accent color to highlight a symbolic focal point in the sculpture. Acrylic paint in one significant (symbolic) color could be used.

Discussion or Writing Questions:

- How do you see your family fitting together?
- How do you see yourself in relationship to that structure?
- If you used a color, what is its significance?
- What was the biggest challenge in creating this sculpture?

This lesson can be found in *From Ordinary to Extraordinary: Art & Design Problem Solving*, Ken Vieth, 1999, Davis Publications, Inc.

ArtReach Bibliography

3D Sculpture

Teachers

- *America the Beautiful: A Pop-Up Book* by Robert Sabuda; Little Simon, 2004. : ISBN 0-689-84744-0 (good example of white paper sculptures created from 2-D paper)
- *The Artist's Complete Guide to Facial Expressions* by Gary Faigin; Watson-Guption Publications, 1990. ISBN: 0823016285
- *The Encyclopedia of Sculpting Techniques: A Unique Visual Directory, With Step-By-Step Instructions and a Gallery of Finished Works* by John Plowman; Running Press, September 1995. ISBN: 156138532
- *Encyclopedia of Sculpture Techniques* by John Mills; Batsford, August 2005. ISBN: 0713489308
- *Modern Sculpture: A Concise History (World of Art)* by Herbert Read; Thames & Hudson Inc., February 1985. ISBN: 0500200149
- *Sculpting Basics: Everything You Need to Know to Create Fantastic Three-Dimensional Artworks* by Karin Hessenberg; Barron's Education Series, Inc., September 2005. ISBN: 0764158430
- *Sculpture As Experience: Working With Clay, Wire, Wax, Plaster, and Found Objects* by Judith Peck; Chilton Book Company, April 1989. ISBN: 0801979781

Preschool

- *Alphabet Animals* by Charles Sullivan; Rizzoli, July 15, 1991. ISBN: 0847813770
- *Funny Faces: A Very First Picture Book* by Lorenz Books; Lorenz Books, October 1996. ISBN: 1859671195
- *My Very First Look At Shapes* by Christiane Gunzi; Two-Can, June 2001. ISBN: 158728278x
- *Smile!* By Roberta Grobel Intrater; Cartwheel; Board edition, October 1, 1997. ISBN: 0590058991
- *3-D ABC: A Sculptural Alphabet* by Bob Raczka; Millbrook Press, September 2006. ISBN: 0761394567

Pre-K to 3rd

- *A Day in the Life of a Sculptor* by Liza N. Burby; Power Kids Press, 1st ed., August 1999. ISBN: 082395305x

- *Children, Clay and Sculpture* by Cathy Wisman Topal; Sterling, December 31, 1998. ISBN: 0871921456
- *Make Sculpture!* by Kim Solga; North Light Books, April 1992. ISBN: 0891344209
- *Rushmore* by Lynn Curlee; Scholastic Press, April 1999. ISBN: 0590225731
- *What is Art? Painting and Sculpture* by Nuria Roca; Barron's Educational Series, December 2, 2003. ISBN: 0764127004
- *Who Carved the Mountain?: The Story of Mount Rushmore* by Jean L.S. Patrick and Renee Graef; Mount Rushmore History Association, May 1, 2005. ISBN: 0975261746

4th to 6th

- *The Art of Sculpture* by Scholastic Books; Scholastic Trade, March 1995. ISBN: 0590476416
- *Children Make Sculpture* by Elizabeth Leyh; Van Nostrand Reinhold, 1972. ISBN: 0442047711
- *The Neptune Fountain: The Apprenticeship of a Renaissance Sculptor* by Taylor Morrison; Holiday House, March 1997. ISBN: 0823412938
- *Sculpture: Behind the Scenes* by Andrew Pekarik; Hyperion, September 1992. ISBN: 1562822950
- *Shaping A President: Sculpting For The Roosevelt Memorial* by Kelli Peduzzi; The Millbrook Press, August 1, 1997. ISBN: 0761302077
- *What is a Sculpture?* by Anne Civardi; Sea-To-Sea Publications, July 30, 2005. ISBN: 1932889876

Junior High

- *The History of Western Sculpture: A Young Person's Guide* by Juliet Heslewood; Hienemann Library, November 1995. ISBN: 0817240012
- *Model Buildings & How To Make Them* by Harvey Weiss; Thomas Y. Crowell, May 1979. ISBN: 0690013418
- *Mount Rushmore Story* by Judith St. George; Putnam, July 2, 1985. ISBN: 0399211179
- *The Sculptor's Eye: Looking at Contemporary American Art* by Jan Greenberg and Sandra Jordan; Delacorte Press, September 1, 1993. ISBN: 0385309023
- *The Story of Sculpture: From Prehistory to the Present* by Francesca Romei and Giacinto Gaudenzi; Peter Bedrick, February 9, 2001. ISBN: 0872263169

Young Adult/Adult

- *Character Sculpture in 3-D: A Three-dimensional Look into Creature Design* by Michael Edenfield; Design Studio Press, November 21, 2007. ISBN: 193349221X
- *Facial Expressions: A Visual Reference for Artists* by Mark Simon; Watson-Guptill Publications, June 20, 2005. ISBN: 0823016714
- *The Sculptor's Way: A Guide to Modeling and Sculpture* by Brenda Putnam; Dover Publications, March 3, 2003. ISBN: 0486423131
- *Sculpture* by Mary Jane Opie; Dorling Kindersley, December 1994. ISBN: 156458495x
- *Start Sculpting: A Step-By-Step Beginner's Guide To Working In Three Dimensions* by John Plowman; Book Sales, September 1999. ISBN: 0785803548
- *Teach Yourself Sculpture* by Jane M. Hill; McGraw-Hill, January 11, 1998. ISBN: 08442101758