

## PRE-TOUR PACKET & CURRICULUM GUIDE

### *Art and Environment*



Philip Govedare, *Excavation #3*, 2009, Oil on canvas, Courtesy of the artist and Francine Seders Gallery, Seattle, Washington

**This tour focuses on** artwork created by Northwest artists in response to regional environmental issues. Students will investigate ways in which each artist addresses geographic and scientific topics through their choices of subject or uses of recycled or reused materials. In the studios, students will create their own works of art related to the environment.

**Connects to:**

- Science
- Social studies
- History
- Environmental topics
- Geography

#### **BAM's SCHOOL TOUR PROGRAM GOALS**

- Students will actively participate in the experience discussing the artwork using art vocabulary and making meaningful, personal connections. Discussions will be associated with the information in the pre-tour packet.
- Students will experience a studio activity that reinforces the concepts and/or techniques discussed/viewed in the galleries resulting in a tangible, personally meaningful understanding of the artwork.
- Students will leave the museum knowing that it is a fun, enjoyable place to learn. The Docents will help students understand that they do not need an art authority to tell them how to enjoy and what to appreciate about art.

*The Boise Art Museum's education philosophy encourages the examination and discussion of the visual arts through a holistic approach to art education. Programs support the development of critical thinking skills, visual analysis, exploration and understanding of art techniques as well as the investigation of cultural contexts, art as a form of communication, and multidisciplinary connections. In its touring program, BAM uses arts-based, student-centered, guided-discovery techniques and inquiry strategies that encourage teaching directly from the object and encompass aspects of many education philosophies.*

# TOUR CHECKLIST FOR TEACHERS

## *Art and Environment*

### BEFORE YOUR TOUR

#### WITH YOUR STUDENTS:

- DO THE PRE-VISIT ART TALK and review the VOCABULARY words with your students
- SHARE THE MUSEUM MANNERS with your students.
- MAKE LARGE NAMETAGS for students with their first names only.

#### WITH YOUR CHAPERONS:

- DESIGNATE YOUR ADULT CHAPERONS. A maximum of **four chaperons are admitted with the group for free**. Chaperons have specific responsibilities and are admitted with the students free of charge. Additional adults pay regular admission and are considered regular visitors in the Museum.
- ASK CHAPERONS not to bring infants, younger children, or other siblings.
- REVIEW THE CHAPERON GUIDELINES with your designated chaperons.
- PRINT THE CHAPERON PASSES and HAVE YOUR PAYMENT PREPARED for any additional adults. Checks can be made payable to the Boise Art Museum or BAM. We are unable to make change, so please have the exact amount prepared if you are paying with cash. (Often teachers split the admission among all adults to cover the cost. Schools or individuals may pay for the additional adults.) **General admission is \$5; admission for seniors (62+) and full-time college students is \$3.**
- PREVIEW THE EXHIBITION with the *Free Teacher Preview Pass* included with your confirmation letter.

**A NOTE TO HELP WITH CHAPERON SELECTION:** All students will receive *Free Return Tickets* at the end of the visit. These tickets allow the student and two guests, to return and visit the Museum for free at a later date. Parents who indicate that they would like to be chaperons after you have designated the maximum limit of four (4) should be encouraged to return with their student at a later date using the *Free Return Ticket*.

### WHEN YOU ARRIVE

- ARRIVE AT THE REAR EDUCATION ENTRANCE facing Julia Davis Park and the Rose Garden. Do not enter through the front of the museum. Arrive no more than 5 minutes before your scheduled time, as your docents can only let you into the Museum at your indicated tour time. Do not ring the delivery buzzer.
- DIVIDE YOUR CLASS INTO TWO GROUPS (of approximately 15 students) for their tour.
- IDENTIFY YOUR CHAPERONS for the docent and MAKE THE PAYMENT for additional adults
- LEAVE LARGE FIRST AID KITS AND BAGS at the Education Entrance. First aid kits and bags must be smaller than 11" X 15" and must be worn on the front of your body. BAM has multiple first aid kits on site.
- REMEMBER: The Museum has no indoor or outdoor lunch facilities. Tour groups may bring their lunches and enjoy Julia Davis Park or visit the restaurants at BODO or nearby Boise State University.

### AFTER YOUR TOUR

- FILL OUT THE EVALUATION CARD that you receive from your tour guides. Your constructive criticism helps us continue to tailor our programs to suit your needs.
- DO THE MAKE IT! ACTIVITY or use related ideas listed in CURRICULAR CONNECTIONS to connect the tour to your classroom curricula.

# INFORMATION FOR STUDENTS AND CHAPERONS

## Art and Environment

---

### MUSEUM MANNERS FOR STUDENTS

*Please share and discuss these MUSEUM MANNERS with your students.*

*Remembering to follow these manners on your tour at the Boise Art Museum will help keep the artwork safe and make sure everyone has a good experience on the tour.*

- **Empty your mouths.** Food, drink, and gum are not allowed in the museum galleries.
  - **Stay at least 12” away** from the artwork and the walls.
  - **Keep your voices down** while discussing the artwork.
  - **Sit on the floor** during group discussions so everyone can see.
  - **Use indoor behavior**, running and jumping should be left for outdoors.
  - **Leave pens, markers, and other writing/art materials at school**, in your backpack or on the bus.
  - **Pay attention and be a tour guide later.** At the end of the tour, your docent will give your teacher *Free Return Tickets* for each student. These tickets allow you and two guests to return and visit the Museum for free. When you return, you can take your guests on a tour using what you learned.
  - **Have fun** and enjoy your visit to the Boise Art Museum.
- 

### CHAPERON GUIDELINES

*Please share and discuss this information with your chaperons.*

*Agreeing to be a chaperon for the Boise Art Museum’s School Tour Program means that you understand the following policies and agree to participate when asked by the docent.*

- **Chaperons should not bring infants, younger children, or siblings** with them on the tour.
- Keep students with the group and encouraging students to **stay at least 12” away from the artwork and walls**.
- Make sure students **sit (not lay) on the floor, keep their hands and feet to themselves** and stay at least 12” away from the walls and artwork.
- Help students to **pay attention and participate** by staying engaged with the group and the tour.
- **Encourage student participation.** If you feel you have a relevant response to the docent’s questions, please share, but allow your comment to complement the students’ ideas.
- The docent may call on you to **help during the studio project.** Pay attention to the instructions and help all students with the process.
- **Additional adults pay regular admission** and are considered independent visitors apart from the school tour. Additional adults are not required to participate in chaperon responsibilities.
- **Cameras, large purses, backpacks, coats and umbrellas should be left on the bus** or stored by the back exit until the end of the visit.
- **Turn your cell phones off.** The use of cell phones is not permitted in the Museum galleries.

# CHAPERON PASSES

BAM offers FREE admission to four (4) adult chaperons with every pre-scheduled tour group. Additional adults must pay regular admission and are considered independent visitors to the Museum. **PLEASE PRINT THIS PAGE BEFORE ARRIVING AT BAM FOR YOUR TOUR.** Designate your four chaperons and have your payment prepared. When you arrive at BAM, please identify your four designated chaperons for the docents. **Docents will ask for and collect the Chaperon Passes.** Chaperons must agree to help supervise groups, follow the Museum Manners, and participate in the tour activities when asked.

## TOUR CHAPERON 1 \_\_\_\_\_ (TEACHER)

The Boise Art Museum's School Tour Program provides FREE admission to 4 adult chaperons with every group of students. Accepting the responsibilities of being a tour chaperon means that you understand and agree to do the following:

- Accompany their groups at all times while they are touring the Museum.
- Help the docent keep students with the group and at least 12" away from the artwork and walls.
- Assist the students and continue to supervise while in the studios.

*Please do not bring infants, siblings or younger children with you as this diverts your attention from the group.*

**THANK YOU** for helping make BAM's School Tour Program safe and enjoyable for everyone.

*This chaperon pass is only valid during a pre-scheduled school tour. Duplicates are not accepted.* BAM | BOISE ART MUSEUM

## TOUR CHAPERON 2 \_\_\_\_\_ (NAME)

The Boise Art Museum's School Tour Program provides FREE admission to 4 adult chaperons with every group of students. Accepting the responsibilities of being a tour chaperon means that you understand and agree to do the following:

- Accompany their groups at all times while they are touring the Museum.
- Help the docent keep students with the group and at least 12" away from the artwork and walls.
- Assist the students and continue to supervise while in the studios.

*Please do not bring infants, siblings or younger children with you as this diverts your attention from the group.*

**THANK YOU** for helping make BAM's School Tour Program safe and enjoyable for everyone.

*This chaperon pass is only valid during a pre-scheduled school tour. Duplicates are not accepted.* BAM | BOISE ART MUSEUM

## TOUR CHAPERON 3 \_\_\_\_\_ (NAME)

The Boise Art Museum's School Tour Program provides FREE admission to 4 adult chaperons with every group of students. Accepting the responsibilities of being a tour chaperon means that you understand and agree to do the following:

- Accompany their groups at all times while they are touring the Museum.
- Help the docent keep students with the group and at least 12" away from the artwork and walls.
- Assist the students and continue to supervise while in the studios.

*Please do not bring infants, siblings or younger children with you as this diverts your attention from the group.*

**THANK YOU** for helping make BAM's School Tour Program safe and enjoyable for everyone.

*This chaperon pass is only valid during a pre-scheduled school tour. Duplicates are not accepted.* BAM | BOISE ART MUSEUM

## TOUR CHAPERON 4 \_\_\_\_\_ (NAME)

The Boise Art Museum's School Tour Program provides FREE admission to 4 adult chaperons with every group of students. Accepting the responsibilities of being a tour chaperon means that you understand and agree to do the following:

- Accompany their groups at all times while they are touring the Museum.
- Help the docent keep students with the group and at least 12" away from the artwork and walls.
- Assist the students and continue to supervise while in the studios.

*Please do not bring infants, siblings or younger children with you as this diverts your attention from the group.*

**THANK YOU** for helping make BAM's School Tour Program safe and enjoyable for everyone.

*This chaperon pass is only valid during a pre-scheduled school tour. Duplicates are not accepted.* BAM | BOISE ART MUSEUM

# VOCABULARY

## *Art and Environment*

- Biodiversity:** The existence of a wide variety of plant and animal species in species in an environment.
- Climate:** The typical weather conditions of a region; temperature, air pressure, humidity, precipitation, sunshine, cloudiness, and winds.
- Environment:** Surrounding things, conditions or influences; the air, water, minerals, organisms, and all other external factors surrounding and affecting a given organism at any time.
- Preservation:** To maintain and reserve for continued survival; to protect and keep safe from harm or injury.
- Medium:** A specific kind of artistic technique or means of expression as determined by the materials used or the creative methods involved: *the medium of lithography*. The materials used in a specific artistic technique: *oils as a medium*.
- Media:** The plural of medium.

# PRE-VISIT ACTIVITY: ART TALK

## *Art and Environment*

*Please view the two reproductions (Pre-Tour Images) 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 revisit and discuss the original works at BAM. 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 once they arrive at the Museum. The students are excited to find “their” works of art while they are at BAM. They enjoy sharing their insights from the classroom discussion with the docent and making valuable comparisons between the textbook-like reproductions and the original works of art.*

---

In this school tour, students will focus on the ways in which a group of Northwest artists discuss specific environmental issues through works of art. Students will investigate subjects such as climate change, production/consumption and transportation. Students will explore how the artwork relates to our environment and talk about changes in the environment that are naturally occurring or are resulting from the impact of people. After exploring artwork in the exhibition, students will create their own works of art by transforming painted shapes into landforms or patterns found in nature.

Adam Sorenson

***Banks I***, 2009

Oil on linen

Courtesy of James Harris Gallery, Seattle

- What colors do you notice in this work of art? What shapes?
- What kind of a place do you think this is?
- What color is the river? Why do you think the artist chose to make the river this color?
- Which parts of the painting look the way you see nature?
- Which parts look different from the way you see nature? Why?
- Have you ever been to a place like this? If so, where was it?
- Which part of the artwork looks the most realistic? Which part looks the least realistic?

Cynthia Camlin

***Melted #10***, from the Extremities series, 2008

Watercolor, ink, and acrylic on paper

Courtesy of the artist, Bellingham, Washington

- How would you describe the shapes in this work of art?
- What do you think they resemble?

The artist creates the artwork by painting a shape with watercolor. Once it is dry, she paints and draws on top of the shape to transform it into a form we can recognize, such as an iceberg.

- Have you ever seen a glacier or iceberg? If so, where?
- Can you tell which parts of these icebergs are underwater?
- What clues tell you that?

***The two images may also be accessed through our website, [www.boiseartmuseum.org](http://www.boiseartmuseum.org) under Education – Teacher Resources – Pre-Tour Teaching Packets – ART AND ENVIRONMENT***

# PRE-VISIT IMAGE

## *Art and Environment*



Adam Sorenson

***Banks I***, 2009

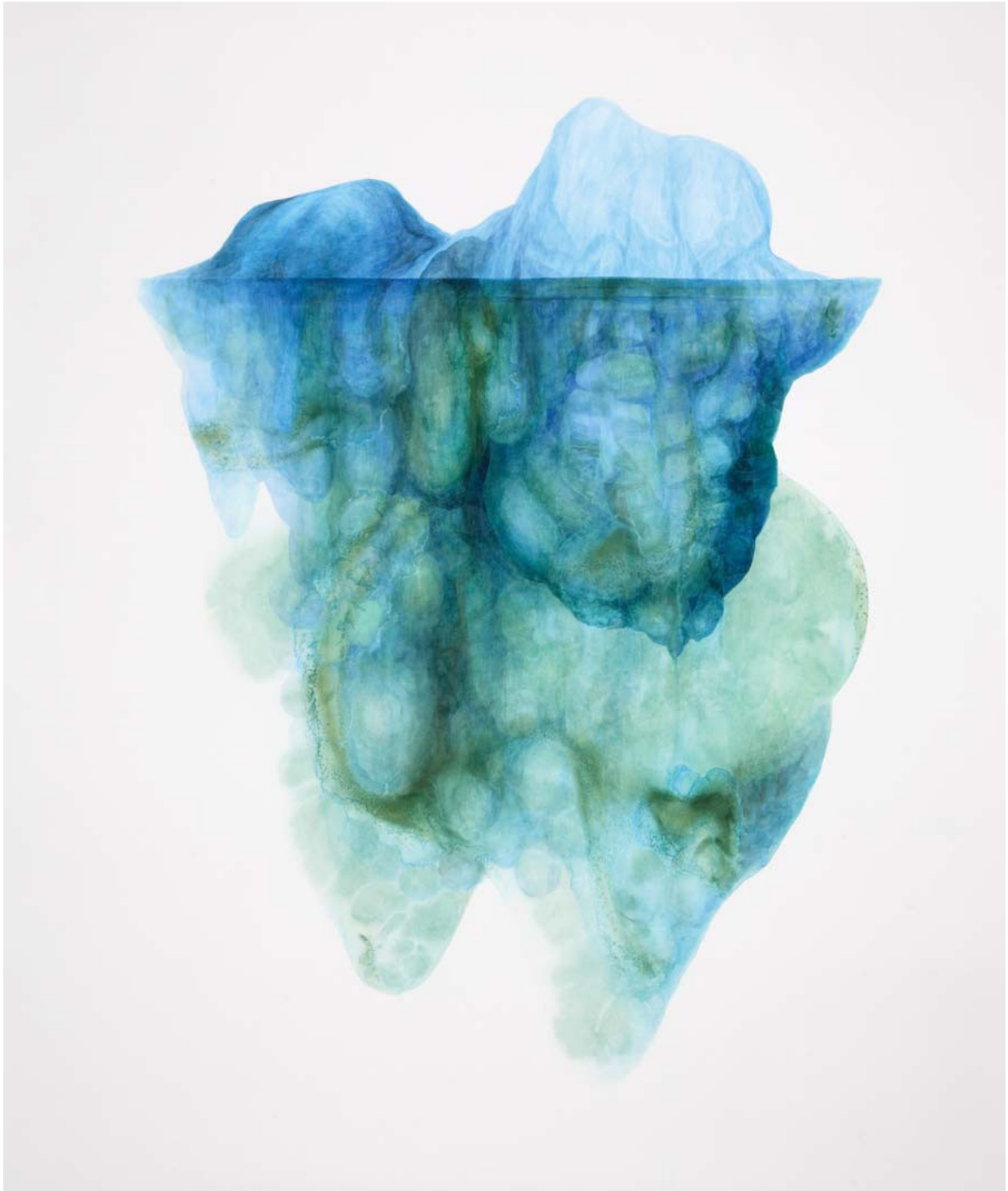
Oil on linen

Courtesy of James Harris Gallery, Seattle

*The two images may also be accessed through our website, [www.boiseartmuseum.org](http://www.boiseartmuseum.org) under Education – Teacher Resources – Pre-Tour Teaching Packets – ART AND ENVIRONMENT*

# PRE-VISIT IMAGE

## *Art and Environment*



Cynthia Camlin

***Melted #10***, from the Extremities series, 2008

Watercolor, ink, and acrylic on paper

Courtesy of the artist, Bellingham, Washington

***The two images may also be accessed through our website, [www.boiseartmuseum.org](http://www.boiseartmuseum.org) under Education – Teacher Resources – Pre-Tour Teaching Packets – ART AND ENVIRONMENT***

# CURRICULUM CONNECTIONS

## *Constructing Curriculum with Art and Environment*

### Social Studies, History, Geography

- Have students make a geographical timeline. The timeline can include notable glacial movements, tectonic plate shifts and volcanic eruptions.
- Discuss the meanings of terms such as “smart growth” and “new urbanism.” Have students use major cities such as New York, Tokyo, and Paris as models and compare them to their community. Students can research changes in city growth and development. They can also present new ideas that architects and city planners have for future development.
- Have students learn about the restoration or revitalization of an area or town in Idaho. For example, Indian Creek in Caldwell, Idaho was recently restored as a natural habitat to help revitalize the downtown area. Students can choose an area or town in Idaho that has undergone a similar process and find historical photographs that show the place as it looked before, and then provide more recent photographs that show how the area looks now.
- Make a list of different kinds of mass-transportation in the United States. Ask students to look for unique details about 19th century trains, trolley cars, busses, cars, and subways, as well as how each system has affected the environment. Students can consider the following questions: What is the most commonly used form of transportation today? What type of transportation do students and people in the community commonly use? How does this compare with transportation of the 19th century?

### Reading and Writing

- Have students write a poem using words such as “recycle,” “climate,” “consumption,” and other terms related to the environment. Students can choose to write any form of poem, such as haiku, free verse or sonnet.
- Have students write a short fictional story about an environmental statistic. The story can include a prediction of what might happen with a particular phenomenon in the next fifty years.
- Have students research an environmental issue and write about their findings. Have students extend their written research with an oral report or a visual presentation made with recycled materials.
- Ask students to research waste management and write a nonfiction news article using their findings. As a class, create a newsletter that contains the articles students created.
- Read a story with an environmental message, such as *The Lorax* by Dr. Seuss. Discuss the message and compare and contrast it to environmental issues from current events.
- Watch popular movies such as “The Day After Tomorrow,” “Wall-E,” or “FernGully: The Last Rainforest” as a class and discuss the environmental issues they address and whether their interpretation of the topic or consequence of an environmental phenomenon are realistic or not. Ask students to consider whether the events in the movies are happening now or if they could happen in the future and write an essay response that addresses these questions.
- Have students write a descriptive story about a habitat or environment. Ask them to write about a particular habitat or environment by describing the climate, vegetation, plants and wildlife.

### Math

- Have students predict future statistics about consumption of products or transportation use based on current facts. For example, have students predict the number of cars per person in ten years based on facts they find about vehicle ownership 5 years ago and 10 years ago.
- Ask students to calculate the price of public transit versus the price of personal transportation over a six month period. How much money do you spend traveling on the subway for six months opposed to driving a car for six months? Consider variables such as the price of gas. After

# CURRICULUM CONNECTIONS

## *Art and Environment*

students have collected the data, they can make a bar chart that displays this information. For data regarding national transportation, visit the following website: [http://www.bts.gov/publications/national\\_transportation\\_statistics/#chapter\\_4](http://www.bts.gov/publications/national_transportation_statistics/#chapter_4)

- Discuss the economical aspects of waste management. Discuss the most and least economical ways to dispose of waste. Have students create a line graph of both of these means of disposal to make a prediction of the prices for the next ten years.
- Have students choose an urban area in the Northwest region and compare their systems of public transportation to those in their own community. Map out the public transportation in each area. Make a pie chart of the amounts of transportation in the areas. Discuss how long it might take, on average, to get from one end of the city to the other depending on the type of transportation system being used.

## **Science and Physics**

- Discuss the possible effects of climate change in the Northwest as a class. Students can address the following questions: How would a change in our climate affect the biodiversity of our region, including wildlife and plant life? How would a change in our climate affect people living in our region?
- Have students compare and contrast different sources of energy. Examples can include wind, solar, nuclear, geothermal, hydrogen, fossil fuels and other sources of energy. Ask students to explain how different sources of energy work or are produced. Discuss the pros and cons of using each type of energy. As a class, track your schools energy using this interactive website: <http://environment.nationalgeographic.com/environment/energy/great-energy-challenge/personal-energy-meter/>.
- Discuss the meaning of the word “ecosystem”. To gain a better understanding of an ecosystem, students can build a terrarium in the classroom. For instructions on how to build a terrarium, visit this website: <http://www.terrariums.com/terrariumaccessories/doityourself.cfm>
- Have students keep track of how much water they use in a weeklong period of time. Students can track their usage by counting the number of times they wash their hands in a day or the amount of time they leave the water on when then brush their teeth or take a shower. Visit the following website calculate water usage from the information students gather: [http://www.tampagov.net/dept\\_water/information\\_resources/Saving\\_water/Water\\_use\\_calculator.asp](http://www.tampagov.net/dept_water/information_resources/Saving_water/Water_use_calculator.asp)
- Discuss recycling with your class. Have students make a list of materials that can be recycled and those that cannot be recycled. Start a recycling program in your school if you don't have one already. Find the nearest recycling center to get more information such as where the recycled materials go after you drop them off at the recycling center. For more ideas, visit the Environmental Protection Agency's website: <http://www.epa.gov/recyclecity/>

## **Technology**

- Ask students to list new technology such as computers, cell phones and iPods that have been developed for purposes of entertainment or convenience. Students can consider the effect this has had on the environment and respond to the following questions: Is there more waste now than there was in the 1900s or 1800s? Why or why not?
- Have students discuss wind energy and create a model of a wind farm that illustrates the methods used to produce energy from wind on a smaller scale. Finished models can be displayed in the classroom with an explanation of how technology is used to harness energy from the wind.
- Take a class fieldtrip to visit a wastewater facility or waste disposal site. Have students prepare questions to ask or research about how new technology is used in these processes while they are on the visit.

# CURRICULUM CONNECTIONS

## *Art and Environment*

### Arts

- Divide students into groups and have them perform skits about environmental topics.
- Have students make handmade paper by recycling old newspaper and other paper sources. For step-by-step instructions and materials, visit the following website: [http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Environmental\\_Education/ENV0020.html](http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Environmental_Education/ENV0020.html)
- Have students record sounds they hear in their environment that are both natural and manmade such as water running in a river, tree leaves rustling in the wind, cars passing on a busy street, people talking or birds chirping. Students can use the digital recordings to create a song or other musical piece that reflects their environment.
- Have students create musical instruments by reusing objects or recyclable materials. For example, students can use metal container lids to create finger cymbals, or cardboard tubes to build maracas and kazoos.

# WEBSITES

## *Art and Environment*

### *For Teachers*

<http://www.epa.gov/climatechange/> - the Environmental Protection Agency website.

<http://www.state.gov/g/oes/climate/> - the U.S. Department of State climate change website.

<http://pdxcontemporaryart.com/> - The PDX Contemporary Art gallery's website, featuring several artists who focus on environmental issues and themes.

<http://www.ecokids.ca/pub/index.cfm> - The Canadian Earth Day website, with a section for teachers including lesson plans, and a section for kids with a variety of games related to helping the environment.

<http://amnh.org/ology/?channel=biodiversity#> - The American Museum of Natural History interactive website with information about biodiversity and environmental preservation.

<http://bee.cityofboise.org/WaterShed/Home/index.aspx>- Website for the Boise WaterShed that includes resources for teachers.

<http://bee.cityofboise.org/EnvironmentalEducation/index.aspx> - Boise Environmental Education website that offers lesson plans, resources for teachers and links to organizations that offer environmental education in the city of Boise.

### *For Teachers and Kids*

<http://www.epa.gov/climatechange/kids/> - The Environmental Protection Agency's website for kids that includes interactive games and climate information.

<http://www.epa.gov/oecaagct/lkids.html> - A section of the Environmental Protection Agency's website for kids that includes links to other environmental websites and activities.

<http://www.nrdc.org/greensquad/default.htm> - The Natural Resource Defense Council's website for children. This site includes information about environmentally friendly practices, such as finding alternatives to chemical pesticides, as well as interactive activities.

[http://www.kidinfo.com/science/our\\_environment.html](http://www.kidinfo.com/science/our_environment.html) - A database of resources and references for teachers and children to use when researching the environment and related issues.

<http://www.dnr.state.wi.us/org/caer/ce/eek/index.htm> - An online magazine for children with activities and short articles about animals, plants, and the environment. Also includes lesson plan ideas and art projects.

<http://meetthegreens.org> – An interactive website with a carbon calculator and games that illustrate various ways to help the environment.

# MAKE-IT ACTIVITY

## *Art and Environment*

*To extend the museum experience  
and connect the tour to your curriculum,  
consider using or adapting this lesson plan suggestion*

### **Reuse or Recycle: Building a Sculpture with Found Materials**

#### **Introduction**

In this post-visit activity, students will create a sculpture by reusing materials that cannot be recycled.

#### **Materials**

- Recyclable materials (can include any of the following)
  - ◇ Plastic: bottles, bags, store-bought food containers and bags, milk jugs, vinyl records, cassette tapes, PVC, wire jacketing, carpet, straws, bottle caps, plastic plates, cups and silverware, carry-out containers, CD cases, sunglasses, to-go cup lids, old CDs and DVDs, nylon, plastic cards, packaging peanuts, bubble-wrap, foam, clean candy wrappers, and plastic rings from soda cans
  - ◇ Metal: aluminum foil, soda cans, wire, and canned vegetable containers
  - ◇ Paper: newspaper, construction paper, magazines, cardboard, white and colored printer paper, envelopes, uncoated paper cups and plates, unused paper napkins, paper take-out containers, to-go cup sleeves, phone books, brochures and pamphlets
  - ◇ Small pieces of wood such as toothpicks and popsicle sticks
- Tape
- Glue
- Wire
- Staplers
- Scissors

#### **Instructions**

- As a class, discuss the meaning the terms “reuse” and “recycle”. Make a list of items that can be recycled. Collect recyclable materials for student artwork. Students can also bring in recyclable materials from home prior to doing this project. Students can work individually or in small groups.
- To begin, give each student or group a piece of scratch paper. Have students design and sketch their sculpture. Remind students to keep in mind the shapes of the recyclable materials they wish to use.
- Once students have planned their project, have them choose a base for their artwork. They may choose a piece of cardboard, wood or heavy paper to hold the recycled objects.
- Explain to students that they can use tape, glue, wire or staples to attach their materials to the paper or to construct a sculpture. Encourage students to change the items by cutting them or taking them apart.
- Allow the artwork to dry completely. Students can share their artwork as a class and discuss the different materials used and why they chose the particular materials.

# MAKE-IT ACTIVITY: EXTENSIONS

## *Art and Environment*

### Project Applications and Extensions

#### ***Social Studies, History, Geography***

- Ask students to research the history of their recycled materials. For example, students can address when this material was first developed and what group or person pioneered its use, when it became widely used, how was it made then and how is it made now.
- Have students explore materials used in modern architecture in cities around the world. Students can find an example of a building or structure that is made from one of the materials they used in their sculpture and research how the material is useful as an architectural material.

#### ***Reading and Writing***

- Have students write a brochure or newsletter that highlights one of the materials they used to make their artwork. Students can explain the other ways in which the material they selected can be reused, include images of their artwork and the material they used in the brochure or newsletter.
- Have students write a research paper that compares and contrasts two types of materials. Have students provide research that supports their statements and addresses the following questions: Which material is more functional? Which production method is more efficient? Which material is more cost effective?

#### ***Math***

- Ask students to find statistics about the rate of recycling for their material. Using this information, students can make a line or bar graph that tracks usage over the span of several decades or years. Students can compare their graphs showing the rate of recycling for different materials.
- Students can determine whether their works of art contain organic shapes, geometric shapes, or both. Then, have students calculate the approximate volume of their sculpture.

#### ***Science and Physics***

- Students can investigate what happens to their material once it has been recycled by consumers. Discuss the process of melting down plastics and metal. What effects do these processes have on the environment, if any?
- Factories that produce materials such as plastic and metal need energy to function. Have your students calculate the amount of energy used to create and recycle their materials. Based on the students' findings, discuss which materials are the most energy efficient.

#### ***Technology***

- After students have chosen their material, ask them to make a list of modern technological devices such as computers, iPods, cell phones, and DVD players that are made from similar materials. Are these materials that can be recycled? How are these products disposed of?
- Have students make a chart that shows the progression of their material through the stages of recycling. The chart can show the object's progress from the factory where it is produced to the

#### ***Arts***

- Have students research artists who have used recycled materials in their artwork. Students can present information and talk about that artist. Why did the artist choose those particular materials? Have students include images of the artists' work in their presentation.

# BIBLIOGRAPHY

## *Art and Environment*

### Teachers

Anderson, Paul, Trish Colley and Jan Llewelyn. *Design and Technology: Sustainable Design*. Folens Publishers UK, 2009.

Bird, Helen and David Orme. *Recycled Materials of the World*. Collins Educational, 2002.

Bowden, Rob. *21<sup>st</sup> Century Debates: Transportation*. Hodder Wayland, 2004.

Correll, Timothy Corrigan and Patrick Arthur Polk. *The Cast-Off Recast: Recycling and the Creative Transformation of Mass-Produced Objects*. University of California Los Angeles, Fowler, 1999.

Herman, Lloyd E. *Trashformations: Recycled Materials in Contemporary Art and Design*. Whatcom Museum of History, 1998.

Martineau, Susan. *Astonishing Art with Recycled Rubbish*. B Small Publishing Limited, 2001.

### Preschool

Guillian, Charlotte. *Help the Environment: Saving Water*. Heinemann Educational Books, 2008.

Mentzer, Danielle. *The Greenzys*. Zeuz Media Publishing, 2010.

Roca, Nuria. *The Three R's: Reuse, Reduce, Recycle*. Barron's Educational Series, 2007.

### Pre-K to 3<sup>rd</sup>

Chapman, Gillian. *Making Art with Paper*. PowerKids Press, 2007.

Chapman, Gillian. *Art from Paper: With Projects Using Waste Paper and Printed Materials*. Thomson Learning, 1995.

Collard III, Sneed B. *Many Biomes, One Earth*. Charlesbridge Publishing, 2008.

Kohl, MaryAnn F. and Gainer, Cindy. *Good Earth Art: Environmental Art for Kids*. Bright Ring Publishing, 1991.

Seuss, Dr. *The Lorax*. Random House For Young Readers, 1971.

Walker, Kate. *Plastic Bottles and Bags*. Benchmark Books, 2010.

Webb, Barbara. *Recycling Earth's Resources*. Rourke Publishing, 2010.

### 4<sup>th</sup> to 6<sup>th</sup>

Bradman, Tony. *Under the Weather: Stories About Climate Change*. Frances Lincoln Children's Books, 2010.

Chapman, Gillian. *Making Art with Packaging*. PowerKids Press, 2007.

# BIBLIOGRAPHY

## *Art and Environment*

Kaye M.A., Cathryn Berger. ***A Kids' Guide to Climate Change & Global Warming: How To Take Action!*** Free Spirit Publishing, 2009.

Vita-Finzi, Claudio and Phil Jacobs. ***The Power Pop-Up Book: Our Planet's Energy Resources: Production, Consumption, Conservation and Innovation.*** Simon and Schuster, 1991.

Wagner, Angela. ***Ecosystems (Ecology & the Environment).*** Classroom Complete Press, 2007.

### Junior High

Cerny, Charlene. ***Recycled, Re-Seen: Folk Art from the Global Scrap Heap.*** Harry N. Abrams, 1996.

Minden, Cecilia. ***Reduce, Reuse, and Recycle.*** Cherry Lake Publishing, 2010.

Stringer, John. ***Machines, Transportation & Arty Activites.*** Crabtree Publishing Compant, 2002.

### Young Adult/Adult

Flannery, Tim. ***We Are The Weather Makers: The History of Climate Change.*** Candlewick, 2010.

Fominaya, Alvaro Rodriguez. ***Weather Report: Climate Change and Visual Arts.*** Centro Atlantico de Arte Moderno; Bilingual edition, 2008.

Johnson, Garth. ***1000 Ideas for Creative Reuse: Remake, Restyle, Recycle, Renew.*** Quarry Books, 2009.

Knechtel, John. ***Fuel.*** The MIT Press, 2008.