



Why Is Water So Important?

Post-assessment from *The Science of Water Teacher's Guide* and for *Mystery of the Muddled Marsh*

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BioEdSM

Teacher Resources from the
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Why Is Water So Important?



Post-assessment

Water is essential for all life on our planet. People need water every day to keep their bodies healthy and clean, and to do many other things.

Water has many uses for individuals and the community—from brushing teeth, to washing dishes, running automobiles, growing vegetables, manufacturing paper and machinery, and generating electricity. We even use water for recreation! However, while Earth's population and the demand for water continue to grow, the planet's supply of usable fresh water remains fixed. So we must use water wisely.

Water constantly is used and reused as it circulates through the natural water cycle. Unfortunately, the same unique properties that make water vital for all life also make it susceptible to contamination. Nutrients, soils and sediments, chemicals, heavy metals and disease-causing organisms all can be dissolved in, or mixed with water

through human activities. Pollution from these sources can harm human health and cause irreparable damage to valuable ecosystems. The best way to keep water supplies clean is through prevention.

In this activity, students will review (individually or collectively) the role of water in their lives and reach some conclusions regarding the importance of clean water to human health.

SETUP

Have students work individually or in groups of four.

PROCEDURE

1. For the post-assessment, lead a class discussion of water pollution and the importance of water to health. Have the students suggest different ways in which water impacts human health (both positive and negative). List their suggestions on the board or on an overhead projector.
2. Explain to students that they will be drawing (or, with older students, writing about) what they consider the most important aspects of water for health. Explain that they may consider anything they have learned over the course of the unit, and that they may include both negative and positive impacts of water and water pollution on health.
3. Have students fold a sheet of paper into fourths and draw an important health-related aspect of water in each box. Have

Continued

CONCEPTS

- Water is a special chemical compound with unique properties.
- All life on Earth depends on water.
- Water can be polluted easily from a variety of sources.
- Everyone can help keep our water supplies safe.

OVERVIEW

Students review points covered in this unit and reach conclusions regarding the importance of water to human health.

SCIENCE, HEALTH & MATH SKILLS

- Problem solving
- Drawing conclusions

TIME

Preparation: 10 minutes
Class: 45 minutes

MATERIALS

Each group will need:

- Colored markers, pencils, pens, paints or crayons
- Drawing paper (1 sheet per student) or large sheet of butcher paper (1 per group)

Each student will need:

- Copies of completed pre-assessments
- Copy of "What Do You Know About Water?" page



Unit Links

Mystery of the Muddled Marsh

Science boxes, pp. 3, 5 and 7

Explorations

Cover, Tips for Healthy Living, p. 3



POST-ASSESSMENT ANSWER KEY

- | | |
|------|-------|
| 1. c | 6. b |
| 2. a | 7. c |
| 3. b | 8. d |
| 4. d | 9. a |
| 5. a | 10. b |

older students also write a sentence or paragraph explaining the significance of each drawing. If students have kept journals through the entire unit, their new drawings and paragraphs can be added to the journals.

OR

Have the students work in groups. Give each group a large piece of butcher paper and let students divide it into four sections. Have groups decide on the uses of water they will depict in their “water and health murals.”

4. Display the drawings or murals around the classroom. Let each student or group share their work with the rest of the class.
5. Distribute a copy of the post-assessment to each student. Have students complete the assessment individually or within their groups.
6. Give each student his or her completed pre-assessment from Activity 1. Ask, *Did your answers to some of the questions change?* Have each student identify any question(s) that he or she answered differently on the post-assessment, and write one or two sentences explaining why he or she selected the different answer.

VARIATIONS

- Let students collect pictures from magazines and newspapers to use in their pictures or murals.
- Challenge students to imagine what Earth would be like if clean water quickly began to disappear. Have each student share an idea about one consequence of limited supplies of clean fresh water. Using the cooperative group concept, have the Recorder in each group write down the ideas. Then, have each group present its ideas to the rest of the class.

What Do You Know About Water?



Name _____

Please circle the letter beside the correct answer to each question below.

- What makes water special?
 - Dinosaurs drank it.
 - It is clear.
 - All living things need it.
 - It evaporates.
- Why are water drops round?
 - Water likes to stick together.
 - Water is slippery.
 - Water is the same as oil.
 - Water is wet.
- Which of these is made mostly of water?
 - Brick
 - Orange
 - Peanut
 - Sweater
- Which of these substances will dissolve in water?
 - Wood
 - Sand
 - Flour
 - Sugar
- You might use which one of the following methods to investigate a mystery liquid?
 - Chromatography
 - Point source pollution
 - Condensation
 - Dissolving
- What happens if too much fertilizer gets into a pond?
 - Nothing
 - Fish get sick.
 - Fish get too big.
 - The pond floods.
- Where is most water absorbed into the rest of the body?
 - Mouth
 - Small intestine
 - Large intestine
 - Stomach
- How much water should a person drink in one day?
 - 2 glasses
 - 4 glasses
 - 6 glasses
 - 8 glasses
- Which of the following can cause water pollution?
 - Lawn chemicals
 - Groundwater
 - Carbon dioxide
 - Native plants
- Which process is part of the water cycle?
 - Sedimentation
 - Condensation
 - Transportation
 - Aviation



¿Cuanto sabes de agua?

Nombre _____

Haz un círculo alrededor de la letra de la respuesta correcta.

1. ¿Porque es especial el agua?
 - a. Lo bebieron los dinosaurios.
 - b. Es transparente.
 - c. Todos los seres vivientes lo necesitan.
 - d. Se evapora.
2. ¿Porque son redondas las gotas de agua?
 - a. Les gusta estar pegadas unas a las otras.
 - b. Son resbalosas.
 - c. Son idénticas al aceite.
 - d. Son húmedas.
3. ¿Cual de los siguientes se compone principalmente de agua?
 - a. Un ladrillo
 - b. Una naranja
 - c. Un cacahuate
 - d. Un sueter
4. ¿Cual de los siguientes puede disolverse en el agua?
 - a. Madera
 - b. Arena
 - c. Harina
 - d. Azúcar
5. ¿Que método podrías usar para investigar un líquido desconocido?
 - a. La cromatografía
 - b. La contaminación
 - c. La condensación
 - d. La disolución
6. ¿Que pasa si demasiados fertilizantes se disuelvan en un estanque?
 - a. Nada.
 - b. Los peces se enferman.
 - c. Los peces crecen mucho.
 - d. El estanque se inunde.
7. ¿Donde se absorbe la mayoría del agua en el cuerpo humano?
 - a. La boca
 - b. El intestino delgado
 - c. El intestino grueso
 - d. El estómago
8. ¿Que cantidad de agua debe tomarse en un día?
 - a. Dos vasos de agua
 - b. Cuatro vasos de agua
 - c. Seis vasos de agua
 - d. Ocho vasos de agua
9. ¿Cual de los siguientes contribuye a la contaminación del agua?
 - a. Productos químicos para el jardín
 - b. El agua bajo la tierra
 - c. El dióxido de carbono
 - d. Las plantas nativas
10. ¿Cual proceso es parte del ciclo hidrológico?
 - a. Sedimentación
 - b. Condensación
 - c. Traspotación
 - d. Aviación