# "Water"
# Grade 3 – Summative Assessment

## Assessed Understandings

Students will understand that:

1. Water is a basic need for survival.

2. Water exists as a solid, a liquid, and a gas depending on the temperature. Water in its various states has an impact on all life on Earth.

3. For water to change from a solid to a liquid to a gas, energy must be added or removed.

4. Moving water has energy that can be put to our use.

5. Water is a limited resource. Conserving water is essential for maintaining a water supply.

 

# Teacher Notes for the "Water" Assessment

## Introduction

These items were designed to provide an assessment of what students know and understand at the completion of the FOSS Water Module. This document includes teacher directions, response sheets for the individual student, and the analytic scoring rubric for each question. A separate document contains the anchor papers for each question. **A close look at the rubrics prior to the administration of the assessment will be helpful to the teacher.**

## Time and Preparation for the Assessment

This assessment should take a 45-minute class period to administer. You are free to read aloud any or all portions of the assessment to your students. Without giving away a more appropriate response, please help students understand the intent of the question or task. This is not a test of reading, writing, or artistic ability. Students may be encouraged to use any and all resources available, including materials from classroom charts, recording sheets, vocabulary lists, and individual journals. Please use the terminology from the investigations within the kit.

**Question 1: The teacher emphasizes that the students are to look for physical properties of each sample.**

1. A student has three samples in containers. List at least **two** physical properties that are special to each sample.

**Question 2: The teacher identifies that this is a two-part question.**

2a. Puddles were everywhere on the sidewalk. Later that week, the sidewalk was dry, and the puddles were gone. Where did the water go?

2b. Where did the **energy** come from to make the water disappear?

**Question 3: The teacher reminds students to use the words provided in the Word Box.**

3. Using the items in the Word Box, write a plan to show how snow changes to water. List the steps in your plan. Explain what **form of energy** makes the snow melt.

**Question 4: The teacher will direct the students' attention to the picture. The students will look at the picture before answering the questions.**

4a. Where does the energy come from to raise the bucket? Describe how this energy made the bucket go up.

4b. What needs to happen so that the bucket can go up faster?

 

**Question 5: Student must state practical methods to conserve water. The teacher should check to ensure students understand the word "practical" so as not to be confused with poor health practices such as not showering.**

5. List **two** practical ways that you could conserve water at home.

**Question 6: The teacher will note that the students are to select one organism, name it, and explain how a drought would affect it.**

6. Explain how a drought would affect **one of the organisms** in the picture. (Include the name of the organism in your response.)

 

# Scoring Rubrics
# "Water"
# Summative Assessment

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| 1. A student has three samples in containers. List at least **two** physical properties that are special to each sample. |

This item measures a student's understanding of the physical properties of water in different states.

**Criterion for a complete response:**

1. Student identifies at least two physical properties of water in each state (see example below).

| Code | Response |
|---|---|
| | ***Complete Response*** |
| 20 | Meets criteria. |
| 29 | Any other scientifically correct response. |
| | ***Partial Response*** |
| 10 | States one physical property for each state of matter. |
| 11 | States at least one correct physical property for each state of matter but response may include incorrect responses. |
| 12 | Gives 2 accurate physical properties for 2 of the 3 states of matter. |
| 19 | Any other partially correct response. |
| | ***Incomplete Response*** |
| 70 | Response does not identify physical properties (example: It melts). |
| 71 | Gives 2 accurate physical properties for 1 state of matter |
| 76 | Repeats the stem of the question. |
| 79 | Any other incorrect response. |
| | ***Non-Response*** |
| 90 | Crossed out, erased, illegible, or impossible to interpret. |
| 99 | Blank. |

***Example:***

| Sample | State of Matter | Properties |
|---|---|---|
| A | Ice | Solid, opaque, white |
| B | Water | Wet, colorless, takes the shape of the container |
| C | Gas | Colorless, odorless, shapeless. There appears to be nothing in the sample container. |

 

**This rubric scores both questions 2a and 2b.**

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| 2. Puddles were everywhere on the sidewalk. Later that week, the sidewalk was dry and the puddles were gone. Where did the water go? Where did the **energy** come from to make the water disappear? |

This item measures a student's understanding of the change of state of water from liquid to gas and the role of energy in this change.

**Criteria for a complete response:**

1. States that the water evaporated into the atmosphere.
2. States that the energy came from the Sun.

| Code | Response |
|---|---|
| | ***Complete Response*** |
| 20 | Meets criteria. |
| 29 | Any other scientifically correct response. |
| | ***Partial Response*** |
| 10 | Meets criterion #1 but not #2. |
| 11 | Meets criterion #2 but not #1. |
| 19 | Any other partially correct response. |
| | ***Incomplete Response*** |
| 70 | States that the water disappeared due to a scientifically incorrect explanation. |
| 76 | Repeats the stem of the question. |
| 79 | Any other incorrect response. |
| | ***Non-Response*** |
| 90 | Crossed out, erased, illegible, or impossible to interpret. |
| 99 | Blank. |

 

**This rubric scores both questions 3a and 3b.**

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| 3. Using items in the Word Box, write a plan to show how snow changes to water. List the steps in your plan. Explain what **form of energy** makes the snow melt. |

This item measures a student's ability to make a simple plan and to recognize the form of energy that caused the snow to melt.

**Criteria for a complete response:**

1. Provides a simple, sequential plan that investigates the question—can use the heater or a warm sunny window to melt the snow.
2. States energy comes from the heater or from the sun.

| Code | Response |
|---|---|
| | ***Complete Response*** |
| 20 | Meets criteria. |
| 29 | Any other completely correct response. |
| | ***Partially Correct Response*** |
| 10 | Plan is not in sequence, but explanation is correct. |
| 11 | Plan is in sequence, but explanation is incorrect. |
| 19 | Any other partially correct response. |
| | ***Incomplete Response*** |
| 70 | Response does not include a sequential plan. |
| 79 | Any other incorrect response. |
| | ***Non-Response*** |
| 90 | Crossed out, erased, illegible, or impossible to interpret. |
| 99 | Blank. |

 

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| 4a. Where does the energy come from to raise the bucket? Describe how this energy made the bucket go up. |

This item measures a student's understanding of the transfer of energy involved in the task.

**Criteria for a complete response:**

1. States energy comes from the moving water.
2. Student describes the transfer of energy from the water to the wheel to the bucket.

| Code | Response |
|---|---|
| | ***Complete Response*** |
| 20 | Meets criteria. |
| 29 | Any other scientifically correct response. |
| | ***Partially Complete Response*** |
| 10 | Student meets criterion #1 only. |
| 19 | Any other partially correct response. |
| | ***Incomplete Response*** |
| 70 | States energy comes from the wheel. |
| 79 | Any other incorrect response. |
| | ***Non-Response*** |
| 90 | Crossed out, erased, illegible, or impossible to interpret. |
| 99 | Blank. |

| 4b. What needs to happen so that the bucket can go up faster? |
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This item measures a student's understanding that the faster the water flows, the more energy is produced.

**Criterion for a complete response:**

1. States that the water must flow faster or increase to make the wheel turn faster.

| Code | Response |
|---|---|
| | ***Complete Response*** |
| 10 | Meets criteria. |
| 19 | Any other scientifically correct response. |
| | ***Incomplete Response*** |
| 70 | States that the wheel must turn faster. |
| 76 | Repeats the stem of the question. |
| 79 | Any other incorrect response. |
| | ***Non-Response*** |
| 90 | Crossed out, erased, illegible, or impossible to interpret. |
| 99 | Blank. |

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| 5. List two practical ways that you could conserve water at home. |

This item measures a student's recall knowledge on ways to conserve water.

**Criterion for a complete response:**

1. Student states two ways to conserve water (e.g., turn off the water when brushing your teeth, water plants with rainwater, take short showers).

| Code | Response |
|---|---|
| | ***Complete Response*** |
| 10 | Meets criterion. |
| 19 | Any other scientifically correct response. |
| | ***Incomplete Response*** |
| 70 | States an impractical method (e.g., do not flush the toilet). |
| 79 | Any other incorrect response. |
| | ***Non-Response*** |
| 90 | Crossed out, erased, illegible, or impossible to interpret. |
| 99 | Blank. |

6. Explain how a drought would affect one of the organisms in the picture. (Include the name of your organism in your response.)

This item measures a student's understanding that the water level in a pond will affect the survival of organisms.

**Criterion for a complete response:**

1. Student states that the organism will be affect by the drought, i.e., lack of oxygen, lack of food, lack of shelter, lack of water.

| Code | Response |
|---|---|
| | ***Complete Response*** |
| 10 | Meets criterion. |
| 11 | States the organism and how it is affected by the drought. |
| 19 | Any other scientifically correct response. |
| | ***Incomplete Response*** |
| 70 | Response indicates that the water will evaporate. |
| 79 | Any other incorrect response. |
| | ***Non-Response*** |
| 90 | Crossed out, erased, illegible, or impossible to interpret. |
| 99 | Blank. |