**Thunderstorms, Tornadoes, Hurricanes Study Guide**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Parent Signature (5 bonus points!!!) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 1. High clouds made of ice crystals are called cirrus clouds.

 2. Large thunderhead clouds that produce precipitation are called cumulonimbus clouds.

 3. Strong updrafts within a thunderhead can produce thunderstorms

 4. A maritime tropical air mass contains warm, wet air

 5. A front that forms when a warm air mass is trapped between cold air masses and forced to rise is called a(n)

Occluded front

 6. A severe storm that forms as a rapidly rotating funnel cloud is called a tornado

 7. Unstable atmospheric conditions lead to the formation of lightning and thunder from towering cumulonimbus clouds

 8. What causes the most damage during a hurricane? High winds

 9. Lightning is seen before thunder is heard because light travels faster than sound

 10. Clouds are formed by strong updrafts

 11. Transpiration is the process by which plants release water vapor into the air through their leaves.

 12. Which device measures relative humidity? psychrometer

 13. Air can become saturated when water vapor is added to the air through perspiration, transpiration, and respiration

 14. Puffy, white clouds that tend to have flat bottoms are called cumulus clouds

 15. Clouds that form in layers are called stratus

 16. Thin, feathery, white clouds found at high altitudes are called cirrus

 17. A Meritime (M) air mass is a wet air mass that forms over water.

 18. A Continental (C) air mass is a dry air mass that forms over land.

 19. A Polar (P) air mass is a cold air mass that forms over the polar regions.

 20. A Tropical (T) air mass is a warm air mass that develops over the Tropics.

 21. A Meritime Polar (MP) air mass forms over the North Pacific Ocean and affects the Pacific Coast.

 22. A Meritime Polar (MP) air mass forms over the North Atlantic Ocean and affects New England and the eastern part of Canada.

 23. A Meritime Tropical (MT) air mass develops over warm areas in the Gulf of Mexico and the North Atlantic Ocean and move across the East Coast and into the Midwest.

 24. A Continental Tropical (CT) air mass forms over the deserts of northern Mexico and in the southwestern United States. It influences weather in the United States only during the summer as it moves northeastward, bringing clear, dry, and very hot weather.

 25. A(n) cold front-occurs when a cold air mass meets and displaces a warm air mass.

 26. A(n) warm front occurs when a warm air mass meets and overrides a cold air mass.

 27. Cooler weather usually follows a(n) cold front because the warm air is pushed away from the Earth's surface.

 28. Warm fronts usually bring drizzly precipitation. Afterward, weather conditions are clear and warm.

Below are four statements describing the formation of tornadoes. However, they are all out of order. Read the statements below and answer the question that follows.

**A**) The rotating column of air works its way down to the bottom of the cumulonimbus cloud and forms a funnel cloud.

**B**) The rotating column of air is turned to a vertical position by strong updrafts of air within the cumulonimbus cloud. The updrafts of air also begin to rotate with the column of air.

**C**) Wind traveling in two different directions causes a layer of air in the middle to begin to rotate like a roll of toilet paper.

**D**) The funnel cloud touches the ground.

 29. In what order should the statements above appear to correctly describe how a tornado forms?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | **A, B, C, D** | c. | **C, B, A, D** |
| b. | **B, C, A, D** | d. | **D, A, B, C** |

 30. When *-nimbus* or *nimbo-* is part of a cloud's name, it means that it is probably going to precipitate.

 31. One can often see the shapes of animals and people in fluffy, white cumulus clouds.

 32. Fog is a type of stratus cloud.

 33. The terms occluded and stationary describe types of fronts.

 34. A(n) air mass is a large body of air that has similar temperature and moisture throughout.

 35. When two different air masses meet, a boundary forms between them called a front.

 36. Thunderstorms are small, intense weather systems that produce strong winds, heavy rain, lightning, and thunder.

 37. Thunder is the sound that results from the rapid expansion of air along the lightning strike.

 38. Lightning is a large electrical discharge that occurs between two oppositely charged surfaces.

 39. A(n) tornado is a small, rotating column of air that has high wind speeds and low central pressure and that touches the ground.

 40. A(n) hurricane is a large, rotating tropical weather system with wind speeds of at least 119 km/h.

 41. The eye is the center of the hurricane that is a core of warm, relatively calm air with low pressure and light winds.