

Weather Unit - Pre-Test

NAME: _____

1. Which of the following is NOT an example of precipitation?
A. hail
B. snow
C. clouds
D. rain
2. True or false: Extreme weather can arrive as a sudden and violent disturbance, but it can also develop slowly and gradually.
3. Which is most likely to be produced by a cloud that has an unstable distribution of positive and negative charges?
A. snow
B. tornadoes
C. lightning
D. wind
4. Ten percent of all thunderstorms are classified as severe thunderstorms. Name a weather event that causes meteorologists to classify a thunderstorm as severe.
5. Explain the relationship between the depth of warm water at the surface of the ocean and the intensity of a hurricane.
6. Which of the following shows the transformation of energy within the sun?
A. nuclear → electromagnetic
B. visible light → infrared
C. electromagnetic → visible light
D. infrared → nuclear
7. Explain why most of the ultraviolet radiation that reaches Earth's atmosphere does NOT reach Earth's surface. Point out why this fact is important.
8. Explain why the greenhouse effect can be described as the recycling of heat energy.
9. Describe how latent heat is added to the atmosphere.

10. How can trends in a hurricane's air pressure help scientists make predictions about the behavior of the storm?

11. Explain what a barometer can tell us about the weather.

12. True or false: An anemometer is an instrument that is used to measure wind direction.

13. Ellen put a balloon in a plastic bottle so that the opening of the balloon was stretched over the mouth of the bottle. At first, she could not inflate the balloon by blowing into it. Then she was able to inflate the balloon after putting a small hole in the bottle. Use what you know about the strength of air pressure to explain the student's results.

14. Lindsey fills a beaker to the halfway point with water at room temperature. She adds a couple of teaspoons of pearlized soap and some ice cubes. She then places the beaker inside a large bowl filled with very warm water. After a few seconds, the student observes the movement of columns of pearlized soap and water inside the beaker. By what process was heat energy transferred from the bowl of warm water to the beaker?

A. conduction

B. convection

C. radiation

D. hydration

15. Which of these is the best example of heat transfer by radiation?

A. A car's engine becomes hot after it starts running.

B. Warm air rises from the ground to a high altitude.

C. The handle of a metal spoon in a bowl of hot soup becomes warm.

D. Sunlight travels through space and warms the surface of the moon.

16. Why does air stop rising at the top of the convection cell in the atmosphere?

A. Its heat energy is less than that of the surrounding air.

B. Its density matches the density of the surrounding air.

C. The amount of heat energy carried upward is balanced by the amount carried downward.

D. The temperature difference between the ground and the top of the cell becomes too great.