

# Water Cycle: Video Quiz

**Adapted from:** Water Cycle: Video Quiz, produced by Teacher's Video Company 2003.

**Grade Level:** basic, intermediate

**Duration:** One class period

**Setting:** classroom

**Summary:** Students watch a DVD explaining the basic principles of the water cycle. Then they answer questions from the video quiz, complete a worksheet with key vocabulary words from the DVD, and discuss the importance of the water cycle.

**Objectives:** Students learn the basic principles of the water cycle, understand the importance of water as a renewable natural resource, and examine groundwater flow.

**Vocabulary:** Condensation, evaporation, groundwater, permeable, precipitation, transpiration, water cycle

**Related Module Resources:**

**Materials (Included in Module):**

- Water cycle diagram
- DVD
- Video Quiz Questions
- Video Quiz Answer Key
- Word Zone Worksheet
- Word Zone Teacher's Key
- Brain Waves & Final Curtain Worksheet

**Additional Materials (NOT Included in Module):**

- TV, DVD player

## ACADEMIC STANDARDS:

### 7<sup>th</sup> Grade

- 4.1.7.A. Explain the role of the water cycle within a watershed.
- Explain the water cycle.
- 4.1.7.B. Understand the role of the watershed.
- Explain how water enters a watershed.
- 4.6.7.B. Explain the concepts of cycles.
- Identify and explain cycles within an ecosystem.
  - Analyze the role of different cycles within an ecosystem.

### 12<sup>th</sup> Grade

- 4.6.12.B. Analyze the impact of cycles on the ecosystem.
- Explain the processes involved in the natural cycles.

## BACKGROUND:

Water on the earth's surface and in the atmosphere moves in a continuous cycle. This is called the **water cycle**. Some of the better-known stages in the water cycle include **evaporation** ("the escape of molecules from a liquid into the air"), **condensation** ("passage of a substance from a gas to a liquid or solid") and **precipitation** ("all forms of water that fall from clouds to the ground"). Precipitation occurs in the form of rain, snow, sleet or hail but water is also moving in many other ways. Surface runoff, **groundwater** ("water accumulated under the earth's surface") and **transpiration** ("the loss of water by evaporation through the leaves of plants") are all included as stages in the water cycle.

Water is a renewable resource. Water in the water cycle is continuously being reused and recycled. The amount of water on earth never changes; only its form does. There is the same amount of water on the earth's surface today as there was millions of years ago. For this reason it is important that we take care of our water supply and keep it clean for future generations. Protecting our water supply means not only conserving water and preventing pollution but also understanding water, how it flows and where it can be found.

Water is not only present in lakes, rivers and oceans; water can also be found underground. This water is called groundwater. Groundwater flows underneath the

earth's surface in the same manner that water flows above the earth's surface in rivers and streams. Groundwater supplies water to wells, lakes and streams. During periods of drought when there is little precipitation or surface runoff, streams are often able to maintain water flow from the groundwater supply.

Water below the earth's surface is also used by plants. Plants use water to perform vital life functions and then release the water back into the atmosphere through the process of transpiration. Water in the atmosphere then condenses and the condensed water returns to the earth's surface as precipitation in the form of rain, snow, sleet or hail. Precipitation has many different options once it reaches the earth's surface. It can flow over the ground's surface to the nearest body of water, which could be a river, lake, ocean, or puddle. The precipitation could eventually evaporate from this body of water and return to the atmosphere where it will condense and form precipitation again. Precipitation could also be infiltrated into the ground and flow in the form of groundwater to the nearest body of water or be used by plants, then return to the atmosphere through transpiration. Refer to the illustration on the last page of this write-up and see if you can follow the flow of water in the water cycle.

### **OVERVIEW:**

Students will watch a DVD explaining the basic principles of the water cycle, then answer questions from the video quiz. They will then complete a worksheet with key vocabulary words from the DVD, review the quiz answers with the class and engage in a class discussion on the importance of the water cycle.

### **PROCEDURE:**

#### **Teacher Preparation:**

1. Procure and set up a TV and DVD player.
2. Watch the DVD before class; briefly define any terms or concepts your class might be unfamiliar with before showing the DVD.
3. Make copies of the Video Quiz Questions for your class.
4. OPTIONAL: Make copies of the "Word Zone" and/or the "Brain Waves & Final Curtain" worksheets.
5. Locate and review corresponding answer keys in the module binder.

#### **Student Activity:**

1. Ask students what they know already about the water cycle.
2. Ask students to name other cycles that occur in nature (i.e., life cycle, recycling of manufactured products, oxygen/carbon cycle etc.).
3. Ask students why it is important that certain events occur in repeated cycles. If relevant, discuss the differences between renewable and non-renewable resources.

4. Distribute the video quiz worksheets and show the video. Have students fill out the video quiz as the questions are asked at the end of each section.
5. OPTIONAL: If additional practice with vocabulary terms is needed, have students complete the "Word Zone" vocabulary worksheet or the "Brain Waves and Final Curtain" worksheet.
6. Go over the answers with students using the answer key(s).

**DISCUSSION:**

Why is water considered a renewable resource? *Because it is being constantly reused and recycled.*

How does the sun affect the movement of water in the water cycle? *The sun causes the evaporation of water on the earth's surface.*

At what stages in the water cycle could pollution enter the water supply? *Pollution can enter the water supply at practically any stage in the water cycle. Pollution can directly enter a body of water such as a river stream or lake. Surface runoff can also pick up pollutants on the earth's surface and carry them into streams or lakes. Pollution can even enter the groundwater supply or the atmosphere.*

**EVALUATION:**

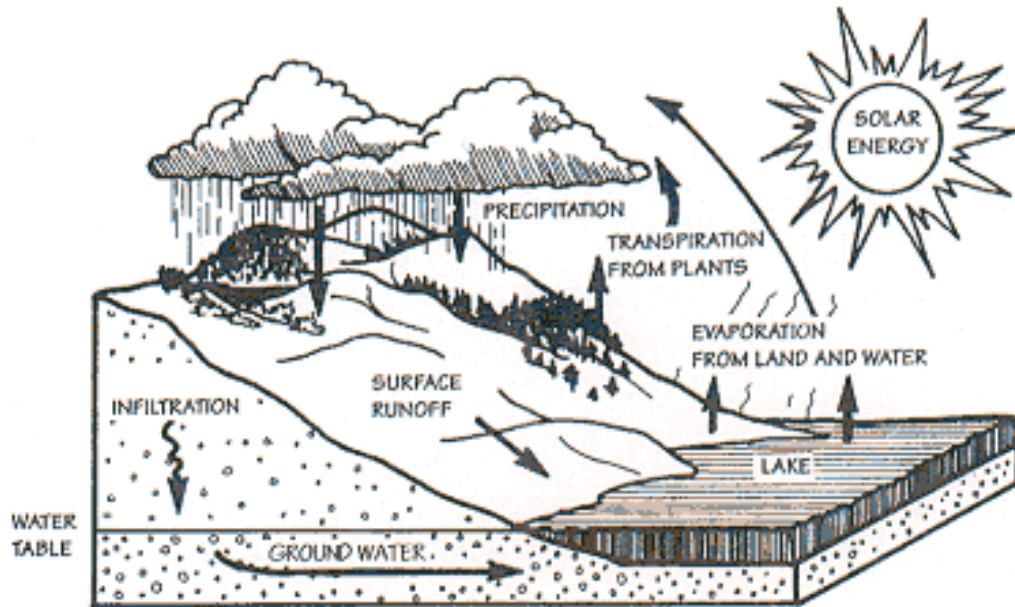
- Review the answers to and/or grade the video quiz and worksheets with the students.

**EXTENSIONS AND MODIFICATIONS:**

- Photocopy the Water Cycle diagram and use it during the introductory portion of the lesson.
- Have students illustrate and color diagrams that show a variety of water cycles (ex. in prairie fields, mountain ranges, in the ocean, in a city).
- Research how human activity has affected the water cycle and how this has impacted the earth's clean water supply.
- Imagine that you are a drop of water and write a story describing your journey through the water cycle.
- Research how global climate change affects the water cycle.

**NOTES (PLEASE WRITE ANY SUGGESTIONS YOU HAVE FOR TEACHERS USING THIS ACTIVITY IN THE FUTURE):**

# Water Cycle



*Source: Project WET: Curriculum and Activity Guide*