**Thunderstorms, Tornadoes, Hurricanes Study Guide**

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

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

1. High clouds made of ice crystals are called \_\_\_\_\_\_\_\_\_\_\_\_\_ clouds.

2. Large thunderhead clouds that produce precipitation are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ clouds.

3. Strong updrafts within a thunderhead can produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. A maritime tropical air mass contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

7. Unstable atmospheric conditions lead to the formation of lightning and thunder from towering \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. What causes the most damage during a hurricane? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Lightning is seen before thunder is heard because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Clouds are formed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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

12. Which device measures relative humidity? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Air can become saturated when water vapor is added to the air through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

15. Clouds that form in layers are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

17. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass is a wet air mass that forms over water.

18. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass is a dry air mass that forms over land.

19. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass is a cold air mass that forms over the polar regions.

20. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass is a warm air mass that develops over the Tropics.

21. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass forms over the North Pacific Ocean and affects the Pacific Coast.

22. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass forms over the North Atlantic Ocean and affects New England and the eastern part of Canada.

23. A \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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 \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ front-occurs when a cold air mass meets and displaces a warm air mass.

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

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

28. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

32. Fog is a type of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cloud.

33. The terms occluded and stationary describe types of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

34. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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

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

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

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

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

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