Chapter 5

Water! How Can You Help?

Standards

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment

MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

Objectives
Students will be able to:

list multiple ways to limit their personal water use.

identify agricultural methods limit water use or waste.

describe methods used in agriculture to promote efficient use of water resources.

Materials
writing instrument and notebook or computer

Time
45 minutes divided over a few days to allow the students to identify methods to journal about.

Prior to the Activity
Read "Water Matters! Getting Enough… Keeping It Safe" in *Agronomy Grow With It!*

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Have students read "Water Matters! Getting Enough… Keeping It Safe" in *Agronomy Grow With It!* This will provide information to students on some methods that are commonly used in agriculture to increase efficient water use, and limit water waste.

Typically, students don't think about their water use on a daily basis. So, ask students to estimate how much water they use on a daily basis and what they use water for. This should include taking showers, using the restroom, drinking water, brushing teeth, washing hands, cooking, etc.

- For reference have a gallon or 5 gallon bucket to give them a way to compare what they think they will use in a day.

Write the students guesses down on the board and find an average to give a reference point.

- Likely students will guess a lower number than the real average

Once students have provided their guess reveal that an average American will use between 80 and 100 gallons of water per day according to the United States Geological Society (http://water.usgs.gov/edu/qa-home-percapita.html)

- Refer to the link to see the average amount of water used for daily tasks.

After students realize the amount of water that can be used on a daily basis they should be more aware of their own personal water use.

Relate the water use back to Water Matters! Getting Enough… Keeping It Safe in the book *Agronomy Grow With It!* to use as a opener to re-visit the methods used to limit water use in agriculture as well.

Once students have looked at the potential methods used in agriculture and thought about their own personal water use habits introduce the following activity.

Have students keep a journal identifying the following:

Two methods you used to personally save water

Two situations you saw someone else wasting water

Two methods you observed someone in their neighborhood that is saving water (not personal water use ex. a shower)

Two situations you saw someone wasting water in their neighborhood (not personal water use ex. a shower) →

Provide a few days or nights to make these observations. The more time students are allotted for this activity you should see a better representation of methods that are used to save water and identify the ways people are wasting water.

As a class have a discussion using examples from their journal of how they observed water preservation methods in their area to share their thoughts and experiences. Students should share their observations to develop a larger list of methods to save water.

Possible Continuation:

Have students calculate how much water they use by taking the average time it take to complete each task from the United States Geological Society website (http://water.usgs.gov/edu/qa-home-percapita.html) and multiply to determine the number of gallons used for each activity. Students can tally up their results to see their personal impact. They could also do this as a family activity and bring in the results to class.

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