

## Grades K – 2

### Art

#### The Huntington Library, Art Collections, and Botanical Gardens

### Landscape Collage

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Time: 1 hour

Grades K-2

#### California VAPA Standards

##### Visual Arts

###### Grade K

Artistic Perception 1.1 Recognize and describe simple patterns found in the environment and works of art.

Creative Expression 2.3 Make a collage with cut or torn paper shapes/forms.

Aesthetic Valuing 4.1 Discuss their own works of art, using appropriate art vocabulary (e.g., color, shape/form, texture).

###### Grade 1

Artistic Perception 1.3 Identify the elements of art in objects in nature, in the environment, and in works of art, emphasizing line, color, shape/form, and texture.

Creative Expression 2.7 Use visual and actual texture in original works of art.

Aesthetic Valuing 4.3 Describe how and why they made a selected work of art, focusing on the media and technique.

###### Grade 2

Artistic Perception 1.3 Identify the elements of art in objects in nature, the environment, and works of art, emphasizing line, color, shape/form, texture, and space.

Creative Expression 2.1 Demonstrate beginning skill in the use of basic tools and art-making processes, such as printing, crayon rubbings, collage, and stencils.

Aesthetic Valuing 4.4 Use appropriate vocabulary of art to describe the successful use of an element of art in a work of art.

#### Indicators of Achievement

- Student understands the style of painting called landscape.
- Student identifies what a collage is.
- Student creates a landscape collage.

#### Materials

Scissors, glue, natural materials (dried leaves, flower petals, bark) 12 x 18 construction paper in several colors, magazines, adhesive foam for younger students (Lakeshore)

#### Vocabulary

collage, landscape, composition

#### Preparation/Background

Introduce students to landscape painting: a picture of the out-of-doors focused on the scenery, and not people, animals or structures. Show students examples of landscape painting in books and on posters, pointing out the natural setting, and having them identify various elements such as foreground, background and middle ground.

#### Activity

1. Read and examine a book together in which illustrators (Eric Carle, Lois Ehlert, etc.) use collage to illustrate the text.
2. Demonstrate cutting and tearing of collage paper to make a composition. Ask students to make suggestions for placement of the pieces. Move them about to try different compositions.
3. Add some of the natural materials to the composition. Have students help you make some decisions about placement.
4. Brainstorm a list of subjects students might use in their own landscape collages.
5. Give each student a 12 x 18 sheet of white construction paper. Ask them to use the paper and other materials to lay out their landscapes. Encourage students to combine multiple materials.
6. Ask them to glue the materials down when they are satisfied with the composition.

### **Assessment**

Evaluate the student's execution of the collage. Was the student able to describe and create a landscape? Did student exhibit skills and craftsmanship in creating the collage?

### **Extensions**

Create other styles of art using collage.

Create a self-portrait using collage.

Have students create a landscape mural on butcher paper for a wall in the classroom or in the school.

### **Contact and Field Trip Information**

Michael Fritzen, 626-405-2128

Field Trips, 626-405-2127

[www.huntington.org](http://www.huntington.org)

**History**  
**Norton Simon Museum**

**Food for Thought**

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**Time:** One class period

**Grades** K-2

**California VAPA Standards**

**Visual Art**

Grade K: 3.3 Discuss artworks from a variety of times and places.

Grade 1: 3.2 Identify and describe various subject matter in art.

Grade 2: 2.1 Demonstrate beginning skill in the use of basic tools and art-making processes.

**California History-Social Science Standards**

K.6.3 Understand how people lived in earlier times and how their lives would be different today.

1.4.3: Recognize similarities and differences of earlier generations in such areas as work (inside and outside the home), dress, manners, stories, games, and festivals, drawing from biographies, oral histories, and folklore.

2.4.3: Understand how limits on resources affect production and consumption (what to produce and what to consume).

**Indicators of Achievement**

- Student participates in class discussion
- Student completes a drawing of at least one food item
- Student places drawing on group artwork according to agreed-upon organization of items

**Materials**

Overhead transparency of Frans Snyders' *Still Life with Fruit and Vegetables* (provided), one fruit or vegetable per student (provided by students or teacher), pencils, colored pencils, and/or crayons, construction paper, butcher paper on a roll

**Vocabulary**

Estate, fruit, pantry, peasant, produce, texture, vegetable

**Preparation/Background**

During the 17<sup>th</sup> c. the Spanish Netherlands was known for its produce. Scenes of well-stocked pantries—like Frans Snyders' *Still Life with Vegetables*— became very popular with wealthy estate owners. In this painting, a variety of local fruits and vegetables are presented in a large format (5.7 x 8.4 feet) to demonstrate the abundance of the land, and therefore, the prosperity of an estate.

The main subject in this painting is food, and its arrangement is particular. Large vegetables like red cabbage, squash and carrots, staples of the peasant meal, topple over each other on the floor. More expensive vegetables like peas and mushrooms lie in bowls or baskets. Just left of the center of the painting, two melons have literally burst open from ripeness. However, most of the fruit, which was more precious than vegetables, is placed on the table. Bowls tilt toward us to display their contents, while grapes and pears hang over the table's edge. Snyders depicted the various textures with care: the grapes look waxy, the cabbage crinkly, the pears dimpled, and the flowers silky.

This painting depicts a feast to be eaten, but its bright colors and overflowing detail also makes a feast for the eyes. Snyders appealed to the other three senses as well, including flowers for smell, birds for sound, and the tender gesture of a child's hand on a woman's arm for touch.

### Activity

1. Begin with a discussion of Snyders' *Still Life with Fruit and Vegetables*, using the transparency. Questions to ask:
  - Where does food come from?
  - How is the food arranged? Think about the size of the objects, their shapes, colors, and textures.
  - If you could walk into this painting, what could you smell, hear, taste and touch?
  - The painting includes a woman whose job it is to take care of children. What other kinds of work are related to this painting? (farmers who grew the fruit, artisans who made the bowls and baskets, the artist himself)
  - This painting is over 400 years old. Do people eat the same things today? What fruits and vegetables are in this painting that you would see at the grocery store today?
2. Next, students should discuss the kind of foods that are eaten today. If we made a painting like this one but included things we buy at the grocery store now, what might it look like?
3. Homework: Students should be asked to bring 1-2 food items from home which will be traced and copied for a larger group artwork.
4. Spread the items out on a table. How many different ways can they be grouped? By color? Shape? Food group? Decide as a class how to organize the painting after trying out a few scenarios.
5. Next, each student should trace his or her food object(s) onto a piece of construction paper. The object should be made to resemble the real thing in color and texture to the best of the student's ability.
6. The teacher should attach a length of butcher paper to the wall and draw a table on it.
7. Students can then place their drawings on the wall, according to the agreed-upon scheme.

### Extensions

This painting was originally hung in a hall with three others of similar size: one was of a game stall, and the other two were fish stalls, depicting open-air markets. Classroom "market scenes" such as these could address the importance of hunting and fishing in life long ago.

### Contact Information

School groups can visit the Norton Simon Museum during open hours for free! Visit [www.nortonsimon.org](http://www.nortonsimon.org) or call (626) 844-6980 to make a reservation. You can also download Study Guides from the "Education" section of the website for more lesson ideas.

## Music & Science

### The Pasadena Symphony

#### The Firebird

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**Time:** 1 hour

**Grade** Kindergarten

**Open Court Theme** Finding Friends

#### California VAPA Content Standards

##### Music

Creative Expression 2.2 Sing age-appropriate songs from memory.

Historical and Cultural Context 3.4 Use developmentally appropriate movements in responding to music from various genres and styles (rhythm, melody).

##### Theater

Role and Culture Significance 3.1 Retell or dramatize stories, myths, fables, and fairy tales from various cultures and times.

#### California Science Content Standards

##### Life Sciences

2a. Students know how to observe and describe similarities and differences in the appearance and behavior of plants and animals (e.g., seed-bearing plants, birds, fish, insects).

2b. Students know stories sometimes give plants and animals attributes they do not really have.

2c. Students know how to identify major structures of common plants and animals (e.g., stems, leaves, roots, arms, wings, legs).

##### Investigation and Experimentation

4b. Describe the properties of common objects.

4c. Describe the relative position of objects by using one reference (e.g., above or below).

##### Earth Sciences

3a. Students know characteristics of mountains, rivers, oceans, valleys, deserts, and local landforms.

#### Indicators of Achievement

Students will listen to and discuss the story of *The Firebird* by Igor Stravinsky. Students will learn to sing from memory the tune from the Firebird Suite. Students will create a pop-up book that will illustrate their understanding of the Firebird story and be able to create an environment that the magical Firebird could live in that includes references to both natural and imaginary elements.

#### Materials

Student-collected natural materials (e.g. leaves, twigs, rocks) scissors, glue, markers, paint and feathers; *Firebird Song*, CD and lyric sheet

Suggested reading: *The Firebird* by Jane Yolen Illustrated by Vladimir Vagin

#### Vocabulary

resources, environment, nature, inhabit, investigations, properties, Firebird, magical, limbs

### **Preparation/Background**

Igor Stravinsky (1882-1971) was born in St. Petersburg, which was the capital of Russia at the time. His father was a famous opera singer, so as a child, Igor was able to spend a lot of time at the opera house, where he met all the famous musicians of the day. Igor began taking piano lessons at age 9. When he grew up, he started studying law. One of his fellow law students was the son of composer Nikolai Rimsky-Korsakov, who agreed to give Stravinsky composition lessons. Law fell by the wayside completely after Stravinsky had such success with *The Firebird*, which he composed for Serge Diaghilev, head of the Russian Ballet.

### **The Story of the Firebird**

In a certain land, in a certain kingdom, a Prince named Ivan found himself lost in a Wizard's garden. Being a great hunter, he caught sight of a Firebird eating golden apples from a magic tree in the garden. Ivan quickly caught her but did not want to destroy such a beautiful creature. The Firebird was grateful to him and offered a magic feather to the prince with a promise that she would help him if he were ever to need it. He accepted it, and she flies off.

Ivan found a Princess who has been captured by the evil Wizard. The Prince becomes enchanted with her but she warns him that nobody can escape the power of the Wizard. In a panic, she scurries back to the Wizard's castle so as not to arouse the Wizard's anger for their tardiness.

The Prince decides to rescue his Princess. Ivan goes to the castle, opens the gates and tries to start the rescue. The Wizard is so angry with the Prince that he begins to cast a spell that would turn Ivan to stone. Suddenly, Ivan remembers his magic feather from the Firebird. No sooner does he wave it above his head than the Wizard's spell is broken by the appearance and the magic of the Firebird. Ivan and the Princess marry and live happily ever after. The story ends with the Firebird leaving with a feeling of hope and joy.

### **Activity**

1. Collect natural resources from a nature walk around the school to create a magical environment with a nest: limbs, grass, leaves, bark or other natural materials. Don't forget that the bird is magical and could live in fire.
2. Have the children create a pop-up book with a scene showing the Firebird and its nest. Emphasize what the bird looks like, including its multi-colored hue. Show its real and magical natural environment and what type of food it would eat. Use the materials collected to complete the decoration.
3. Students learn a famous musical theme from the Firebird Suite through song

### **Assessment**

Evaluate the student's participation in the model-making and lesson discussions. How well was the student able to participate in discussions of the story, including questions such as: How can the Open Court theme of **Finding Friends** be applied to the Firebird Story? What signs of friendship and love did they notice in the story? Was the student successful in making a model of the nest and constructing the pop-up scene? Does the student show a growing ability to distinguish between natural and imaginary elements in a story?

### **Directions For a Simple Pop-up**

Materials: 2 pieces 9 x 12 construction paper, scissors, glue, paper scraps

1. Fold a piece of 9 x 12 paper in half as if making a greeting card.
2. Near the center of the folded edge, draw two dots about 1" apart.
3. Starting at the dots, make 2 parallel cuts about 1" long from the fold toward the middle.
4. Fold the flap that was made by the cuts back and forth to make a crease.
5. Open the card a little and push the flap to the inside of the card. That will create a little step when you hold the card horizontally and open it.
6. Fold the second piece of 9X12 paper in half to make another card. Glue it to the outside of the first card.
7. Now you are ready to decorate. Glue the most important element of your project to the front of the step. That will be the foreground. Open the card up flat and design and complete the background before you attach the foreground piece.

There are many good books about pop-ups available in bookstores and libraries. One popular one is *How to Make Pop-Ups* by Joan Irvine.

### **Contact and Field Trip Information**

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[www.pasadenasympphony.org](http://www.pasadenasympphony.org)

**Music**  
**The Pasadena Symphony**

**The Firebird**

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**Time:** 45 minutes

**Grade** 1-2

**Open Court Theme** Grade One: Animals or Journeys, Grade Two: Sharing Stories

**California VAPA Content Standards**

Music

Grade K

- 1.1 Use icons or invented symbols to represent beat.
- 1.2 Identify and describe basic elements in music (high/low, fast/slow, loud/soft, beat).

Grade 1

- 1.1 Read, write, and perform simple patterns of rhythm and pitch, using beat, rest, and divided beat (two sounds on one beat).

Grade 2

- 1.1 Read, write, and perform simple rhythmic patterns, using eighth notes, quarter notes, half notes, and rests.
- 1.2 Read, write, and perform simple patterns of pitch, using solfege.
- 2.1 Sing with accuracy in a developmentally appropriate range.

**California Science Content Standards**

Grade K

Life Sciences

2. Different types of plants and animals inhabit the earth. As a basis for understanding this concept:
  - a. Students know how to observe and describe similarities and differences in the appearance and behavior of plants and animals (e.g., seed-bearing plants, birds, fish, insects).
  - b. Students know stories sometimes give plants and animals attributes they do not really have.

Grade 1

Life Sciences

1. Plants and animals meet their needs in different ways. As a basis for understanding this concept:
  - a) Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places.
  - b) Students know both plants and animals need water, animals need food and plants need light.

**Indicators of Achievement**

- Students will demonstrate an ability to discuss the following points from the story: cause and effect, setting/environment, character resolution.
- Students will demonstrate from their mural the real/magical elements of the firebird based on actual environmental elements. (i.e. trees, food, weather)
- Based on the story, students will form assumptions about the environment of the firebird.
- Students will learn to sing a famous musical theme from Stravinsky's *Firebird Suite* through song and movement.



## **Materials**

Mural paper, crayons, paints, collage materials, CD excerpts from the final movement of Stravinsky's *Firebird* will be located with the school site arts rep; Vladimir Vagin; photo of bird; *Firebird Song*, CD and lyric sheet

### Science Related Vocabulary

Firebird, magical, fantasy, environment, nature, inhabit, abstract, multi-colored, hue, cause and effect, feather

### Music Vocabulary

Melody-the tune

Tempo-fast or slow pace of music

Orchestra-the members of the orchestra are divided into 4 sections; strings, winds, brass and percussion.

Theme-the main musical idea.

### Preparation/Background

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## **Activity**

1. Tell or read the story of the Firebird to the students. Then retell the story together as a group.

2. Introduce a mural as one way to picture and remember the important elements of the Firebird story. Show or remind them of examples of murals around your school.
3. Discuss a scene from the Firebird story that can be recreated for the mural. Ask what would be an environment in which the Firebird could survive. Challenge students to volunteer what elements should be included in the mural scene as you list them on the board. Encourage them to consider which elements on the list show cause and effect, character and setting, and sequence.
4. Have students work in small groups to create various pieces of the scene using materials provided.
5. Ask the groups to lay their finished pieces on the mural paper, moving them around until they find a pleasing composition that communicates the story elements. Help the students glue the pieces onto the mural paper.
6. Have some students use poster paint to fill in a unifying background. An alternative is to paint the background before the pieces are glued down.

### **Assessment**

Evaluate the student's participation in the mural-making and the story-writing/journal entries. What did the student learn about working cooperatively with classmates? Do the student's writing/journal entries show the understandings gained from participation in this unit? Some questions they should be able to consider successfully are: How does the classroom mural represent music and the natural environment of the Firebird? What important elements of the story does it show? What has the student learned about the environment of living or magical creatures? How is music able to help a person think about a story?

### **Contact Information**

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## Science

### The Huntington Library, Art Collections, and Botanical Gardens

#### Growing Your Own Seed

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**Time:** 1 hour

**Grade** K-2

#### **California Science Content Standards**

Grade K

##### Life Science

2c. Students know how to identify major structures of common plants (e.g., stems, leaves, roots).

##### Investigation and Experimentation

4b. Describe the properties of common objects.

4d. Compare and sort common objects by one physical attribute (e.g., color, shape, texture, size, weight).

4e. Communicate observations orally and through drawings.

Grade 1

##### Life Science

2b. Students know both plants and animals need water, animals need food, and plants need light.

2e. Students know roots are associated with the intake of water and soil nutrients, and green leaves are associated with making food from sunlight.

##### Investigation and Experimentation

4a. Draw pictures that portray some features of the thing being described.

4b. Record observations and data with pictures, numbers, or written statements.

Grade 2

##### Life Science

2.0 Plants and animals have predictable life cycles.

##### Investigation and Experimentation

4b. Measure length, weight, temperature, and liquid volume with appropriate tools and express those measurements in standard metric system units.

4d. Write or draw descriptions of a sequence of steps, events, and observations.

4e. Construct bar graphs to record data, using appropriately labeled axes.

4f. Use magnifiers or microscopes to observe and draw descriptions of small objects or small features of objects.

#### **California English-Language Arts Content Standards**

##### Language Arts

Grade K

##### Reading Comprehension

2.1 Locate the title, table of contents, name of author, and name of illustrator.

2.2 Use pictures and context to make predictions about story content.

2.4 Retell familiar stories.

2.5 Ask and answer questions about essential elements of a text.

##### Literary Response and Analysis

3.1 Distinguish fantasy from realistic text.

## Grade 1

### Reading Comprehension

2.6 Relate prior knowledge to textual information.

2.7 Retell the central ideas of simple expository or narrative passages.

## Grade 2

### Reading Comprehension

2.3 Use knowledge of the author's purpose(s) to comprehend informational text.

2.4 Ask clarifying questions about essential textual elements of exposition (e.g., why, what if, how).

2.5 Restate facts and details in the text to clarify and organize ideas.

### **Indicators of Achievement**

- Student identifies the anatomy of a plant and applies important concepts for growing a seed.
- Student plants a lima bean seed and successfully observes and records its growth over the next couple of weeks.
- Students successfully answers questions about the book *The Tiny Seed* by Eric Carle.

### **Materials**

*The Tiny Seed* by Eric Carle, lima beans (dry and soaked for 3 hours), magnifying glasses, soil, terra cotta pots, empty milk cartons, plastic soda bottles or plastic pots, water, a variety of seeds (students may be asked to bring some in to class), word chart of manipulatives to reinforce concepts learned about plant life cycles from the reading activity.

### **Preparation**

Create stations for children to examine plant seeds. Plan cooperative learning groups of four children each. Create a supply checklist for children to review. Prepare two beans per child, one soaked, and the other dry.

### **Background**

Read aloud *The Tiny Seed* by Eric Carle. Discuss how a seed grows, including how a plant begins, how a seed turns into a plant, what seeds need to grow and how seeds travel. Use the word chart or manipulatives to reinforce what the children learned about a plant's life cycle from the reading and discussion.

### **Activity**

1. Upon arriving at their stations, ask the students to check the supply list to make sure they have all of the materials needed.
2. Give each child two seeds.
3. Have the students examine seeds, looking at structure, texture, size and differences.
4. Have students carefully split the soaked lima bean in half so that they can examine the inside and identify the parts.
5. Have the students use the magnifying glass to observe the seed up close and find the baby plant. Some students may need guidance in using the magnifier successfully. Ask them to discuss their findings with their group.

6. Ask each child to take another seed, which they will use for planting.
7. Ask students to scoop a small amount of soil and place it in their planting container.
8. Have students place their seed in the middle of the container and fill the rest of their container with soil covering the seed.
9. Show students how to lightly water their newly planted seed and place the container in a place where it will receive light.
10. Explain how to take the care of the newly potted plant (a little water every two days). Tell students that as the plants grow you will be helping them measure the growth of their plants in inches and keep a graph of each plant's growth.

### **Assessment**

Observe and question students as they respond to the story, plant their seeds, care for their plants, and observe and record the growth of their plants. Did the students show understanding in their discussion of the book *The Tiny Seed* by Eric Carle?

Can the students identify the anatomy of a plant and describe the plants' life cycle? Did the students successfully plant the seeds and care for them? Did the students successfully observe and record the growth of their plants?

### **Extensions**

Create an extension to the Eric Carle book.

Create a picture of what student's plant will look like once grown.

Create a garden on the school yard.

Create a seed museum that exhibits seeds from home, neighborhood or world.

### **Contact and Field Trip Information**

Michael Fritzen, 626-405-2128

Field Trips, 626-405-2127

[www.huntington.org](http://www.huntington.org)

## Grades 3 – 5

### Art

#### Armory Center for the Arts

#### Sculptural Landscapes

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Time: 1 hour

Grade 3 - 5

#### California VAPA Content Standards

##### Visual Art

###### Grade 3

Artistic Perception 1.5 Identify and describe elements of art in works of art, emphasizing line, color, shape/form, texture, space, and value.

Creative Expression 2.5 Create an imaginative clay sculpture based on an organic form.

Aesthetic Valuing 4.2 Identify successful and less successful compositional and expressive qualities of their own works of art and describe what might be done to improve them.

###### Grade 5

Artistic Perception 1.3 Use their knowledge of all the elements of art to describe similarities and differences in works of art and in the environment.

Creative Expression 2.5 Assemble a found object sculpture that reflects unity and harmony and communicates a theme.

Aesthetic Valuing 4.4 Assess their own works of art, using specific criteria, and describe what changes they would make for improvement.

**Connections, Relationships, Applications 5.3 Research and report on what various types of artists produce and how their works play a role in our everyday environment.**

###### Grade 4

1.1 Artistic Perception Perceive and describe contrast and emphasis in works of art and in the environment.

2.3 Creative Expression Use additive and subtractive processes in making simple sculptural forms.

4.3 Aesthetic Valuing Discuss how the subject and selection of media relate to the meaning or purpose of a work of art.

4.5 Aesthetic Valuing Describe how the individual experiences of an artist may influence the development of specific works of art.

##### Indicators of achievement:

- Students appreciate the concept of Ecological Art (Eco-Art) and understand the relationship between art and nature.
- Students view an artwork and identify the different ways artists have re-imagined an urban landscape.
- Students understand how to create a sculpture using natural found objects in order to communicate their ideas about the environment.
- Students reflect on their own artwork and articulate how they might improve it if they had more time.

##### Materials needed:

Found objects (pods, branches, sticks, leaves, pine cones, bottle caps, straws, toothpicks, popsicle sticks, twist ties, toilet paper rolls, wire); clay or Styrofoam, wire (to attach objects to Styrofoam), glue, glue containers, and glue brushes, colored tissue paper

### **Preparation/Background Discussion:**

Artists in the 1970's began an art movement known as environmental installation or earthworks. Nature is the focus of their work. Ecological art or eco art is not just art about the environment; it is by, for, with and often in the environment as well. It is art that reconnects people with their surroundings and tries to reverse negative environmental impacts with positive solutions for healthy survival. Eco art is usually functional and, above all, ethical. It acknowledges the wrongs we humans have committed against nature and tries to right them. This movement continues to thrive today because eco art is having an impact on the environmental problems of today. In the Tender Land exhibit, several works will transform over time and use natural materials to change or influence how we see nature. Several artists included in this exhibition explore how the construction of an art object and the placement of it in the environment can influence how we think about nature. An example of this can be seen in the work *Urban Oldfield: Diagram of a Vacant Lot* created by artist Stacy Levy where she constructs a field as it would appear if the Armory building did not exist and was instead a vacant lot. She uses natural and unnatural materials and creates a field that calls to mind the history of the urban landscape. Her "field" assembled from a variety of materials illustrates both the fragility and resilience of nature.

### **Vocabulary**

Ecological Art/Eco-Art, installation, landscape, site-specific art, earthworks, environmental art, ephemeral art

### **Activity**

Many artists are inspired by the forms found in nature or by the natural materials found in the environment. The activity below will allow your students to experiment with these two ways of working and to create a sculpture using found natural materials inspired by nature.

### **Discussion**

Ask your class to take a look at the overhead image title image entitled *Urban Oldfield: Diagram of a Vacant Lot* by artist Stacy Levy and ask the following questions:

- What are some organic forms found in nature?
- What is a landscape? What is an urban landscape?
- Where do we usually find art?
- What do you think ecological art might be?
- Describe some landscapes that you see everyday?
- What types of plants and living things do we see in landscapes?
- What types of non-living things do we see in landscapes?
- How is this artist using space to create her landscape?
- What materials do you think she used to create her work?
- What do you think the landscape around your school would look like if the building didn't exist?

### **Steps**

1. Ask the class to collect a variety of objects found around their homes or in the park.

2. Instruct them to bring these materials to school for their projects. (Encourage them to use the objects that have already fallen on the ground and you may need to bring in additional materials for this project.)
3. Cover the tables or desks with butcher paper.
4. Begin by cutting blocks of clay into 12" x 12" slabs to be handed out to each student. These could then be attached to a cardboard base.
5. Next, ask the students to imagine a landscape that they would like to reconstruct by replacing urban materials (plastic, steel, glass, wire) with "natural" materials (branches, pods, sand, leaves).
6. Using kabob sticks instruct students to attach smaller pieces of clay at the top of their sticks and implant the sticks into their base.
7. Finally, instruct the students to glue their natural and unnatural objects into their base form and into the clay ball at the tops of their skewers. Use glue as necessary to secure objects.
8. The end result should resemble an imaginary garden or forest sculptural landscape.

### **Assessment**

Students assess their own works of art and describe what changes they would make for improvement.

### **Culmination**

Ask students to configure their landscapes into one large landscape to make an installation in their classroom.

### **Extensions**

Research and report on what various types of artists produce and how their works play a role in our everyday environment.

### **Contact and Field Trip Information**

Jennifer Hayes Silver, Field Trip Coordinator (call for information/brochure)

626-792-5101

[www.armoryarts.org](http://www.armoryarts.org)



**History**  
**Pasadena Museum of History**

**Flowing Waters, Fruitful Valley**

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How Water Plays An Important Part In The Growth of Our Community

**Time** First meeting 1 hour with follow-up as needed

**Grades** 3-5

California History-Social Science Standards

Grade 3

3.1 Students describe the physical and human geography and use maps, tables, graphs, photographs, and charts to organize information about people, places, and environments in a spatial context.

3.2 Students describe the American Indian nations in their local region long ago and in the recent past.

3.3 Students draw from historical and community resources to organize the sequence of local historical events and describe how each period of settlement left its mark on the land.

3.5 Students demonstrate basic economic reasoning skills and an understanding of the economy of the local region.

Grade 4

4.1 Students demonstrate an understanding of the physical and human geographic features that define places and regions in California.

4.4 Students explain how California became an agricultural and industrial power, tracing the transformation of the California economy and its political and cultural development since the 1850s.

5.1 Students describe the major pre-Columbian settlements, including the cliff dwellers and pueblo people of the desert Southwest.

California Science Standards

Grade 5

Earth Sciences

3d. Students know that the amount of fresh water located in rivers, lakes, under-ground sources, and glaciers is limited and that its availability can be extended by recycling and decreasing the use of water.

3e. Students know the origin of the water used by their local communities.

**Indicators of Achievement**

- Student completes a map of a planned community using available water resources using correct map-making conventions.
- Student understands that natural resources are finite and citizens must protect, preserve and conserve water.

**Materials**

12 x 18 paper, colored pencils, pens, crayons, markers, water use charts (see below) transparencies (sample map of a Pasadena community, key of water resources/water use charts).

**Vocabulary**

community, Tongva/Gabrieleno, Indiana Colony, Arroyo Seco, Raymond Water Basin, Mt. Wilson, Eaton Canyon, Mallard Canyon, watershed, aqueduct, dam, reservoir, irrigation,

ecology, agriculture, urban, residential, wilderness, preserve, vineyard, orchard, conservation, resource

### **Preparation/ Background**

Discuss with students how a community grows with reference to basic Pasadena history. Look at a basic timeline of how the population has increased over the last 200 years. Discuss how people used the natural resource of water to support population growth in their community and how they might continue to do so. Discuss how this project can connect to the Tender Land theme.

### **Activity**

1. Challenge your students to create maps of their ideal Pasadena community, based on available water resources. Each map should present a unique community that is balanced in growth and development and available water resources.
2. Each student will start off with 500 units of water, which is naturally provided by the Arroyo Seco and the Raymond Basin. Students can make their communities larger by adding new water resources, i.e. wells, aqueducts, dams, and reservoirs, which can be shown by symbols they create to use on their maps. They can use the charts provided for determining the number of water units needed and used in their communities.
3. Students should give a unit number in black to each “water resource” that they have in their community.
4. Students should give a unit number in red to any development that they put on their map that is a “water user.”
5. Students should calculate the total number of “water resource” units to make sure they can supply the “water user” units. The following charts should be used as an aid in determining the number of water units needed and used in their communities:

Water resources

**Students may show the following 500 units of water as naturally provided to their communities:**

- Arroyo Seco = 250 units
- Raymond Basin = 250 units

### **Additional Water Resources**

Students may add additional units of water to their communities as follows:

- Dam and reservoir = 500 units
- Dig a well = 25 units
- Build an aqueduct = 500 units
- Build a water recycling plant = 250 units

### **Water Users**

Students may show the water units used by the developments in their communities as follows:

- Farm = 25 units

- Park = 10 units
- City of 10,000 people = 100 units
- City of 50,000 people = 500 units
- Golf course = 25 units
- Wildlife preserve = 10 units
- Water park = 25 units
- Residential community = 50 units

### **Assessment**

Students maps can be evaluated for correct use of symbols and a key, clarity, and for successful balance of their water resources. They also should receive recognition for artistic creativity.

### **Reference Materials**

Kathleen Thorne Thompson, *The Way Pasadena Was*

Ann Scheid, *Pasadena—Crown of the Valley*

Anne Scheid Lund, *Historic Pasadena - An Illustrated History*

Internet census records

Link: Metropolitan Water District, [www.mwd.dist.ca.us](http://www.mwd.dist.ca.us)

### **Contact and Field Trip Information**

Brad MacNeil, Education Program Coordinator, 626-577-1660, [bmacneil@pasadenahistory.org](mailto:bmacneil@pasadenahistory.org)

[www.pasadenahistory.org](http://www.pasadenahistory.org)

Field trip: visit the museum's exhibit *Flowing Water, Fruitful Valley*

### **Music**

**Shumei Hall**

### **Field Trip: Voices From the Blue**

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**Time** Friday, December 10, 2004 from 12:40p.m. to 1:30p.m.

**Grades** 3-5

## **California VAPA Content Standards**

Music

Grade 3

Artistic Expression 1.5 Describe the way in which sound is produced on various instruments.

Grade 4

Artistic Expression 1.6 Recognize and describe aural examples of musical forms, including rondo.

Historical and Social Context 3.2 Identify music from diverse cultures and time periods.

Grade 5

Artistic Expression 1.6 Identify and describe music forms, including theme and variations and twelve-bar blues.

Aesthetic Valuing 4.2 Develop and apply appropriate criteria to support personal preferences for specific musical works.

### **Indicators of Achievement**

- Student demonstrates attentive interest throughout the presentation.
- Student correctly describes the way sound is produced by an organ.
- Student recognizes and correctly describes one or more musical forms.
- Student writes a letter to the artist that shows understanding of the material presented.

### **Performer**

Christoph Bull, internationally known organist, composer and UCLA professor, explores the sounds of planets and birds as evoked by composers as diverse as Mozart, Messiaen, and The Beatles. Mr. Bull will demonstrate what different instruments are capable of sounding like through the organ, and he will also talk about the history of the organ and the composers whose music he will perform. A well-known talent in both North America and Europe, locally he has performed at many of the Los Angeles area's finest organ venues, among them the Cathedral of Our Lady of the Angels and Royce Hall.

### **Preparation/Background**

Have a classroom discussion including the following questions:

1. Where do you usually see and/or hear an organ?
2. Compare similarities and differences between the organ and the piano.
3. General history of the organ. Where did it originate? What was its initial purpose? Is it still used for the same purpose today?
4. What kind of sound do you imagine from each planet in our solar system?

### **Vocabulary**

Wolfgang Amadeus Mozart, Johann Sebastian Bach, Oliver Messiaen, toccata, fugue, organ, synthesizer, canon

### **Activity**

Students listen to the lecture and music of Christop Bull.

**Assessment**

Ask students to write a letter to Professor Christoph Bull, explaining 3 things they learned about musical instruments and musical forms and telling what they liked best about the performance. Include an illustration of new learning. Was the student able to communicate learning accurately and completely? Does the illustration show that the student observed carefully?

**Where to Mail the Letters**

The Shumei Arts Council of America  
2430 E. Colorado Blvd.  
Pasadena, CA 91107  
Attn: Jane Imai

**Contact and Field Trip Information**

Reservations: Jane Imai, [janeimai@shumeiarts.org](mailto:janeimai@shumeiarts.org) or 626-584-8841

Map: [www.shumeiarts.org/map.html](http://www.shumeiarts.org/map.html)

Location: Shumei Hall, 2430 E. Colorado Blvd., Pasadena, CA 91107

**Music**  
**Shumei Hall**

**Field Trip: CelloMan**

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**Time** Friday, November 12, 2004 from 12:40p.m. to 1:30p.m.

**Grades** 3-5

**California VAPA Content Standards**

**Music**

Grade 3

Artistic Perception 1.3 Identify melody, rhythm, harmony, and timbre in selected pieces of music when presented aurally.

1.5 Describe the way sound is produced on a cello.

Grades 4 and 5

Historical and Cultural Context 3.2 Identify music from diverse cultures and time periods.

**Indicators of Achievement**

- Student demonstrates attentive listening throughout the presentation.
- Student identifies melody, rhythm, harmony, and timbre in selected pieces of music.
- Student correctly describes how sound is produced on a cello.

**Performer**

Eugene Friesen, one of the most accomplished American cellists of our time, is a professor at the Berkley School of Music in Boston, and has been performing with Paul Winter, four-time Grammy Award winning saxophonist, composer and naturalist for the last 25 years.

Mr. Friesen will explain about the cello and the basic elements of music, such as rhythm, melody, harmony, etc. He will also talk about his experience with animals. His performance will include the use of masks and he will perform along with the recorded sounds of the humpback whale. His touching blend of humor and pathos in this performance piece speaks directly to that part of us that is forever young.

**Preparation/Background**

Consider the following questions with your students in the classroom before the field trip:

- Are any students studying cello, piano or any other musical instruments?
- What does a cello look like? Draw.
- Compare similarities and differences of a cello and a guitar.
- What are some sounds created by various animals? (dog, cat, whale, crow, etc.)

**Vocabulary**

melody, rhythm, harmony, humpback whale, texture, sound color, Bela Bartok, Johann Sebastian Bach, Pablo Casals

**Activity**

Students will listen to CelloMan's lecture and music.

**Assessment**

Have the student write a letter to the CelloMan and draw a picture (optional). Does the content reflect new understanding gained during this field trip? Is the student able to state what he/she liked the most about the performance? Can the student name three things he/she learned during the performance?

**Where to Mail the Letters**

The Shumei Arts Council of America  
2430 E. Colorado Blvd.  
Pasadena, CA 91107  
Attn: Jane Imai

**Contact and Field Trip Information**

Reservations: Jane Imai, [janeimai@shumeiarts.org](mailto:janeimai@shumeiarts.org) or 626-584-8841  
Map: [www.shumeiarts.org/map.html](http://www.shumeiarts.org/map.html)  
Location: Shumei Hall, 2430 E. Colorado Blvd., Pasadena, CA 91107

## Science

California Institute of Technology / US Dept of the Interior / US Geological Survey

### Earth As Home: "An Island Home"

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**Time:** 45 to 60 minutes for 2 or 3 days

**Grades** 4-6

#### **California Science Standards**

Grade 4

##### Earth Science

5a. Students know some changes in the earth are due to slow processes, such as erosion, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.

5b. Students know natural processes, including freezing and thawing and the growth of roots, cause rocks to break down into smaller pieces.

5c. Students know moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt, and mud in other places (weathering, transport, and deposition).

##### Investigation and Experimentation

6d. Conduct multiple trials to test a prediction and draw conclusions about the relationships between predictions and results.

6f. Follow a set of written instructions for a scientific investigation.

Grade 5

##### Earth Science

3a. Students know most of Earth's water is present as salt water in the oceans, which cover most of Earth's surface.

3c. Students know water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, and can fall to Earth as rain, hail, sleet, or snow.

3d. Students know that the amount of fresh water located in rivers, lakes, under-ground sources, and glaciers is limited and that its availability can be extended by recycling and decreasing the use of water.

##### Investigation and Experimentation

6f. Select appropriate tools (eg. thermometer, meterstick, balances, graduated cylinder) and make quantitative observations.

6g. Record data by using appropriate graphic representations (inc. charts, graphs, and label diagrams) and make inferences based on those data.

Grade 6

##### Earth Science

1a. Students know evidence of plate tectonics is derived from the fit of the continents; the location of earthquakes, volcanoes, and mid-ocean ridges; and the distribution of fossils, rock types, and ancient climatic zones.

1b. Students know Earth is composed of several layers: a cold, brittle lithosphere; a hot, convecting mantle; and a dense, metallic core.

1c. Students know lithospheric plates the size of continents and oceans move at rates of centimeters per year in response to movements in the mantle.

1d. Students know that earthquakes are sudden motions along breaks in the crust called faults and that volcanoes and fissures are locations where magma reaches the surface.



- 1e. Students know major geologic events, such as earthquakes, volcanic eruptions, and mountain building, result from plate motions.
- 1f. Students know how to explain major features of California geology (including mountains, faults, volcanoes) in terms of plate tectonics.
- 1g. Students know how to determine the epicenter of an earthquake and know that the effects of an earthquake on any region vary, depending on the size of the earthquake, the distance of the region from the epicenter, the local geology, and the type of construction in the region.

#### Physical Science

- 4a. Students know the sun is the major source of energy for phenomena on Earth's surface; it powers winds, ocean currents, and the water cycle.
- 4b. Students know solar energy reaches Earth through radiation, mostly in the form of visible light.

#### Investigation and Experimentation

- 7a. Develop a hypothesis.
- 7b. Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.
- 7c. Construct appropriate graphs from data and develop qualitative statements about the relationships between variables.
- 7d. Communicate the steps and results from an investigation in written reports and oral presentations.
- 7e. Recognize whether evidence is consistent with a proposed explanation.

#### **Indicators of Achievement**

Student understands the effects people can have on their natural environment.

#### **Materials**

For each group of three to five students: large physical map of the world, graph paper, drawing paper, colored pencils, reference materials on rain forests and coral reefs (see "Resources" below)

#### **Resources**

Our Changing World

[http://interactive2.usgs.gov/learningweb/teachers/lesson\\_plans.htm#changingworld](http://interactive2.usgs.gov/learningweb/teachers/lesson_plans.htm#changingworld)

Global Change (Grades 4-6)

<http://interactive2.usgs.gov/learningweb/teachers/globalchange.htm>

Earth as Home

[http://interactive2.usgs.gov/learningweb/teachers/globalchange\\_earth.htm](http://interactive2.usgs.gov/learningweb/teachers/globalchange_earth.htm)

Landau, Elaine, 1990, *Tropical rain forests around the world*: New York, Franklin Watts

Arnold, Caroline, 1988, *A walk on the Great Barrier Reef*: Minneapolis, Carolhoda Books, Inc.

#### **Vocabulary**

global environment, global change, chemical pollutants, ecological systems

## Preparation/Background

The Earth is constantly changing. Weather and seasons are clear examples of regular changes in the global environment. Other changes are not as evident because they occur over intervals longer than a human lifetime or because the changes are not easily seen. Much of the change takes place on Earth is part of natural cycles. Human activity, however, can also cause environmental changes.

People are being asked to limit activities that change the environment, but before sensible limits can be adopted, we need information. Questions include:

- What are current environmental conditions and how are they changing?
- Are environmental changes caused by natural variation or by human activity, or both?
- How will local changes affect other parts of the Earth and its systems?

Scientists study global change to help answer these questions. The Earth is our home. We can take better care of our home when we better understand how it works and what changes it is undergoing. Before global change can be studied, we must be able to observe it. These images are evidence of Global Change.

*"Suddenly from behind the rim of the Moon . . . there emerges a sparkling blue and white jewel, a light, delicate sky-blue sphere laced with slowly swirling veils of white, rising like a small pearl in a thick sea of black mystery. It takes more than a moment to fully realize this is Earth . . . home."* - Edgar Mitchell, astronaut, USA, 1971

Since the Soviet Union launched the tiny satellite called Sputnik in 1957, hundreds of men and women and thousands of electronic "eyes" have looked back at Earth, capturing images that reveal certain effects of human activity on the Earth's natural systems. People have increased the use of air, water, and other natural resources by a factor of 10 in the last 200 years. This activity has in turn affected the atmosphere, the water cycle, and the climate, and has altered ecological systems. Scientists have begun to monitor these effects both from the ground and from space, to identify problems, as well as to predict the future health of the planet.

Earth is surrounded by a delicate envelope of air, part and product of life on the planet. Human beings have changed the composition of this atmosphere. Tons of carbon dioxide and methane, among other compounds, are added annually to the atmosphere from the burning of fossil fuels. These and other chemical pollutants raise concerns about the effects a changing atmosphere may have on life.

Most life on Earth owes its existence, directly or indirectly, to photosynthesis, the "greening" process by which plants convert sunlight, carbon dioxide, and soil nutrients to energy. Green plants cover much of Earth's land area, and microscopic plants known as phytoplankton inhabit its waters. More than 35 percent of the planet's surface is used, at least indirectly, for harvesting food and other materials.

Grazing, agriculture, and timber harvesting disturb topsoil, increasing soil erosion. More than 75 million tons of soil are blown or washed into the oceans each year. Natural ecosystems shrink in the face of society's need to use land. Fragmentation of many ecosystems has created a series of ecological "islands." Some species, unable to survive in such reduced areas, become extinct.

Life requires water. On land, the amount and frequency of rainfall determine the success of crops, as well as the survival of natural ecosystems. It takes about 10 days, on average, for a drop of water that becomes airborne vapor in one place to return to Earth's surface as rain or

snow in another. Precipitation varies by both season and geographic area. As one result, highly specialized ecosystems have developed, from deserts to rain forests.

In the event of global warming, regional rainfall patterns may shift. Similarly, the removal of forest cover may alter rainfall distribution because of reduced evaporation of water from plants. Changes in patterns of precipitation could have dramatic effects, positive or negative, on all life on Earth.

Throughout most of the Earth's history, Earth's systems have functioned unmonitored, but not unrecorded. Climate records can be found in the types of pollen in lake-bottom sediments; in the patterns of tree-ring growth; in air bubbles frozen in glaciers; in the growth rings of coral; and in many other places.

These records indicate that significant environmental changes have occurred throughout Earth's history. Even moderate changes in global temperature can freeze or melt significant amounts of fresh water, building or shrinking glaciers and the polar ice caps. This affects sea levels.

Inasmuch as 50 percent of the world's people live within 50 kilometers of the sea, the effects of even a moderate rise in sea levels, on the order of a meter or less, would be significant. This is one reason why understanding past climate changes, and their effects on plant and animal life, is crucial. Studies of past climates, then, can help determine what processes may have caused changes, giving us some clues as to which human activities might induce similar changes.

The environments surrounding marshes, dunes, and reefs can be unbalanced by many human activities such as fishing, building, highway construction, and the use of chemical fertilizers. Ecosystems weakened by such activity may not withstand major storms. Although occupying just 8 percent of the Earth's surface, these coastal environments produce 90 percent of the world's seafood.

Global environmental change concerns us all. Scientists are using instruments borne on satellites to gain new perspectives on previously unknown linkages between the Earth's land, air, and water. Monitoring, however, can only show that changes are taking place. Halting or reversing changes, if necessary, will test the will and the ingenuity of humankind.

### **Activity**

The students will act as owners and developers of a lush, 14-square kilometer tropical island. Groups of students will select the forms and extent of development on their island by considering the benefits of the development and the risks their actions pose for the island and the planet.

1. Say to the class: Congratulations. You have just been awarded ownership of a tropical island in recognition of your concern for the environment and your wisdom in management. As owners of this island, you have some responsibilities.
2. First, it is important to create jobs for your fellow citizens. There is a native population living in thatch-roofed huts and subsisting on fish, fruit, and nuts. Second, you must develop your island as a model environment for business and for natural habitats.
3. The island is covered by virgin rainforest and is surrounded by well-developed coral reefs. Both of these types of ecological systems are in danger all over the world. The island is in your care. Consider your actions carefully.

4. Brainstorm the possible range of businesses that could be developed on a tropical island. A few suggestions to get the class thinking: Scuba diving resort; timber company; pharmaceutical research station; golf resort; naval base.
5. Write the students' suggestions on the board. Have them select a topic of interest.
6. Discuss the ways the outcomes of this project could be presented, for example: a scale map of the island using graph paper; a physical map of the island using white drawing paper, a brochure, with a map, advertising the company and island; a group report about the island and its efforts to protect the environment.
7. Form interest groups of three to five students. Provide resources from the suggested list or from your school library for discussions about the characteristics and importance of rain forest and coral reef ecosystems. Discuss rain forest destruction. What is the benefit? What are the immediate and long-term costs? Who pays?
8. Focus the students' thoughts on the business opportunities these environments offer and the risks associated with these enterprises in a fragile environment. Have students complete the third column on the following chart as they explore the impacts of their particular businesses. The chart can be duplicated to hand out.
9. Have each team report on the specific solutions that they propose to counter the risks presented by their development plans.

### **Assessment**

Evaluate the student's island project. Does the student's project that contain all of the elements required in the assignment (see above)? Does the project demonstrate the student's understanding of the effects people can have on their natural environment?

### **Extensions/Homework**

This exercise can be done using other environments including wetlands, deserts, polar regions, etc. Adjust the text of the story and the project requirements accordingly.

Ask teams of students what components would be necessary to create a habitable environment on another planet. What unique equipment and risks would have to be considered for such a project? For example, what would it take to transform an area on the planet Mars to make it acceptable for human habitation? (Mars has no ocean and four times the land area of the Earth.)

Groups of students can create a model of their island.

### **Contact Information**

The USGS Learning Web  
<http://www.usgs.gov/education/>

Earthquakes for Kids:  
<http://earthquake.usgs.gov/4kids/>

Ask a Geologist:

<http://walrus.wr.usgs.gov/ask-a-geologist/>

Field trip information:

Robert de Groot

Southern California Earthquake Center &  
California Institute of Technology

626.395.3598

[rdegroot@caltech.edu](mailto:rdegroot@caltech.edu)

## Grades 6 – 8

### Art

#### Armory Center for the Arts

#### Recycled Mixed Media Sculptures

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Time: 3 hours

Grades 6-8

#### California VAPA Content Standards

##### Visual Arts

###### Grade 6

Artistic Perception 1.2 Discuss works of art as to theme, genre, style, idea, and differences in media.

Creative Expression 2.4 Create increasingly complex original works of art reflecting personal choices and increased technical skill.

Aesthetic Valuing 4.4 Change, edit, or revise their works of art after a critique, articulating reasons for their changes.

###### Grade 7

Artistic Perception 1.1 Describe the environment and selected works of art, using the elements of art and the principles of design.

Creative Expression 2.3 Develop skill in using mixed media while guided by a selected principle of design.

Aesthetic Valuing 4.3 Take an active part in a small-group discussion about the artistic value of specific works of art, with a wide range of the viewpoints of peers being considered.

###### Grade 8

Artistic Perception 1.2 Analyze and justify how their artistic choices contribute to the expressive quality of their own works of art.

Creative Expression 2.6 Design and create both additive and subtractive sculptures.

Aesthetic Valuing 4.3 Construct an interpretation of a work of art based on the form and content of the work.

#### Indicators of Achievement

- Student shows an understanding of the concept of Ecological Art (Eco Art) and the relationship between art and nature.
- Student views a work of art from the exhibition and are able to identify the choices made by the artist and begins to understand the impact artwork has on society.
- Student gains an understanding of the techniques and materials used to create art from natural found objects and assembles a sculpture that communicates the theme of recycling that relates to the environment.

#### Materials

Found recyclable objects (bottle caps, Styrofoam, plastic utensils, etc.), found box or container (shoe, cigar, suitcase, etc.), glue, glue containers, and glue brushes

#### Vocabulary

ecological art/Eco-Art, installation, site-specific art, earthworks, environmental art, ephemeral art, sculpture, function, environmental impact, organic, 2D vs. 3D

## Preparation

Artists in the 1970's began an art movement known as environmental installation or earthworks. Nature was the focus of their work. This movement continues to thrive today because our environment continues to be a source of inspiration and concern for many artists. Ecological art (Eco Art) is not just about the environment; it is by, for, with and often in the environment as well. It is art that reconnects people with their surroundings and tries to reverse negative environmental impacts with positive solutions for healthy survival. The movement continues to thrive today because eco art is having an impact on the environmental problems of today. In this exhibit your students will see several works that transform or use natural materials or recycled objects to change or influence how we see nature. They will also explore how the construction of an art object and the placement of in the environment can influence how we think about nature.

Found objects and recycled materials often inspire artists to create their works. An example of this is seen in the work of Kim Abeles, titled *Run-off Dolphin Suitcase*. This sculpture is created from discarded objects found in the storm drains that eventually run-off into the ocean. It allows us to reflect on our responsibility towards the environment and brings about awareness and hope for change.

## Discussion

Ask the class to look at overhead image of *Run-off Dolphin Suitcase*, by artist Kim Abeles and asks the following questions:

- What types of objects appear on the outside of the suitcase?
- What objects are placed on the inside?
- Why do you think the artist decided to collect objects from storm drains?
- Why do you think she made a sculpture that functions like a suitcase?
- What do you think she is trying to communicate about our environment?
- How can art influence how we think about different social issues?

## Activity

The following activity will provide your students with an opportunity to create a sculpture based on the overflow of recycled objects that surrounds them on a daily basis and further reflect on their impact on the environment.

1. Ask the class to collect a variety of recycled or discarded objects found around their homes, their neighborhoods, or the park. Instruct them to bring these objects to school for their project.
2. Next, ask the class to bring in an old unused box or container for the base of their sculpture.
3. Begin by sorting out all the different objects into various categories. The objects can be placed in large containers until enough is collected over time.
4. Next, ask the students to begin assembling their recycle sculptures by thinking about their feelings about trash and discarded objects. Ask them to glue the different types of objects to the inside of their container.
5. When the inside of the sculpture is dry, they can then attach different objects on the outside of their container.
6. Ask them to reflect on how the act of recycling impacts our environment over time. Instruct

them to create a satirical drawing that illustrates how they think our world would be different in 100 years if we didn't recycle now.

### **Assessment**

Have students describe their works of art and explain what changes they would make for improvement. Did the student show an understanding of the techniques and materials used to create art from natural found objects? Does the student's sculpture communicate a recycling theme that relates to the environment? When looking at a work of art from the exhibition, is the student able to identify the choices made by the artist?

### **Culmination**

Display the recycled sculptures in an outdoor installation at the school site. Once the students exhibit their work, ask them to interview the viewers in order to find out what these artworks make them think about the current state of the environment and the issue of recycling.

### **Extensions**

Research and report on what various types of artists work with environmental issues and learn how their works play a role in our everyday environment. Provide a list of names to guide research.

### **Contact and Field Trip Information**

Jennifer Hayes Silver, Field Trip Coordinator (call for information/brochure)  
626-792-5101  
[www.armoryarts.org](http://www.armoryarts.org)



## History Pacific Asia Museum

### What's In A Garden?

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**Time** As needed

**Grade Level** 6

#### **California History-Social Science Content Standards**

6.6 Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of China.

#### **California English-Language Arts Content Standards**

##### Writing Strategies

1.2 Create multiple-paragraph expository compositions:

- a. Engage the interest of the reader and state a clear purpose.
- b. Develop the topic with supporting details and precise verbs, nouns, and adjectives to paint a visual image in the mind of the reader.
- c. Conclude with a detailed summary linked to the purpose of the composition.

1.3 Use a variety of effective and coherent organizational patterns, including comparison and contrast; organization by categories; and arrangement by spatial order, order of importance, or climactic order.

1.6 Revise writing to improve the organization and consistency of ideas within and between paragraphs.

##### Writing Applications

2.2 Write expository compositions (e.g., description, explanation, comparison and contrast, problem and solution):

- a. State the thesis or purpose.
- b. Explain the situation.
- c. Follow an organizational pattern appropriate to the type of composition.
- d. Offer persuasive evidence to validate arguments and conclusions as needed.

#### **Indicators of Achievement**

- Student identifies the elements of a Literati (or Scholar) garden.
- Student identifies some of the economic and social structures and religious/philosophical beliefs in 3<sup>rd</sup> century Chinese society.
- Student writes an essay comparing the elements of their home gardens to the scholar gardens in 3<sup>rd</sup> century China.
- Student produces an illustrated postcard as if written from the garden in the transparency, describing an afternoon spent in that setting.

#### **Materials/Resources**

Transparency of Pacific Asia Museum Chinese-style garden, a visit to Pacific Asia Museum's garden, students' home gardens, Pacific Asia Museum *Visions of Enlightenment* web education module at [www.pacificasiamuseum.org](http://www.pacificasiamuseum.org), *Chronicle Of The Chinese Emperors* by Ann Paludan, Thames and Hudson, *Chinese Painting* by James Cahill, Rizzoli, *The Chinese Garden* by Maggie Keswick, Rizzoli

#### **Preparation/Background**

Ask students to name a favorite family activity that takes place in their home yard and give three reasons why they enjoy it.

#### **Activity**

1. Show students the transparency of the Chinese-style Scholar's garden at Pacific Asia Museum. Discuss:
  - What types of activities would a Chinese family do in such a garden?
  - How do different types of building materials and structures in Han Chinese gardens reflect the economic and social status of its owner?
  - What can you tell about what Han Chinese people liked to do in their homes by the design of their garden?
  - Why do Han Chinese gardens have water, rocks, plants, and meandering paths, and what do they signify or represent?
  - How did Taoist and Buddhist ideas influence garden design in 3<sup>rd</sup> century China?
2. Discuss the common features in students' own home gardens. List student responses as they are given.
3. Have students write an essay analyzing what these elements tell about modern American life and comparing those elements with 3<sup>rd</sup> century Chinese life and garden design.

### **Assessment**

Evaluate the student essays and/or postcards. Can student describe some elements of early Chinese society, including economic and social structures and religious/philosophical beliefs? Does student essay comparing their garden to the scholar gardens in 3<sup>rd</sup> century China indicate understanding of the above concepts? Do the illustrations and message on the student's post card show understanding of the elements of a 3<sup>rd</sup> century Chinese scholar garden?

### **Extension**

Group students into teams and ask each team to design a garden that reflects one of the following: Confucian philosophy, Taoist philosophy, Buddhist philosophy, and trade of goods through the Silk Road. Apply the same discussion questions and project to architectural design. Or have students do the garden design project based upon specific geographic locations or technologies.

### **Contact and Field Trip Information**

Pacific Asia Museum 626-449-2742  
[www.pacificasiamuseum.org](http://www.pacificasiamuseum.org)

## History Pacific Asia Museum

### Landscapes of the Mind

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**Time** As needed

**Grade** 7

**California History-Social Science Standards** 7.3 Students analyze the geographic, political, economic, religious, and social structures of the civilizations of China in the Middle Ages.

#### **California English-Language Arts Standards**

##### Writing Strategies

1.1 Create an organizational structure that balances all aspects of the composition and uses effective transitions between sentences to unify important ideas.

1.2 Support all statements and claims with anecdotes, descriptions, facts and statistics, and specific examples.

#### **Indicators of Achievement**

Student describes the scholar-official class and its influence on Chinese society.

Student designs a postcard which demonstrates satisfactory understanding of concepts learned about Chinese landscape painting.

#### **Materials/Resources**

Transparency of *Scholars Among Pavilions and Forests* by Chang Hsi-an (1761-1829), Pacific Asia Museum exhibition *Landscapes Of The Mind* (October 9, 2004 – mid-January 2005)

Books: *Chronicle Of The Chinese Emperors* by Ann Paludan, Thames and Hudson; *Chinese Painting* by James Cahill, Rizzoli; *The Chinese Garden* by Maggie Keswick; Rizzoli.

Art Materials: cardstock cut to 5”X7” or any size suitable for a post card, markers, colored pencils, fine line black pens, water colors, brushes and water containers, glue sticks, examples of Chinese calligraphy, examples of landscape paintings from many cultures and time periods, example of Chinese poem, historical time line of world events

#### **Vocabulary**

landscape, scholar, harmony, pavilions, calligraphy

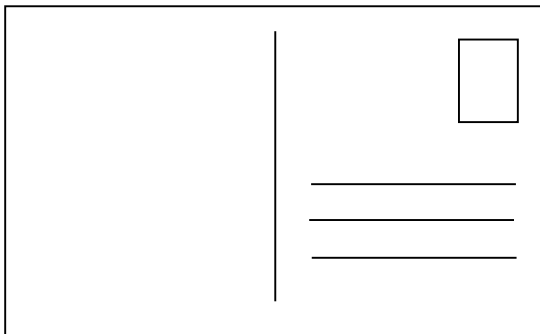
#### **Preparation/Background**

Chinese art speaks of harmony among all aspects of nature, and Chinese say, “Heaven and earth and I live together.” The harmony in nature is illustrated in the balance between such elements as water and mountains. Waterfalls and mountain peaks make up much of the Chinese landscape painting, and the people are seeking to understand the secrets of power and nature. In most Chinese landscape paintings, humans have a place. They are participants in the natural, but they do not dominate it. Many Chinese paintings include calligraphy, which may include artist information or poetry.

#### **Activity**

1. Display a historical timeline of world events so student can get a sense of the time they will be studying about as you give them background information.
2. Ask students to imagine an ideal landscape and what he or she would be doing in the landscape.

3. Show students the painting entitled *Scholars Among Pavilions and Forests*, which was imagined and painted by Chang Hsi-an (1761-1829). Use the following questions to elicit responses from the students: Chart all responses so students can refer to them. Word webs might be helpful here.
  - What kind of a person would imagine himself in this Chinese landscape painting?
  - Why do you think nature was important to the Chinese people and why do you think they make so many paintings of this subject?
  - Why do you think Chinese scholars frequently paint from their imaginations rather than from reality?
  - Why do Chinese landscape paintings frequently have poems written on them?
  - Who were scholar-officials, what was their function in government, and how did they get there?
  
4. Give students cardstock or postcard form for the writing part of the assignment. Using markers, colored pencils, watercolors and brushes, students will do a landscape drawing or painting from their imaginations. Then on the other side of the postcard the students will write a poem, or if they have visited the Pacific Asia Museum, they can write a message about what they saw or learned.



You can offer the students a postcard form or have them make their own.

### Assessment

Evaluate the student's postcard. Does it indicate understanding of the concepts presented and learned about Chinese landscape painting and the Chinese scholar-official class?

### Examples of Chinese Poems

These are examples of Chinese poems that might be found on a landscape painting.

Snow on the river  
 Over thousands of mountains, no bird flies  
 Over thousands of paths there is no trail of footprints.  
 On a lonely boat sits an old man with bamboo hat and cape,  
 Fishing silently in the snowy river.

The snow has gone from Chung-nan; spring has almost come.  
 Lovely is the distance, its blue color against the brown of the street.  
 A thousand coaches, ten thousand horsemen pass down Nine Roads;  
 Turns his head and looks at the mountain, not one man!

### Contact and Field Trip Information

Pacific Asia Museum 626-449-2742

### Music

## The Pasadena Symphony

### The Firebird

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**Time** 60 min

**Grades** 6-8

#### California VAPA Content Standards

##### Music

Grade 6

Aesthetic Valuing 4.2 Explain how various aesthetic qualities convey images, feeling, or emotion.

Grade 7

Aesthetic Valuing 4.1 Use criteria to evaluate the quality and effectiveness of musical performances and compositions.

Aesthetic Valuing 4.2 Apply criteria appropriate for the style or genre of music to evaluate the quality and effectiveness of performances, compositions, arrangements, and improvisations by oneself and others.

Grade 8

Aesthetic Valuing 4.1 Use detailed criteria for evaluating the quality and effectiveness of musical performances and compositions and apply the criteria to personal listening and performing.

#### California Science Content Standards

Grade 6

##### Investigation and Experimentation

7a. Develop a hypothesis.

7d. Communicate the steps and results from an investigation in written reports and oral presentations.

Grade 7

##### Investigation and Experimentation

7c. Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.

Grade 8

##### Investigation and Experimentation

9a. Plan and conduct a scientific investigation to test a hypothesis.

9b. Evaluate the accuracy and reproducibility of data.

#### Indicators of Achievement

- Students will become familiar with the last Movement of Stravinsky's *Firebird Suite* and how the music expresses the emotions, characters and setting of the Old Russian fairytale upon which the piece is based.
- Students will take detailed steps in writing a descriptive essay with a hypothesis on the sounds and environment of the firebird. The essay will include supporting details and precise verbs, nouns, and adjectives to paint a visual image in the mind of the reader.

#### Materials

CD excerpts from the final movement of Stravinsky's *Firebird* will be located with the school site arts representative.

### **Vocabulary**

feelings/emotions, senses, sensory, environment, visual, aural, sequence

### **Preparation/Background**

Igor Stravinsky (1882-1971) was born in St. Petersburg, which was the capital of Russia at the time. His father was a famous opera singer, so as a child, Igor was able to spend a lot of time at the opera house, where he met all the famous musicians of the day. Igor began taking piano lessons at age 9. When he grew up, he started studying law. One of his fellow law students was the son of composer Nikolai Rimsky-Korsakov, who agreed to give Stravinsky composition lessons. Law fell by the wayside completely after Stravinsky had such success with *The Firebird*, which he composed for Serge Diaghilev, head of the Russian Ballet.

### **The Story of the Firebird**

Long ago a prince named Ivan went hunting far from his own land. He lost his way until at last he discovered a high stone fence with a golden gate. Peering through the gate he saw a garden filled with graceful trees and flowers.

Suddenly the garden blazed with golden light. Ivan watched a magnificent Firebird flitting from branch to branch. Sometimes the firebird seemed like a bird and sometimes a woman. In fear, he immediately reached for his bow and arrow but then stopped, not wanting to harm such a glorious creature.

From his belt he instead took a net and caught the Firebird. The Firebird then said, "Free me and I will give you a magic feather. If you need my help, wave it three times in the air and I will come to you." Ivan thanked the bird, set it free and placed the feather into his shirt, where he felt it resting warm against his heart.

Suddenly, Ivan came across the lovely Princess Elena dressed in violet. She told Ivan that the wizard Kashchei, disguised as a black whirlwind, kidnapped her. Ivan promised Elena that he would help her escape. Elena warned Ivan that there was no escaping the garden and that anyone who Kashchei touched will turn into stone.

The air around them began to hum. Soon the humming turned into howling that split the sky. A dark storm cloud appeared and changed into the dark, slender magician. And just as the Firebird appeared sometimes a bird, sometimes a woman, the magician appeared sometimes as a man and sometimes as a skeleton with black bones.

Kashchei was about to offer to shake the Prince's hand but Elena shouted, "One touch will turn you to stone!" Suddenly, fierce creatures crowded Ivan and the young prince drew out the Firebird's feather and waved it three times. The light from the firebird blinded the creatures and they fell into a deep sleep. The presence of the firebird helps the Prince destroy the evil Kaschei. Prince Ivan and Princess Elena married and lived happily.

### **Activity**

Students will create a hypothesis on the environment for the Firebird and complete a creative writing assignment

1. Students will listen to a movement of the Firebird Suite
2. Teacher will guide students into a discussion, creating a “word web” on the board. The “word web” will be used as a tool to brainstorm words that give insight to the story of the Firebird. (e.g., senses, emotions, feelings)
3. Using the words from the “word web” students begin to write a hypothesis on what they think the Firebird’s environment will look, feel, and sound like. Students will be adding sensory detail with each step (play the Firebird CD in the background during this exercise): Write a paragraph describing the setting of the Firebird. Use visual and/or aural details. Describe only what a person would see if they went to that place. Students should end up with a description that allows a reader to both visualize the setting, and imagine what it sounds or feels like there.

### **Assessment**

Discuss with students about how an environment can create different types of feelings and emotions. Also explain how descriptive words can convey a certain mood. Then ask students to consider the following questions. Is the student able to contribute successfully based on participation in the activities of this lesson?

- Was your Firebird’s setting an enjoyable environment? Why would you want to live there or why wouldn’t you?
- What particular parts in the music truly expresses the mood of your created environment?
- What part of your description was the similar to the original Russian tale? What was different?
- Were your descriptions/words similar to your classmates?

### **Extensions**

Word Web: Students should edit and re-write their descriptions. This exercise can continue by having students write their own version of The Firebird story. Students can continuously add to the word web by writing adjectives or other words that describe the firebird and posting it on the board. (can possibly use Post-it Notes)

Scenes from the Firebird: Using a sheet of construction paper, dividing it into 4 parts, students can illustrate 4 or more scenes from the story, possibly in sequential order.

### **Contact and Field Trip Information**

Jerri Price: [jprice@pasadenasympphony.org](mailto:jprice@pasadenasympphony.org)  
[www.pasadenasympphony.org](http://www.pasadenasympphony.org)

**Science**  
**Shumei Hall and Gallery**

**Field Trip: Solar Energy: Beauty and Power**

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A Science Presentation About Solar Energy

**Time** Approximately 2 hours

**Grades 7 and 8**

Introduction to the beauty and power of solar energy – 20 minutes.

Explore solar cooking – 30 minutes

Collective power of solar energy using mirrors– 30 minutes

Reflection and discussion on the beauty and potential of solar energy – 20 minutes.

Examine displays – 20 minutes.

Total time: 2 hours

**California Science Content Standards**

Grade 7

Physical Science

6f. Students know light can be reflected, refracted, transmitted and absorbed by matter.

Grade 8

Physical Science: Earth in the Solar System

4a. Students know galaxies are clusters of billions of stars and may have different shapes.

4b. Students know that the sun is one of many stars in the Milky Way galaxy and that stars may differ in size, temperature, and color.

**Indicators of Achievement:**

- Student shows understanding the solar spectrum
- Student understands that the power of the sun has many applications.
- Student considers unique applications for solar energy.
- Student is able to describe the solar cooker process and solar concentrators.

**Materials**

Materials provided at field trip location; for classroom follow-up, teacher will supply materials according to activities selected

**Preparation/Background**

Basic understanding about solar energy appropriate to their grade level.

Understanding temperature, phase-change state of materials.

Visible light and lenses, pollution, electrical generation.

**Vocabulary**

Electromagnetic spectrum, solar flux, wavelength, infrared, ultra-violet, thermal, chimney effect, vaporization, phase-change, concentration, space heating, focusing, sustainability.

**Activity**

1. Students visit photography exhibition.
2. Students learn about the use of solar energy and what it can achieve.
3. Students experiment with a solar cooker.



4. Students participate in being part of a collective solar concentrator.
5. Students build targets to demonstrate solar energy.
6. Students reflect on the beauty and potential for solar energy use.
7. Back in class, students decide on a project to demonstrate their acquired knowledge.

### Assessment

Evaluate the student's participation during the field trip and the related project. Does the project demonstrate that the student understands the solar spectrum; understands that the power of the sun has many applications; considers unique applications for solar energy; is able to describe the solar cooker process and solar concentrators?

### Images For Lesson on Solar Energy

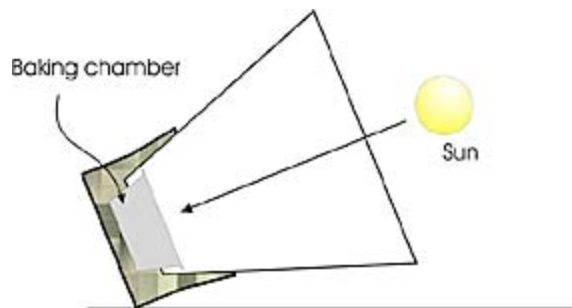


Diagram of a solar concentrator.



Solar cooker



Mirrors to demonstrate collective solar power.

**Contact and Field Trip Information**

Reservations: Jane Imai, [janeimai@shumeiarts.org](mailto:janeimai@shumeiarts.org) or 626-584-8841

Map: [www.shumeiarts.org/map.html](http://www.shumeiarts.org/map.html)

Location: Shumei Hall, 2430 E. Colorado Blvd., Pasadena, CA 91107

**Science**  
**Shumei Hall and Gallery**

**Field Trip: What Are We Eating?**

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A Science Presentation About Genetically Modified Foods

**Time:** Approximately 2 hours

**Grades** 7-8

**California Science Content Standards**

Grade 7

Cell Biology

1. All living organisms are composed of cells, from just one to many trillions, whose details usually are visible only through a microscope. As a basis for understanding this concept:  
c Students know the nucleus is the repository for genetic information in plant and animal cells.

Genetics

2. A typical cell of any organism contains genetic instructions that specify its traits. Those traits may be modified by environmental influences.

Grade 8

Investigation and Experimentation

9. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations.

**Indicators of achievement**

- Student remains focused while viewing photo exhibit and video.
- Student shows understanding of the concept of genetically modified food.
- Student develops and communicates a point of view about pros and cons of genetically modified food.
- Student learns to evaluate the accuracy and reliability of the data presented.
- Student applies new knowledge while collecting relevant data at home.

**Materials**

Video: "Deconstructing Supper"

**Preparation/Background**

Ask the students beforehand if any of them know or notice where their food comes from and whether they have concerns about its safety.

**Vocabulary**

genetic engineering, GM or genetically modified food (used in about 60 to 70% of all processed foods), organic, biotechnology, Monsanto, canola, genes, conventional vs. organic agriculture, BGH (bovine growth hormone).

## **Activity**

1. Visit the photography exhibition in the gallery.
2. Watch the video.
3. Discussion: Students will discuss and evaluate the accuracy and reproducibility of data. Related to this we will distinguish between variable and controlled parameters in this report.
4. In class or for homework, students will be asked to list what they are eating at home for one day. They will check the labels etc. and try to find out where the food is grown and any other information about it such as how the food has been treated. What kind of information is available? Then there will be a class discussion on what they have learned by doing this investigation. Student completes a writing assignment that explains important concepts learned from this activity and communicates the student's point of view about the content of the presentation.

## **Assessment**

Evaluate the student's participation and follow-up work. Did the student participate fully in receiving and discussing new information? Did the student follow up by successfully collecting data as suggested for homework? Did the student's writing assignment show understanding of the concepts learned during this activity and communicate his/her point of view successfully?

## **Contact and Field Trip Information**

Reservations: Jane Imai, [janeimai@shumeiarts.org](mailto:janeimai@shumeiarts.org) or 626-584-8841

Map: [www.shumeiarts.org/map.html](http://www.shumeiarts.org/map.html)

Location: Shumei Hall, 2430 E. Colorado Blvd., Pasadena, CA 91107

## Grades 9 – 12

### Art & History Norton Simon Museum

#### Impressions of Nature

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**Time** One to two weeks

**Grades** 9-12

#### California VAPA Content Standards

2.4 Review and refine observational drawing skills.

3.3 Identify and describe trends in the visual arts and discuss how the issues of time, place, and cultural influence are reflected in selected works of art.

California History-Social Science Content Standards

10.3 Students analyze the effects of the Industrial Revolution in England, France, Germany, Japan, & the U.S.

California English Content Standards

#### Writing Applications

2.1 Write biographical or autobiographical narratives or short stories.

#### Indicators of Achievement

- Student completes a short story that uses sensory details and dialogue
- Student brings 2-3 Impressionist images to class with artist, title, year, & medium indicated
- Student completes a 1-2 page essay: “Interactions With Nature”
- Student completes an Impressionist-style drawing of a contemporary scene
- Student actively participates in class discussions

#### Materials

Overhead transparency of Louis-Eugène Boudin’s *The Beach at Trouville* (included in packet), sketch paper, pencil, crayons or pastels

#### Vocabulary

*en plein air*, figure, horizon line, Impressionism, industrialization, landscape modernity, palette, urbanization.

#### Preparation/Background

In the 19<sup>th</sup> century, France experienced rapid industrialization and urbanization. Between 1830 and 1850, the population of Paris doubled and as the century unfolded a strong middle class developed. In 1853, under the reign of Napoleon III, an ambitious public projects program transformed the face of Paris from a largely medieval city into a modern metropolis with wide boulevards, spacious parks, newly-designed buildings, street lighting, and a water and sewer system. Regulated working hours afforded people leisure time to enjoy the pleasures of city life: picnicking in parks, sailing along the Seine River, and socializing in cafes, concert halls and theaters. Paris became a haven for its inhabitants as well as for tourists. Steam-driven trains and an expansive railway system, another facet of industrialization, encouraged travel beyond the city to places in the country and at the seashore.

Modernity fostered a new art. Impressionism, an artistic movement pioneered by Claude Monet and his friends (Edgar Degas, Pierre-Auguste Renoir, and Camille Pissarro among others) in the 1870s, was born from this changed world. Impressionist artists rejected traditional subjects

like ancient history and mythology. Instead, they represented contemporary subjects observed in the world around them. They introduced a radical new style of painting, replacing carefully blended, smooth surfaces with heavy brush strokes of pure color. They painted landscapes, figures and objects in a blurry, seemingly rapid manner so that their artworks often appear sketchy and unfinished.

Nature became the focal point for Impressionist artists' exploration of optical sensations of light and color. Artists left the confines of the studio to paint directly from nature, *en plein air* (French for "outdoors"). The invention of small, portable paint tubes facilitated this practice. Modern, chemically derived paint pigments (such as chrome yellow, cobalt green and violet, and alizarin crimson) offered painters a broader palette which enhanced their ability to transcribe nature's great variety of color to the canvas.

Boudin was one of the first French artists to abandon the studio and paint in the open air. He spent his youth in Normandy, an area of Northern France along the English Channel that became a popular tourist destination in the 19th century. In *The Beach at Trouville*, painted in 1872, the artist observes fashionably-dressed women and men enjoying a day at the beach. While the figures at first appear to be casually arranged, in fact the composition is carefully constructed. The heads of the standing figures rest upon a horizon line where the sea and sky meet. The blue and yellow parasols they hold are similar in color to the sand and ocean, creating unity which connects the figures and landscape.

Boudin's primary interest was in capturing the changing patterns of color, light and atmosphere as observed in sky, clouds, and water. When Monet embarked upon landscape painting, he heeded his teacher Boudin's advice to paint directly from nature.

### Activity

1. Begin with a discussion of Boudin's *The Beach at Trouville*, using the enclosed transparency. Questions to ask: Where do these people appear to be? What do you see that makes you say that? How do the people presented in this artwork differ from beachgoers today in appearance? Consider not just what they wear, but what they carry and the articles they bring with them. What about the style looks "Impressionist"?
2. Discuss how the artwork illustrates aspects of modernity: growth of the leisure class, inventions that allowed this type of activity, etc. Or, ask students to read "background" section and let them explain how it reflects changes in society brought about by France's Industrial Revolution.
3. Next, students write a short story about this scene with dialogue between two of the figures in this painting. They should use sensory details to describe the setting: smell, taste, sight, sound, and touch. In addition, they should reference aspects of French life that connect to the Industrial Revolution.
4. Homework: Students look at other Impressionist artists to gain more familiarity with the Impressionist style. Examples of artists to consider: Mary Cassatt, Edgar Degas, Claude Monet, Berthe Morisot, Pierre Auguste Renoir. Each student should bring 2-3 images to class that show people out in nature (printouts from the internet are fine). The artist's name, title of artwork, date created and medium should be included with the image.

5. Spread the images out on a table or on top of desks and have students view them as a group. What kinds of activities are the figures enjoying? How does one artist's style differ from another's? What various locations are depicted? How are these images different from or similar to the ways we interact with nature now?
6. Homework: essay: "Interactions With Nature". Students write a short essay (1-2 pages) on the ways that they enjoy nature. Do they camp? Walk in the park? Think nature is boring? Discuss their thoughts as a class after the paper is turned in.
7. Homework (or field trip if possible): Students should observe people interacting with nature in real life - with sketchbook in hand, visit one of the area's local parks. Use pastels or crayons to imitate the Impressionist style.

### **Assessment**

Evaluate the quality of the student's contributions and participation in the activities including discussions, writing assignments, and drawing.

### **Extensions**

This lesson could be expanded to include an analysis of how human interactions with nature are presented in visual culture, and the paradoxes that these images present. For example, many SUV advertisements depict people enjoying the great outdoors, yet gas-guzzling SUVs pollute the environment. Students could create collages from paper media sources (magazines, newspapers), compile sound recordings from radio advertisements, or take their own photos of outdoor media (such as billboards).

### **Contact and Field Trip Information**

Guided tours are available free of charge to students in grades 5-12. These 75-minute tours are held in the mornings before the Museum opens to the public. For more information, call 626-884-6980, e-mail: [tours@nortonsimon.org](mailto:tours@nortonsimon.org), or visit [www.nortonsimon.org](http://www.nortonsimon.org).

## **Music**

### **Southwest Chamber Music**

#### **Field Trip: Soundscape Ryoanji**

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An Exploration in Music of a Japanese Zen Rock Garden

**Time** 50 minutes to an hour

**Grades** 9 – 12

This program will be made available to John Muir High School and Marshall Fundamental Middle School during the 2004-2005 School Year. Interested teachers from other schools can use the contact information at the end of this lesson.

#### **California VAPA Content Standards**

Music

Artistic Perception 1.4 – 1.6 Listen to, analyze and describe music.

#### **Indicators of Achievement**

- Using John Cage's career and life as the model, the student analyzes how roles of composers have changed throughout history.
- Student understands John Cage's role and place in American and global music, the influence of Japanese/eastern culture on his music, and his influence on Japanese composers.
- Student identifies uses of music elements in non-traditional art music by John Cage in Ryoanji, and understands the influence upon this piece of Cage's experience in a Zen rock garden in Kyoto, Japan.
- Student appreciates the diversity of world music traditions.
- Student increases awareness of traditional music of Japan, the tradition of the Zen rock garden, and Eastern Philosophy.
- Student understands the musical ideas of form, texture, chance and tone poem.

#### **Vocabulary**

Form: the organization and structure of a composition and the interrelationships of musical events within the overall structure.

Notation: written music indicating pitch and rhythm for performance

Texture: the character of different layers of horizontal and vertical sounds

Tone poem: an orchestral composition based on an extra musical idea: a tone picture

#### **Activity**

1. Students will listen to Ryoanji by John Cage. To facilitate and deepen the listening experience they will be asked to consider the following: While you listen to Ryoanji allow your mind to wander. Let the music be your guide. Don't fight the propensity to daydream. Write down what comes to mind. What in the music influenced you? How?
2. Students will learn how Japanese/Eastern culture influenced the music and thinking of John Cage.
3. Students will be encouraged to compare and contrast the ways traditional Japanese music and John Cage's music are used to create images to evoke feelings and emotions.



4. Students will look at photos of the Japanese Zen rock garden, listen to traditional Japanese music and the music based on the garden by John Cage, and discuss and analyze how the three are interrelated. Is it possible to transfer the same kind of feeling from one art form to another?

**Assessment**

Brainstorm concepts covered during the students' participation in the above program. Have each student write a news report or a letter to a friend discussing one of the questions covered during the program (listed above). Does the student's writing offer a clear explanation of the new concepts learned in this lesson?

**Contact Information**

Contact Inka Bujalska at [inka@swmusic.org](mailto:inka@swmusic.org) or call 626-685-4455 to participate along with the schools mentioned at the beginning of this lesson.

Participants are also encouraged to take a look at our website, [www.swmusic.org](http://www.swmusic.org), in our Photo Gallery and Related Links sections for more information on John Cage.

## Science

California Institute of Technology / US Dept of the Interior / US Geological Survey

### Land and People: Finding A Balance

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**Time** As needed to complete desired sections

**Grades** 7-12

#### **California Science Standards**

Grade 7

##### Investigation and Experimentation

7b. Use a variety of print and electronic resources (including the World Wide Web) to collect information and evidence as part of a research project.

7c. Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.

7d. Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge

##### **Earth Science**

4a. Students know Earth processes today are similar to those that occurred in the past and slow geologic processes have large cumulative effects over long periods of time.

Grade 8

##### Investigation and Experimentation

9a. Plan and conduct a scientific investigation to test a hypothesis.

9b. Evaluate the accuracy and reproducibility of data.

9c. Distinguish between variable and controlled parameters in a test.

9e. Construct appropriate graphs from data and develop quantitative statements about the relationships between variables.

9f. Apply simple mathematic relationships to determine a missing quantity in a mathematic expression, given the two remaining terms (including speed = distance/time, density = mass/volume, force = pressure x area, volume = area x height).

9g. Distinguish between linear and nonlinear relationships on a graph of data.

Grades 9–12

##### Earth Science

3a. Students know features of the ocean floor (magnetic patterns, age, and sea-floor topography) provide evidence of plate tectonics.

3b. Students know the principal structures that form at the three different kinds of plate boundaries.

3c. Students know how to explain the properties of rocks based on the physical and chemical conditions in which they formed, including plate tectonic processes.

3d. Students know why and how earthquakes occur and the scales used to measure their intensity and magnitude.

6a. Students know weather (in the short run) and climate (in the long run) involve the transfer of energy into and out of the atmosphere.

6b. Students know the effects on climate of latitude, elevation, topography, and proximity to large bodies of water and cold or warm ocean currents.

6c. Students know how Earth's climate has changed over time, corresponding to changes in Earth's geography,

9a. Students know the resources of major economic importance in California and their relation to California's geology.

9b. Students know the principal natural hazards in different California regions and the geologic basis of those hazards.

9c. Students know the importance of water to society, the origins of California's fresh water, and the relationship between supply and need.

9d. Students know how to analyze published geologic hazard maps of California and know how to use the map's information to identify evidence of geologic events of the past and predict geologic changes in the future.

#### Investigation and Experimentation

1a. Select and use appropriate tools and technology (such as computer-linked probes, spreadsheets, and graphing calculators) to perform tests, collect data, analyze relationships, and display data.

1d. Formulate explanations by using logic and evidence.

1f. Distinguish between hypothesis and theory as scientific terms.

1h. Read and interpret topographic and geologic maps.

#### **Indicators of Achievement**

- Student successfully explores the unique geology of the Los Angeles area
- Student understands the area's natural hazards and explores how human impact on the environment increases the effects of these hazards
- Student learns how to use a variety of maps (geologic, topographic) to answer questions about safety risks.
- Student creates a presentation discussing what he/she believes are the most serious geologic and hydrologic hazards in the La Crescenta area, how those hazards affect school children, and whether the schools should be left where they are, closed, or relocated. provides justification for their analysis, based upon the information received during the unit of study, their understanding of geologic and hydrologic hazards, and the lessons they learned as they completed the activities assigned.

#### **Materials**

A packet of the Land and People student materials for each student and one Teacher Packet (easily copied from the second web site below); a topographic map of model area (Teacher Packet, page 4) for each group; thick cardboard boxes, scissors, tracing paper, glue

#### **Resources**

Our Changing World

[http://interactive2.usgs.gov/learningweb/teachers/lesson\\_plans.htm#changingworld](http://interactive2.usgs.gov/learningweb/teachers/lesson_plans.htm#changingworld)

Land and People: Finding a Balance (grades 7-12)

<http://interactive2.usgs.gov/learningweb/teachers/landpeople.htm>

Land and People: Finding a Balance is an environmental study project that engages high school students in studying earth science resource issues. The project focuses on the interaction between people and the environment in three regions of the United States: Cape Cod, Los Angeles, and the Everglades. Each section of this project is devoted to one of the three regions. The La Crescenta materials available on this web site contain everything needed to make a curriculum packet for teacher and students to complete this project. See "How to Use This Packet" later in this document.

#### **Vocabulary**

topographic, geologic, hydrologic

#### **Introduction**

The La Crescenta project in the curriculum packet asks students to consider the following Focus Question: You and your classmates are members of a La Crescenta civic group that has been formed to evaluate the safety of your community's school children in the event of the following geologic and hydrologic hazards: earthquakes, and landslides (including mud and debris flows). Using the maps, tables, and other information in this packet, your job is to present the study of geologic hazards to children that attend the following schools: Monte Vista School, Valley View School, and Rosemont Junior High School. Once your group has discovered what the hazards are, you will decide whether school children are safe attending the three schools in their present locations, or if new sites for the schools must be found. Your group will make a presentation at a La Crescenta "community meeting" in which you will describe your analysis about how the community can guarantee children's safety during school.

### **Preparation / Background**

Students often have difficulty visualizing topography from two-dimensional contour maps. In the following activity, students will build a topographic model of Shields Canyon and the area south into La Crescenta. They will be able to see and feel the steep slopes in the area and the sharp change in topography from the San Gabriel Mountains to the nearly flat valley where the population is concentrated. "Building a Topographical Model" describes a preparatory lesson to be completed and assessed before beginning the activity packet described in the materials section and at the end of this lesson.

#### **Building a Topographic Model**

1. Begin by deciding what kinds of models the students will create. They could work in groups to construct models by using different vertical exaggerations (2:1, 4:1, 1:1) or, you may want to divide the map into smaller areas and have each group construct a model of an area. After constructing the individual models, students would then assemble the models and create a model of the entire area.
2. You may want to invite your students to devise their own method of making a three-dimensional representation of the area. They may want to use modeling clay, Styrofoam, or sheets of acrylic. The model-making activity explained below uses heavy cardboard.
3. After deciding what area students will create a model of, explain the model-building process to the students. They will begin by tracing the outlines created by individual contour lines, starting with the lowest elevation. Using the traced shape as a template, students will then cut out cardboard to match the shape. Students will trace each subsequent (and higher) contour, reproduce the shape in cardboard, and stack it on top of the last cardboard shape. Students should glue each piece in place. They will need to refer to the topographical map to see how to place each layer of cardboard.
4. Once they have built the models, have the students compare the topographic map to their model. Comparing the model to the map will help students see that when the topography is steep, the contour lines are close together. When the topography is relatively flat, the contour lines are far apart. Ask students if the model surprises them in any way. Ask students to focus on the Shields Canyon area. Can they now see why in Shields Canyon the contour lines make upside down v's.
5. Ask students a variety of questions that will help them interact with the model. Have them place markers on the map to represent the schools in the focus question. Ask them to indicate the necessary path of a debris flow.

6. Have students locate the debris retention basins on their models. Ask students to consider the following questions:
  - β Why were the basins placed where they are?
  - β What areas do the basins protect?
  - β What developed areas are not protected by a debris-retention basin?
7. Have students measure the slopes in their model area by using the clinometer they constructed in Activity 1 or a contact goniometer. How do the slopes in the model compare with the slopes of their sand castles? If the slopes in the model are steeper than the ones in the sand castle, ask students to explain why.
8. Display the models prominently during this unit. Have students refer to the models as they answer the Focus Question.

### **Assessment**

Evaluate the student's topographical model. Did the student successfully complete the according to directions given by the teacher? Is the student able to use the model as a reference in answering questions such as those in number 6 above?

### **Extension**

- Students could construct a series of topographic profiles, which are perpendicular, then connect the profiles.
- Students could pick new sites for debris retention basins that would protect development upstream, from existing basins.

### **For the Teacher: How to Use This Packet**

The Teaching Guide provides an overview of the project as well as a list of references for teachers, by region. The references cited in this list were used as background information for the sections of the Packet.

The poster presents a variety of visual images from each region with explanatory text about each one. Use the poster to begin a general discussion about human impact on the environment as well as to discuss the specific consequences of human actions in each region.

Each section contains a set of student materials and a set of teacher materials for either Cape Cod, the Everglades, or Los Angeles. Each section is divided into two parts: "For the Student" and "For the Teacher." The student materials present students with a Focus Question to answer and also provide them with several types of information they should use to answer the question. Student materials include some or all of the following:

- a reading about the region
- a description of the "Interested Parties" so students can role-play as they answer the Focus Question
- maps
- population data
- geologic information
- water use data
- photographs

The teacher materials include a brief explanation of what students will learn as they work on answering the Focus Question and a description of what form their answer might take. The teacher materials also present three Activities that will help students answer the Focus

Question. Each Activity clearly describes what students will need to complete the Activity, explains the procedure, and in some cases, suggests extension activities. Any maps or other information students will use to complete the Activities are included in the teacher materials.

The sections can be studied in any order. A class could complete all three sections or just one. The sections can be used in whole or in part. Students might read the entire set of student materials for a region then complete all the Activities in the teacher materials, or just complete selected Activities.

Each student will need a copy of the student materials. These materials are designed to be photocopied clearly and easily. Students will also need copies of the maps and other data that accompany the Activities in the teacher materials.

### **References, Los Angeles**

Cooke, R.U. *Geomorphological Hazards in Los Angeles (London research series in geography)* George Allen & Unwin, Winchester, MA, 1984.

Gore, Rick, 1995 *Living With California's Faults*, National Geographic Magazine, vol. 187, no. 4, p. 2-35 (with double map supplement, Earthquakes).

National Geographic Society, 1997, Restless Earth, *Nature's Awesome Powers*: National Geographic Society, Washington, D.C.

*Recent Reverse Faulting in the Transverse Ranges, California*. U.S. Geological Survey Professional Paper 1339, 1987.

Troxell, Harold C., and Peterson, John Q., 1937, *Flood in La Canada Valley, California*: U.S. Geological Survey, Water Supply Paper 796-C, p. 53-98.

Ziony, J.I., editor, 1985. *Evaluating Earthquake Hazards in the Los Angeles Region - An Earth-Science Perspective*. U.S. Geological Survey Professional Paper 1360.

### **Contact and Field Trip Information**

The USGS Learning Web  
<http://www.usgs.gov/education/>

Earthquakes for Kids:  
<http://earthquake.usgs.gov/4kids/>

Ask a Geologist:  
<http://walrus.wr.usgs.gov/ask-a-geologist/>

Field trip information:  
Robert de Groot  
Southern California Earthquake Center &  
California Institute of Technology  
626.395.3598  
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