Sustainability: Reduce Your Environmental Impact!

Name: _____

Date: _____

Student quiz — Answer key

Directions: Circle the answer(s) for each multiple choice question below. Write your answers for other questions.

1. The environment is impacted by human use and production of… *(Select all that apply)*
   a. …food
   b. …water
   c. …energy
   d. …stuff

2. Describe in your own words three actions that you can take to reduce your environmental impact and how each action would lessen your food, water, energy, or stuff consumption.

   Possible answers include but are not limited to

   Walk or bike more often instead of driving
   Freeze your leftover food instead of throwing it out
   Donate clothes that you do not wear anymore
   Do not leave the water running while brushing your teeth

3. Which of the following units of measurements are good examples of how you can measure your environmental impact? *(Select all that apply)*
   a. Gallons of water used per day
   b. Hours of sleep per day
   c. Pounds of trash produced per day
   d. Kilowatt-hours of energy used per day

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Name: _____

Student quiz — Answer key

4. Your town is in a drought and needs to save water. How could you design an experiment to determine how much water per week you could save in your home? Write down the steps you would follow, how you would collect data, and the units you would use.

An example answer is given below. Full credit is to be given for answers that include all of the following steps. Partial credit is to be given if students mention not all but some of these steps.

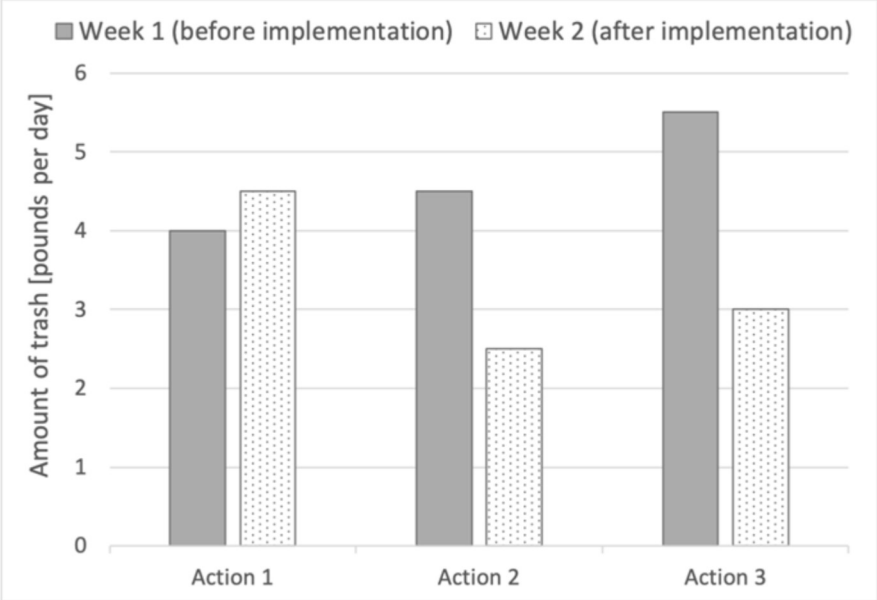
- Come up with some actions that could reduce your water usage at home. Then, select one or several of these actions that you want to test.
- Determine a unit of measurement to measure your water impact. A good unit of measurement would be gallons (or liters) of water used per week.
- Define how often you need to do these measurements. Once per day would be one option.
- Start making these measurements before implementing your selected actions for one week to determine your baseline water impact.
- To collect data, you could check your water consumption on the water meter at home or you could monitor how long certain water-using devices (shower, dishwasher, etc.) are used per day, and then calculate your water consumption based on how much water these devices use per hour.
- Then, implement the action(s) you came up with and continue your measurements for another week using the same quantification method.
- Analyze your data to compare your water impact for week 1 and week 2.

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Name: _____

Student quiz — Answer key

5. For a project in Earth Science class, you tested three different actions to see how effective they were in reducing your trash production. After you were done with your experiment, you analyzed your data, which results in the graph shown below. Based on your data, which action had the biggest impact? Explain your answer.



The correct answer is Action 3, because this action shows the biggest reduction in trash production (2.5 pounds/week) between week 1 (before its implementation) and week 2 (after its implementation).

Full credit is to be given if students identify that the important piece of evidence is the change between before and after implementation. Only partial credit is to be given if students only state that Action 3 has lowest amount of trash after implementation without mentioning the before implementation state.