

## Chapter 11 Section 3 Guided Reading

1. In the United States, explain where the continental polar and the maritime tropical air masses form.
2. The maritime tropical contains warm, \_\_\_\_\_ air, where the continental polar air mass contains cold, \_\_\_\_\_ air.
  - a) dry, moist
  - b) moist, dry
  - c) dry, saturated
3. The border between two different air masses that collide is called a \_\_\_\_\_.
4. Draw the picture of the cold front. Make sure to include labels.
5. Name some features of a cold front.
6. Draw a picture of the warm front. Make sure to include labels.
7. Name some features of a warm front.
8. How fast does a jet stream move?

9. Use colored pencils to draw the symbols for a cold front and a warm front.
10. T/F A high pressure center is associated with bad weather.
11. Clouds are formed when water \_\_\_\_\_.
12. What does it mean when a cloud has a flat bottom?
13. Two main categories of clouds are \_\_\_\_\_ clouds and \_\_\_\_\_ clouds.
14. T/F Cumuliform clouds form when an air mass rises due to conduction.
15. Examine Figure 11.19 and describe the cumuliform clouds. In your description, include elevation of each type and basic structure (how they look).
16. T/F Stratiform clouds form when a large mass of stable air gradually rises.
17. Examine Figure 11.20 and describe the stratiform clouds. In your description, include elevation of each type and basic structure (how they look).
18. \_\_\_\_\_ clouds have aspects of both cumuliform and stratiform clouds.
19. \_\_\_\_\_ clouds are thin lines of ice crystals forming above 6,000 m.
20. Draw the diagram of the storm cell. Label appropriately.

21. Lightning occurs as a bright spark of light occurs within a storm cloud, when the bottom of the storm cloud becomes \_\_\_\_\_ charged, and the top of the storm cloud becomes \_\_\_\_\_ charged.

- a) positively, negatively
- b) negatively, positively
- c) neutrally, electrically

22. How is thunder created?

23. How are hailstones created?

24. A low pressure center that is surrounded by rotating winds is called a \_\_\_\_\_.

25. A cyclone with winds of at least \_\_\_\_\_ miles per hour, are called hurricanes.

- a) one hundred nineteen
- b) one hundred seventy five
- c) seventy five

26. On the Saffir-Simpson Hurricane scale (Figure 11.24), a category 2 hurricane has what kind of wind speed and damage?

27. Using the same figure (11.24), compared to a category 2 hurricane, a tropical storm has 63 -117 km/hr winds and \_\_\_\_\_ as damage.

28. How are hurricanes and tornadoes alike?

29. How are hurricanes and tornadoes different?

30. Explain how a tornado forms.