****

**A River Runs Through It-Watershed Art Installation**

**Subject:** Science / Hydrology

**Grade Level:** 8

**Lesson Plan:** Six 50-minute classes

**  **

Students work together to create an art installation of a watershed. Recycled plastic serves multiple purposes in this project: it is reusable, economical material; it reflects the plastic waste that is in our water; and it shows students how much plastic we consume. Students create part of a waterfall, a fish, and a plant while learning about the different components of a watershed, including human impact on a watershed.

**Objectives:**

* Students will create elements of a watershed using recycled plastics
* Students will identify elements of human impact on a watershed
* Students will create an art installation representing a watershed

**Basic Outline of the Lesson:**

* Introduce the project – slide show
* Students create a waterfall, plants, and fish
* The watershed is assembled in the installation location

**Art Supplies:**

* Watercolor paints
* Acrylic paints
* Modge podge
* Paint brushes
* Water cups for brushes
* Scissors
* Plastic bottles
* Caps
* Tissue paper
* Glitter paint
* Colored masking tape
* Stapler
* Glue guns
* Hot glue
* Plastic film / plastic bags
* Hemp line / fishing line
* Thumb tacks
* Dowel or rod to hang the bottles
* Wire
* Wire cutters
* Eye screws
* Rope
* Colored pencils
* Drawing paper

**Other Resources:**

* Visual examples of fish and plants created from plastic
* Slide show to introduce project and related artwork (see outline at the end of the lesson plan)

**Idaho State Learning Standards:**

* Arts and Humanities: Anchor Standard 4: Convey meaning through the presentation/performance/production of an original work or unique interpretation of a work
	+ Objective PR1.1 Combine knowledge and understanding from two or more disciplines to present/perform their original or interpreted works for an audience
	+ Objective PR1.2 Convey meaning through their presentation/performance
* LS2-MS Ecosystems: Interactions, Energy, and Dynamics
	+ LS2-MS-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
		- Further Explanation: Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources
	+ LS2-MS-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
		- Further Explanation: Emphasis is on describing the conservation of matter and flow of energy into and out of various ecosystems, and on defining the boundaries of the system
	+ LS2-MS-6. Evaluate competing design solutions for maintaining biodiversity and ecosystem services
		- Further Explanation: Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and social considerations.

**Academic Language:**

* Subject area language: watershed
* Art language: art installation

**Student Use of Vocabulary:**

Students will use the words when creating their projects

**Student Grouping:**

Students will work individually or in small groups

**Instruction:**

**Day 1 – Introduction**

* + Introduce the project with a slide show (see additional resources)
		- Questions to ask:
		- What do you see here?
		- How do you think the artist created their work?
		- Why do you think the artist made this piece?
	+ Students can use the paper and pencils to sketch ideas for fish and plants

**Day 2 – Artmaking**

* + Discuss the significance of using the water bottles: their symbolism, recycling, the damage of plastic waste
	+ Demonstrate how to string the water bottles together (follow printed instructions included below)
	+ Working in small groups, students should string together their water bottles to create a waterfall

**Day 3 – Artmaking**

* + Demonstrate plant creation with the class. Show the students examples of plastic plants.
	+ Students start creating their plants. Encourage the students to employ the three art techniques: cutting, gluing and embellishment.
	+ When students have finished their plants, decide how they will install them in the installation location

**Day 4 – Artmaking**

* + Go over the fish creation with the class, showing the students examples of plastic fish
	+ Students begin creating their own fish
		- Encourage the students to employ the three art techniques: cutting, gluing and embellishment
	+ When students have finished their fish, hang them up in the installation location

**Day 5** **– Artmaking**

* + Students should use this period to finish any uncompleted work.

**Day 6 – Presentation**

* + Finish installation of student fish and plants in the installation location
	+ When the watershed is complete, the class should go into the hallway to look at and discuss their work
		- Questions to ask:
		- What did we create?
		- What did you learn?
		- What is a watershed? What is your role in a watershed?
		- How did you like doing an art project to learn about science?

**Additional Resources:**

Instructional video at svmoa.org

**Slide Show Outline:**

Slide examples:

* We will think about:
	+ - What is a watershed?
		- Why are watersheds important?
		- What is our responsibility to a watershed?
* Our art is inspired by plastics and other pollutants and their effects on a watershed
	+ - Video: What really happens to the plastic you throw away? by Emma Bryce
* What is an art installation?
	+ - A 3D, sculptural piece of art that is designed for a specific space
		- The art is usually temporary and changes how people view the space
		- Examples: “Paper Planes” by Dawn Ng and “Melting Man” by Nele Azevedo
* Photo of recycled bottle waterfall by Chinese artist Wang Zhiyuan
	+ - Questions to ask:
		- What do you see here?
		- What is this made out of?
		- Where do you think this is?
		- What is the artist telling his audience?
		- How is this art related to water?
		- Why and how is this an art installation?
* Photo of plastic plants by Veronika Richterova
	+ - Questions to ask:
		- What do you see here?
		- What materials did the artist use?
		- How many bottles did she use?
* Photo of plastic leaves by Veronika Richterova
	+ - Questions to ask:
		- What do you see here?
		- What materials did the artist use?
		- How many bottles did she use?
		- How did she get the leaves to take their shape?
* Three ways of manipulating plastic
	+ - Cutting
		- Gluing
		- Embellishment
* Cutting
	+ - Takes away material
		- Creates details
		- Changes surface
* Examples of cut plastic
	+ - “Green Plant” by Artist Gulnuroz Daglar
		- Questions to ask:
		- What material is used here?
		- How does cutting change the material?
		- How much of the material has been taken away?
* Cut plastic art by Eduard Aldrovandi
	+ - Questions to ask:
		- What material is used here?
		- How many bottles do you see?
		- How do you think he did this?
* Gluing
	+ - We will be using modge podge and hot glue
		- What does gluing allow us to do?
		- Enables layering and embellishment
* Examples of Layering
	+ - Artists David Edgar and Jen Stark
		- Questions to ask:
		- What materials did the artists use?
		- How many layers can you see?
		- How does layering change the appearance of the materials?
* More examples of layering
	+ - Artists Aurora Robson and Michelle Reader
		- Questions to ask:
		- What do you see here?
		- How are they similar and how are they different?
* Embellishment
	+ - What is embellishment?
		- Decoration
		- Adding to
		- How can we embellish our plastic creations?
		- Paint
		- Add more plastic
		- Add other materials
* Examples of embellishment
	+ - “Wreath” by Leanne Stock
		- Questions to ask:
		- What do you see here?
		- How is this embellished?

**Installation Directions:**

Stringing together water bottles to create a waterfall:

* + 1. Poke a hole in the plastic (nail or poking tool)
		2. Run the string through the bottle
		3. Make sure the beginning and end of the string are secure
		4. Attach more water bottles
		5. Attach your string of water bottles to a classmate’s string of water bottles

Creating a plastic fish:

1. Choose a water bottle as the foundation for the fish
2. Cut the water bottle in different ways to change the shape
3. Take the cut pieces or other pieces of plastic and hot glue them onto the fish
4. Embellish fish using paint, tissue paper, modge podge, glitter glue, and colorful tape
5. Run a string through the fish so we can hang it in the hall

Creating a plastic plant:

1. Choose a water bottle as the foundation for the plant
2. Cut the water bottle in different ways to change the shape
3. Take the cut pieces or other pieces of plastic and hot glue them onto the plant
4. Embellish plant using paint, tissue paper, modge podge, glitter glue, and colorful tape
5. Run a string through the plant so we can hang it in the hall

Funding for this lesson plan was made possible in part by the Institute of Museum and Library Services [MA-10-19-0563-19].

Additional funding provided by Wendy and Alan Pesky.

****