

Grade 6th

Topic Water supply and water cycle

Title “Where Does the Water Go?” - Part One of Six (45 min. each Lesson)

Standards:

6.3.8 Explain that fresh water, limited in supply and uneven in distribution, is essential for life and also for most industrial processes. Understand that this resource can be depleted or polluted, making it unavailable or unsuitable for life.

6.3. Illustrate that the cycling of water in and out of the atmosphere plays an important role to determine climatic pattern.

Objectives:

Affective

Students will follow instructions as they participate in the "Incredible Journey" Activity.

Cognitive

Students will summarize the water cycle in their journals.

Psychomotor

Students will diagram the water cycle.

Materials:

For student: Pre-assessment sheet

- Science journal
- Incredible Journey water card and water sheet (from Project Wet)

For lesson (prepared ahead of time):

- 9 different colors of beads for Incredible Journey activity (container of large quantities),
- 9 different colors of pipe cleaners one for each student (to tie beads on)
- 9 cubes/dice, circles with a numbered dice, or spinners (one at each station at Incredible Journey)-see Project Wet website for labels
- 9 labels for each station (clouds, river, lake, plants, soil, ocean, ground water, animals, glacier)
- 3 graduated cylinders (1 liter, 100 ml, 10 ml)
- 1 eyedropper
- 1 small metal bucket

Procedure:

1. Give students the pre - assessment to complete.
2. Demonstrate water availability - do "A Drop in the Bucket" activity.
 - a. Show class the one liter (1000 ml) of water in graduated cylinder. This represents all of the water on Earth.
 - b. Ask where most of the water on Earth is located - refer to a globe or map. Pour 30 ml of water into a 100ml graduated cylinder. This represents the fresh water, 3% total. Pour salt into

the remaining 970 ml (in the 1000 ml cylinder) - this is the ocean, 97%, and is unsuitable for human consumption.

c. Ask students what is at the Earth's poles. 80% of the Earth's fresh water is frozen in ice caps and glaciers.

d. Pour 6 ml of the fresh water in the 10 ml cylinder - this represents the non-frozen fresh water. Only about 1.5 ml is surface water, the rest is underground.

e. Use an eyedropper to remove a single drop of water. Release this one drop into a small metal bucket. This is the clean, fresh, non polluted water that is available for use, about 0.003% of the whole that was started with.

3. Complete The Incredible Journey activity (by Project Wet).

a. Ahead of time, lay out the materials for the activity (beads, cubes/spinners, station labels in a circle, no order is needed).

b. Hand out Incredible Journey sheet - have students fill out the prediction section (where they would go after rolling dice or spinning spinner).

c. Hand out the 6 inch yarn lengths to students (the color for the student would be where they predicted first) - this is where they will put their beads from each station.

d. Hand out water cards to students.

e. After students complete the prediction, take student to where the activity is set up (outside, or other large area).

f. Give students instructions before going to the activity location.

g. Each student starts at the first station on their prediction sheet. At that station, they roll the dice or spin the spinner. They go to the station listed on the dice or possibly stay where they are.

h. Collect a bead from the second station. Record journey on the handout. Students should have rolled the dice 8 times and collected 8 beads.

i. When students have completed the journey, they are to report to the designated area outside of the circle.

j. Students should tie their yarn to make a bracelet or loop to prevent beads from being lost.

k. Return to classroom and collect the water cards, water sheets, and bead loops from students. These will be used at a later time for class data.

4. After completing the Incredible Journey activity, have students record in their science journals the journey they took. They should highlight where they thought they would go (Did they think they were going to all of the stations, why did they not go to each station, etc).

Assessment:

Pre-Assessment Sheet

Prediction / Journey Sheet

Science Journal

Resources:

Project Wet <<http://www.montana.edu/wwwwet>>

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Pre and Post Assessment

Name _____

Where Does the Water Go?

What do you know about where the water goes?

Answer the following questions.

1. Agree or Disagree

Water turns from liquid to gas and then back to liquid during the water cycle.

Explain your answer.

2. Agree or Disagree

Evaporation and Precipitation are the only way water travels within the water cycle.

Explain your answer.

3. What percentage of the earth's water supply is consumable?

4. What are the different places water can go as it moves through and around the earth?

5. Draw a picture of how you think the water cycle looks.

Name _____

“Where Does the Water Go?”

Activity Rubric

Scoring:

- 3 points completed (added details and concise)
- 2 points partially complete (lacks detail and is not clear)
- 1 point partially complete (missing details and explanations)
- 0 points not complete (task not completed)

Student followed instructions to complete activity. _____

Student stayed on task during activity. _____

Student actively participated in activity and discussion. _____

Student logged predictions and findings in journal. _____

Student predicted that all stations would not be visited. _____

Student made inferences as to why all stations were not visited. _____

Student completed pre and post assessment. _____

TOTAL POINTS _____/21