

Lesson Seven:

The World's Greatest Sculptor

Nature is the world's greatest sculptor. Wind and water have created some of the most beautiful works of art. Rivers, in particular, create shapes on the land that rival any manmade, three-dimensional works. In fact, artists often mimic the patterns of nature when they create sculptures. Think of the famous artist Henry Moore and his beautiful sculptures of the female figure. The forms he uses are as sinuous as a river's meanderings. At the entrance to the Sidney and Walda Bestoff Sculpture Garden at the New Orleans Museum of Art (NOMA) in City Park there is a Henry Moore piece of art that provides a great example of the influence of nature on his work. There are many other examples of the influence of nature on the works of sculptors at this garden. English sculptor, Barbara Hepworth was inspired by nature when she created "River Form," a sculpture that represents water, open space and sky. NOMA's web site (www.noma.org) describes it "as reminiscent of a pebble that has been gently smoothed by the endless motion of flowing water." Another one of the sculptures is an 18-foot high granite fountain by Isamu Noguchi, titled *The Mississippi*.

If you think about it, the Mississippi River is one of the world's greatest artists. It created the entire southern portion of the State of Louisiana. When the river was young, it cut deep into the land creating bluffs in its northern section. As it grew

Setting The Stage



Original photograph by Marian Brister Martinez.
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older and eroded the land, it flattened out and widened; so that at springtime it overflowed its banks spreading its rich sediment to create new land. With the widening, it meandered over the floodplain creating looping shapes along its route to the Gulf of Mexico. To look at the river and its floodplain from the air is to see beautiful shapes carved out of the land. You can also see these shapes on the USGS topographical maps.

Objectives

STUDENTS WILL

- **learn about the life of a river.**
- **learn about erosion and its affects on the landscape.**
- **design a river system that creates a sculpture.**

MATERIALS

- A large, thick sheet of visquine, or shower curtain liner or painter's cloth (plastic)
- Several bricks or blocks to prop up the visquine
- A large plastic tub or small plastic baby pool that can be cut on one side
- Sand—enough to cover a long strip in the middle of the visquine
- Water—enough to create a river and channel in the sand
- If possible, an outdoor area that is covered and that can be hosed off if need be
- A video camera

GETTING READY

1. Get copies of topographic maps of sections of the Mississippi River, preferably, the ones that run along the Barataria-Terrebonne Estuary. Refer to “Resources” for Internet sites with access to printable topographic maps, or call or email BTNEP for a satellite image of the estuary at: www.btnep.org
2. Look at a watershed map of the Mississippi River on the BTNEP website www.btnep.org—click on educators, then resources. Also, see the slide of an active delta.
3. Get a basic Earth Science textbook (a good one is *Focus on Earth Science* by Merrill Publishing) and review the section on rivers.
4. Get a book of famous sculptures and review them. NOMA has a great bookstore. NOMA also has photographs of many of the sculptures in the Sidney and Walda Bestoff Sculpture Garden at: <http://noma.org/sgarden/index.html>
5. You can also explore the “Just 4 Kids” Internet site “Famous Sculptures and Sculptors in History” at <http://www.gibnet.gi/~shms/>
6. Cut a small section into the plastic bin or baby pool to allow the water and sand to collect. Make sure it's wide enough but not too wide that there will be spills. (Alternate: Use stream tables.)

PROCESS

1. Review the life stages of a river (as taught in *Focus on Earth Science* by Merrill Publishing) with students and show them the topographic maps. Look at the maps with the eyes of a scientist as well as the eyes of an artist.
2. Discuss the art of sculpture and show students examples of works that were inspired by nature.
3. Separate the students into small groups and number each group. Each group will take a turn at the activity.
NOTE: If this cannot be done outdoors on a large scale, it can be done individually with small plastic bins or with stream tables.
4. Take the materials to the staging area and start with group one.
5. Have the students position the blocks and/or bricks randomly (all sizes) and lay the visquine on top of them. Where there are no bricks or blocks, let the visquine fall where it may.
6. Make sure the sides of the visquine are folded and bunched up so there is no leakage.
7. Put the end of the visquine into the lip of the plastic bin or baby pool.
8. Have the students pour the sand onto the visquine. Make sure they pour it thick enough to cover the bricks and blocks as well as other parts of the visquine.
9. Using a hose or several buckets of water, have students start at the highest point of elevation on the visquine (should be the end opposite the pool) and begin the deluge.
10. Have one of the other groups videotape the event.
11. Once the water is used up, have the students write a detailed explanation of what happened (Refer to “Questions for Journaling”).
12. In order to reuse the materials, scoop the sand into buckets or the plastic container and let dry over several days. Hang the visquine to dry.
13. When other groups do the exercise, have them think of ways to make different designs.

QUESTIONS FOR JOURNALING

1. Which group had the best design? Why?
2. What kind of shapes were created and at what points along the flow?
3. Did any of the shapes resemble a recognizable object? Does art have to represent actual objects?
4. What happened in the portions of the visquine that were not raised by the bricks?
5. Can you make any comparisons between the landscape on the visquine and the real land on earth?
6. Does art have to be permanent to be art? Was your design “art?” (See the work of Nature artist Andy Goldsworthy in video or book. Google Andy Goldsworthy to see photographs and video clips of his work, e.g., <http://www.sheepfolds.org/html/info/info00.htm>).

ASSESSMENT

- Assess students’ interest by their level of participation.
- Assess their understanding of the principles of river life stages by their ability to recreate a river. Did they place blocks in positions that would allow flow “downstream” to the baby pool? For a more formal assessment, create a “Science—Building a Structure” rubric with criteria such as scientific knowledge, information gathering, planning, construction, and journal writing on <http://rubistar.4teachers.org>.
- Using their journal entries assess what they learned about the art form and their ability to compare this to the real landscape.

EXTENSIONS

- Have the students use different colored dyes in the water to add color.
- Take a field trip with the class to the sculpture garden at City Park in New Orleans, LA.
- Have the students do individual versions of the lesson using small containers with real rocks, pieces of wood, etc.
- Have students dredge “canals” or channels through the sand after pouring the water to see where it diverts. Ask them how this relates to the channels dredged in the Louisiana marsh.

- Add salt to the pool at the bottom, dig channels in the sand, and measure salinity at various points. Talk about salt water intrusion in the estuary.

RESOURCES

American Rivers

This nonprofit organization works to protect and educate about America's Rivers, and offers lots of good information on the basics of rivers and examples from around the country.

www.amrivers.org

Topozone

From this Web site, you can easily access printable topographic maps by searching a place name.

<http://www.topozone.com>

US Army Corps of Engineers

This site offers extensive information on the Mississippi River.

www.usace.army.mil

US Geological Survey

The US Geological Survey's website allows you to obtain a variety of topographic and aerial images.

nmviewogc.cr.usgs.gov/viewer.htm

Louisiana State University Atlas

This Louisiana State University site can be used to download topographic maps and digital ortho quarter quads (DOQQs). Go to "Download Data" and choose from DOQQ or scanned topographic (DRG) images of your area of interest. DOQQs are very good quality aerial photographs. With the right software (MrSID, which may be downloaded from this site) you can zoom in on your area and get great detail and good resolution. You will also need to search for your area using the name of the USGS quadrangle. These names are found on the index of quad sheets from the USGS.

<http://www.atlas.lsu.edu>

The National Museum of Wildlife Art presents a teacher's guide *Mountains & More: Learning about Landforms Through Landscape Painting*

<http://www.wildlifeart.org/Education/Landforms/Landforms.cfm>

The article "**Earth View, Art View**" by Lydia Dambekalns (Originally printed in *The Science Teacher*, January 2005, p. 43-47) focuses on using the medium of batik to record observations of specific satellite images of the earth. This is a members only page.

http://www.nsta.org/main/news/stories/science_teacher.php?news_story_ID=50082

A Studio in the Woods

Take a field trip to this education center along the Mississippi River.

www.astudiointhewoods.org

