Checkout Questions

Lab 12. Cycling of Water on Earth: Why Do the Temperature and the Surface Area to Volume Ratio of a Sample of Water Affect Its Rate of Evaporation?

1. How does the temperature of a water sample affect the rate of its evaporation?

2. How does the surface area to volume ratio of a water sample affect the rate of its evaporation?

3. A scientist has a collection of water samples. Each sample has the same volume of water, but the samples vary in their surface areas and temperatures. She is trying to compare the amount of evaporation in each sample.

Sample	Sample surface area (cm^2)	Volume (cm^3)	Sample temperature (°C)
A	6.25	20.0	25
B	10.00	20.0	65
C	12.56	20.0	25
D	3.14	20.0	65

   a. After 45 minutes, which sample will have evaporated the most?

   b. How do you know?

   c. After 45 minutes, which sample will have evaporated the least?

   d. How do you know?

4. This investigation was an experiment.

   a. I agree with this statement.
   b. I disagree with this statement.

   Explain your answer, using an example from your investigation about the cycling of water on Earth.

5. "Sample A lost 5 grams of water due to evaporation" is an example of an observation.

   a. I agree with this statement.
   b. I disagree with this statement.

   Explain your answer, using an example from your investigation about the cycling of water on Earth.

6. Scientists often track how matter moves into, out of, and within systems during an investigation. Explain why it is useful to do this, using an example from your investigation about the cycling of water on Earth.

7. Scientists often try to understand what controls the rate of change of a system. Explain what a rate of change in a system is and why it is useful to understand the factors that control a rate of change in a system, using an example from your investigation about the cycling of water on Earth.