

PLANET H2O - GO WITH THE FLOW

LEARNING OUTCOMES:

- Students will realize the limited availability of fresh water and work together as a team to create class demos showing a breakdown of the world's water.
- Students will successfully create pie charts / graphs showing percentages of the world's water.

MATERIALS:

- 8 Water bottles (with lids) per group (class demo can use 2 Liter bottles; students can use smaller bottles)
- At least 2 liters 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)
- Access to excel spreadsheets and graph making materials either on computer or graph paper
- Table showing the percentages of the world's water
- Blue food coloring
- Access to the internet and the following website:
 Water.org webpage - <http://water.org/water-crisis/water-facts/water/> - (Water Facts)

TIME NEEDED:

45 – 65 minutes

TEACHER PREPARATION:

Gather necessary materials and allow for adequate graph making time using excel or graph paper, 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: Groups create Water Bottle Breakdown of World's Water (minutes – 30-35)

- Ask your class:
 - o How much water covers the Earth? Ask for a percentage out of 100%.
 - o How much of that water is salt water, given in a percent?
 - o How much of that is fresh water, given in a percent?
 - o How much of the world's fresh water is frozen, or found underground, or on the surface in lakes, streams and rivers, and lastly, in the air as moisture? (in percents)



PROCEDURE (CONT):

- As Groups or as a teacher demo to the class: Obtain 8 bottles with lids, and fill each according to the accompanying table, listing volumes of water to represent percentages of the earth's waters.
 - o Allow students to use water or other materials that imitate the flow/volume of water (i.g. cupcake sprinkles, etc.)
 - o Examples of Short Term Goals: Class demos showing waters of the earth in 8 different bottles
 - o Examples of Extensions- Students create pie charts of their demos displaying the
- Make a visible wall display showing students' pie charts, as well as different examples of groups' waters of the earth bottle demos.
- Explain that pie charts and demos /models work well to teach others about the limited supply of fresh water on our planet.

PART 2: HOW CAN WE TEACH OTHERS?: (MINUTES: 5-10)

- Discuss ways in which students could teach others about what they have learned, both here and at home. Have each student write their name and particular ideas on a 3x5 Note card, and place their card inside a box anonymously. Ideas could include what to do with the water in the bottles after this activity is completed. Note cards will represent a student's pledge toward water conservation education.
- Display note cards in an area of the classroom where students can see and be reminded of the class' water conservation education ideas.

PART 3: EMPLOY A WATER CONSERVATION EDUCATION PLAN

- Ask students to vote on their favorite water conservation education idea from the class set of note cards.
- As a class, decide what would be the first step in employing this water conservation education plan.
- If possible, divide students into roles where each can participate in this water conservation education plan and assign duties for implementation of this plan. For instance, students divide into groups in order to create and present to a younger grade what they have learned in this activity.

PART 4: WATER CRISIS AROUND THE WORLD – GROUPS VIEW WATER.ORG WATER FACTS WEBPAGE: (MINUTES: 15-20)

- Divide students into groups and explain that they will be responsible for teaching the other groups about one country in the world that is experiencing a water crisis. Facts for this can be found on the following webpages: <http://water.org/water-crisis/water-facts/water/> and <http://water.org/water-crisis/one-billion-affected/> .

• WATER.ORG WEBPAGES :

<http://water.org/water-crisis/water-facts/water/> (WATER FACTS)

<http://water.org/water-crisis/one-billion-affected/> (ONE BILLION AFFECTED)

Extension Opportunity: Students can present to a younger grade what they have learned in this activity.

Have students focus on the following in their presentation:

- o What water crisis is this country experiencing?
- o How many people in this country are affected by this water crisis?
- o What obstacles do these countries face concerning water?
- o What solutions have these countries attempted to enact?
- o Have these countries experienced any success stories (if any) throughout their history concerning their water issues?

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