Name _____ Date _____

Evaporation, Clouds and Weather Fronts: The Sun, Gravity and the Water Cycle

Directions: Read each question carefully, then choose the best answer.

1. Laundry hung outside on a cool, cloudy morning at 12 °C is dry by late afternoon, even though the air never got anywhere near 100 °C. What happened to the water in the clothes?

A. It could not have evaporated, because water evaporates only when it boils.

B. The cool air turned the water into air.

C. It evaporated: some water particles at the surface had enough energy to escape into the air as water vapor, which happens well below boiling.

D. It soaked deeper into the fabric and is still there.

2. When you look up at the white, puffy clouds drifting across the sky, what are those clouds actually made of?

A. Water vapor, the gas form of water

B. Steam that is hotter than 100 °C

C. Tiny drops of liquid water or tiny crystals of ice

D. Smoke and dust, with no water at all

3. Two identical pans hold the same amount of water on the same day. One sits in bright sunshine, and the other sits in the shade. Which statement is most likely true?

A. The water in the shady pan evaporates faster, because cool air pulls water out of it.

B. The water in the sunny pan evaporates faster, because sunlight gives its water particles more energy.

C. Neither pan loses water, because neither one is boiling.

D. Both pans lose water at exactly the same rate, because they hold the same amount.

4. The droplets of water inside a cloud are extremely tiny, and rising air currents hold them up. What makes some of those droplets eventually fall to the ground as rain?

A. Wind blowing downward is the only thing that brings rain to the ground.

B. A cloud fills up like a sponge and squeezes out rain when it is full.

C. Energy from the Sun pushes the drops down to the ground.

D. Many tiny drops join into bigger, heavier drops, and gravity pulls those down faster than the rising air can hold them up.

5. A student says, "The water cycle uses up water, so Earth has a little less water every year." Which statement is correct?

A. Evaporation removes water from Earth forever.

B. The water cycle makes brand-new water in clouds every day.

C. The student is right, because rain destroys some water every time it falls.

D. The water cycle moves water and changes its state, but the total amount of water on Earth stays about the same.

6. Late one afternoon, a line of dark clouds sweeps in. Heavy rain and gusty winds last about half an hour, and then the air turns cooler and drier. Which kind of front most likely passed through?

A. No front, because a front brings only wind, never rain

B. No front, because the air temperature changed

C. A cold front, where colder air pushed in under the warm air

D. A warm front, where warmer air slid in over colder air

7. Over a whole day, high, thin clouds slowly thicken and lower. Light rain falls steadily for several hours, and then the air turns warmer and more humid. Which kind of front most likely passed through?

A. A warm front, where warmer air slid in over colder air

B. No front, because the air turned warmer

C. A cold front, where colder air pushed in under warmer air

D. No front, because steady rain never comes from a front

8. A sealed jar with a little water in it sits in the sun. Its lid stays cooler than the water at the bottom. After an hour, drops of water cover the inside of the lid. What explains the drops?

A. Water leaked in from outside the jar.

B. The lid made new water out of the air in the jar.

C. The drops are water vapor stuck to the lid.

D. Water evaporated from the bottom, and some of the vapor condensed into liquid drops on the cooler lid.