

WHERE DOES OUR WATER COME FROM

LEARNING OUTCOMES:

- Students will realize what a Watershed is and where their local water comes from.
- Students will successfully maneuver the USGS website to locate and map their local watershed.
- Students will create models of their state's different watersheds out of modeling clay, and present them to the class.

MATERIALS:

PART 1 – 2

- Modeling Clay (enough per group)
- Tupperware or large platters that can hold water, and cardboard or plastic boxes, one for each group
- At least 1/2 liter of tap water per group (if water is not available, teachers and students can use cupcake sprinkles, or other edible or biodegrade-able materials that mimic the flow/volume of water)
- Spray bottles, one per group, if water is being used.
- Blue food coloring
- Access to the internet and the following website:
USGS webpage: - http://water.usgs.gov/wsc/map_index.html (LOCATE YOUR WATERSHED)

PART 3-4

- Access to a color printer, printer paper
- Colored pencils, markers, crayons
- Tape or glue sticks
- Stapler
- A piece of wall large enough to create a Water Cycle "Collage"
Muralcupcake sprinkles, or other edibl

TIME NEEDED:

3 total class periods, 140 minutes total

TEACHER PREPARATION:

Gather necessary materials and allow for adequate model making time using modeling clay and the internet as a resource, depending on your grade level for this activity. If need be, make necessary changes in order for the activity to be a success within your classroom- (you know your students best).



PROCEDURE:

PART 1: BUILD A WATERSHED - GROUPS VIEW USGS LOCATE YOUR WATERSHED WEBPAGE (45- 55 MINUTES)

Gather necessary materials and allow for adequate model making time using modeling clay and the internet as a resource, depending on your grade level for this activity. If need be, make necessary changes in order for the activity to be a success within your classroom- (you know your students best).

• **ASK YOUR CLASS:**

- o What is a Watershed?
- o Locate our state's watersheds. How many watersheds do we have?
- o Locate our local watershed.
- o How many rivers, lakes or streams do we have in our local watershed?

- **AS GROUPS :** Obtain modeling clay, Tupperware or large platter, and a cardboard or plastic box, and fill spray bottle with a ½ liter of water and blue food coloring (or if water is not available, allow students to use water or other materials that imitate the flow/volume of water (e.g. cupcake sprinkles, etc.)) Students can spray their models afterwards with water to illustrate

- o Examples of Short Term Goals: Class demos showing local state watersheds

- Make a visible wall display showing state's watersheds, as well as different examples of group models of local watersheds. Teachers can even draw the outline of their state outside on the playground and students can place their watershed models in the location matching their watershed on the USGS - LOCATE YOUR WATERSHED webpage.
- Explain that models work well to teach others about the local supply and sources of fresh water from the watersheds in our state.

PART 2: WHAT CAN WE DO NOW? WHO WILL LISTEN?: (MINUTES: 5-10)

- Have students visit the following webpage and submit their opinions on the surveys provided at the USGS webpage provided below. Have students also complete the Questionnaires about their water usage, answer the Challenge Questions and take the True/False water quizzes on this webpage. <http://ga.water.usgs.gov/edu/msac.html>

PART 3: STUDENTS TEACHING STUDENTS – UNITED STATES: (MINUTES: 30-45)

- Divide students into groups in order to create and present a 3-5 minute presentation or skit based on one of the 5 topics found on the USGS webpage provided below (Water at Home, Water Use, Measuring Water, Water Chemistry and Quality, and The Water Around Us). Let students know that they will be required to read each section listed under their topic and to become experts on that topic in order to present to the rest of the class. Students can get as creative as they like for the presentation, including dressing up like scientists or famous activists actors and actresses (Matt Damon is a huge supporter of Environmental concerns (See State of the World's Oceans where Matt Damon narrates), as well as creating and using props to help demonstrate what they have learned. (If students need help with understanding terms, refer them to these webpages as well - <http://ga.water.usgs.gov/edu/waterproperties.html> or at <http://ga.water.usgs.gov/edu/mwater.html>). <http://ga.water.usgs.gov/edu/mqanda.html>

PART 4: PHOTO SHOW – THE BIG PICTURE: (MINUTES: 25-30)

· Have students visit the following webpage on the USGS website: <http://ga.water.usgs.gov/edu/watercycle-kids-int.html>

Teachers: Choose the diagram that is appropriate for your age group. (i.e. Intermediate for 5-7 grade)

· Next, have students visit the Photo Gallery of photos from around the world at the following USGS webpage:

<http://ga.water.usgs.gov/edu/photo-gallery.html>

· Challenge students to locate one photo taken from outside the United States, from any of the 7 categories (Water on the Land, Water in the Air, Water in the Ground, Water Quality, Water Use, Satellite Views of Water, or Measuring Water).

· Next, challenge students to create 3 water-related quiz questions for the class about their photo, related to the above topics.

Which category did they find their photo in? Have students show the class their photo, and allow class enough time to see if they can answer the 3 student-led questions.

· Finally, have students locate a second photo of their choice, from the above categories. Have students create a ONE page illustration or diagram of the water concept behind this photo. What is the BIG Picture behind this photo? Why did the USGS include this particular photo in their gallery? What water concept does it represent? Does it teach us anything about water usage or water qualities? In essence, why is it important enough to be on this website? Have students print or show their student-selected photo and their student-created diagram or illustration, and give a brief 1-2 minute talk in a pair share, small group, or whole class presentation (teacher can decide). Have students focus on the BIG Picture water concept behind the photo.

TEACHERS: Create a school Water Cycle “Collage” Mural displaying the student diagrams/ illustrations and photos, showing the different aspects of water. Ask the students where each photo or diagram/illustration should go? Was there any part of the water cycle that was not represented or missed? Ask students if this missing piece is important enough to fill in and who would like to volunteer to help with this? If there are no missing “pieces” in the Water Cycle “Collage” Mural, congratulate the students on a job well-done. They have learned the value of water and how it relates to our lives, in a very visual way. They have grasped the BIG Picture.