

INVESTIGATION 3 I-CHECK

WATER AND CLIMATE

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Name _____

Date _____

1. Students in classrooms in four different locations wanted to know what happens to the water after it rains. They collected rainwater and then put the same amount of water in a container. Here is the data they organized in a table.

Location	Water volume	Width of container	Water temperature	Wind speed
A	25 mL	30 cm	5°C	5 km/hr
B	25 mL	30 cm	45°C	5 km/hr
C	25 mL	30 cm	45°C	15 km/hr
D	25 mL	60 cm	5°C	5 km/hr

Read the sentences below. Mark them true or false and explain why you marked them that way.

- The water in container A will evaporate faster than the water in container B.

☐ True ☐ False

I know this because _____

- The water in container D will evaporate faster than the water in container A.

☐ True ☐ False

I know this because _____

- The water in container B will evaporate faster than the water in container C.

☐ True ☐ False

I know this because _____

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2. A science class is learning about how meteorologists predict the weather. They decided to collect some of the same data. Fill in the table to show what instruments they should use and what weather data it will measure.

thermometer	precipitation	degrees Fahrenheit
wind direction	centimeters	rain gauge
degrees Celsius	temperature	millimeters
balance	wind vane	north, south, east, west

Weather instrument	Weather factor it measures	Unit used

3. Imagine you are asked to explain to a second grade class what you have learned about how meteorologists predict weather a few days in advance. Write a few sentences to outline important points you would tell them.

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4. There is a pond in a park. One morning the Sun is shining, but there is fog over the pond.

Write **F** next to each word that describes fog. Write **N** (no) next each word that does not describe fog.

_____ Water

_____ Smoke

_____ Liquid

_____ Solid

_____ Gas

5. On a hot day, a student took a cardboard container of frozen orange juice out of the freezer. She took off the lid. Several minutes later, she noticed drops of water on the outside of the frozen juice container. The water drops came from _____ .

(Mark the one best answer.)

- ☐ **A** water from the orange juice creeping up over the rim
- ☐ **B** water vapor in the air
- ☐ **C** water in the orange juice leaking through little holes in the cardboard container
- ☐ **D** water separating from the orange juice inside the container

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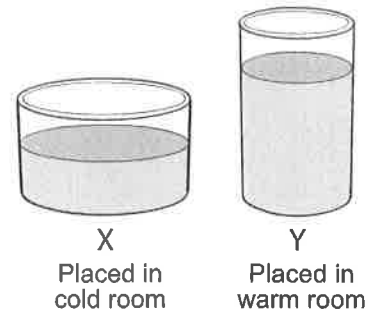
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6. A student asks the question: Will water evaporate faster in a container that has more surface area?

She pours 35 mL of water into each container. Then she puts container X in a cold room and container Y in a warm room.

The student wants some feedback so she can improve her plan. What is the most important thing she can do to make sure this investigation is a fair test?



(Mark the one best answer.)

- ☐ A She should color the water in each container a different color.
- ☐ B She should start with the same water level in both containers.
- ☐ C She should put both containers in the same room.
- ☐ D She should set a time limit.
7. Imagine you live in the mountains. It is the fall. You go outside in the morning. The temperature outside is 5°C. You notice that there is frost on the grass.

Write **Y** (yes) next to each sentence that helps explain why this happened.

Write **N** (no) next to each sentence that does not help explain this.

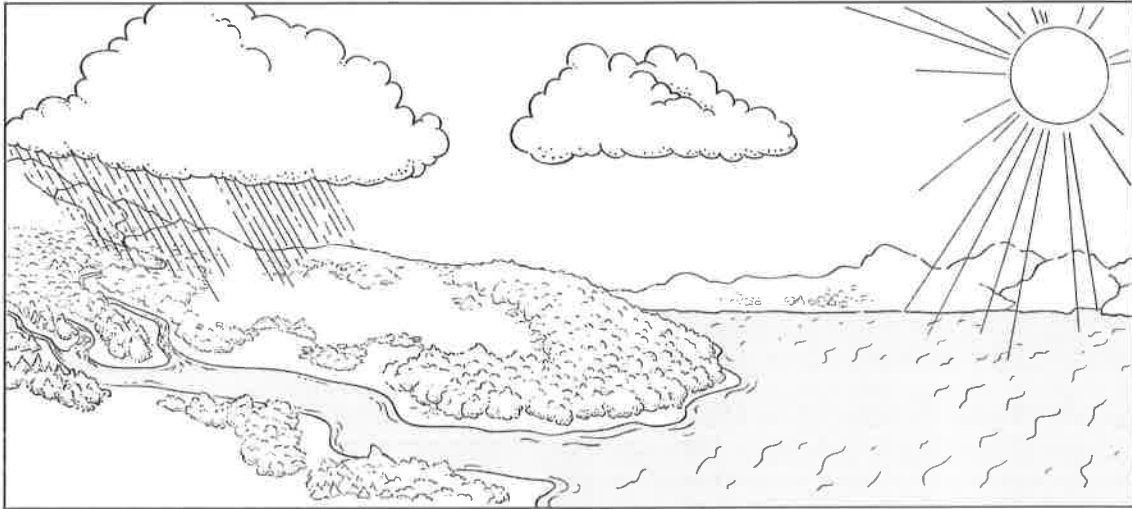
- _____ During the night, the air temperature dropped below 0°C.
- _____ The temperature of the grass is higher than the temperature of the air.
- _____ The temperature of the grass is lower than the temperature of the air.
- _____ Air heats up more quickly than grass when the Sun is shining.

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8. The water that we drink and that falls as rain and snow is the same water that has always been on Earth. There is no new water. Draw arrows on the diagram to show the process of how water gets recycled.



9. A student rides to the store with his father on a very cold night. His father turns on the heater in the car. After going a few blocks, the student notices that the inside of the windows are “fogging up.” The mirror inside the car, however, is not.

Why do the windows fog up, but not the mirror?

Write **Y** (yes) next to each sentence that helps explain why this happened.

Write **N** (no) next to each sentence that does not help explain this.

- _____ The windows are cold.
- _____ The mirror inside the heated car is warm.
- _____ Water vapor condenses on cold surfaces.
- _____ Water evaporates when the Sun warms it.

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10. When water changes from one state to another, each process has a name. Complete the diagram by writing in the names of the processes.

Word Bank

evaporation

condensation

melting

freezing

