Name _____ Class _____ Date _____

Chapter 24

Water in the Atmosphere

Read each statement below. If the statement is true, write *T* in the space provided. If the statement is false, write *F* in the space provided.

_____ **1.** Most evaporation takes place in regions around the equator.

_____ **2.** Cold air can hold more water vapor than warm air.

_____ **3.** The dew point temperature depends on the amount of water in the air.

_____ **4.** Air must be saturated before clouds can form.

_____ **5.** The lowest clouds in the sky are cirrus clouds.

_____ **6.** Fog does not require condensation nuclei in order to form.

_____ **7.** Hail forms when rain falls through a layer of freezing air.

_____ **8.** In tropical regions, rain is commonly the result of the process of coalescence.

_____ **9.** Silver-iodide vapor and powdered dry ice have been used to cause or increase precipitation artificially.

_____ **10.** Rain gauges measure the precipitation that falls over a large region.

Choose the one best response. Write the letter of that choice in the space provided.

_____ **11.** Ice changes directly into water vapor by the process of:

a. evaporation. **b.** sublimation.
c. condensation. **d.** saturation.

_____ **12.** What is the relative humidity when there are 7 g/m^3 of water vapor in air with a saturation point of 14 g/m^3?

a. 7% **b.** 14% **c.** 50% **d.** 98%

_____ **13.** What forms when the dew point is below 0°C?

a. dew **b.** fog **c.** frost **d.** drizzle

_____ **14.** As air rises and expands, it undergoes:

a. advective heating. **b.** advective cooling.
c. convective heating. **d.** convective cooling.

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Choose the one best response. Write the letter of that choice in the space provided.

_____ **15.** Which type of fog usually forms over inland rivers and lakes?

a. radiation **b.** steam **c.** upslope **d.** advection

_____ **16.** The most common form of solid precipitation is:

a. glaze ice. **b.** hail. **c.** sleet. **d.** snow.

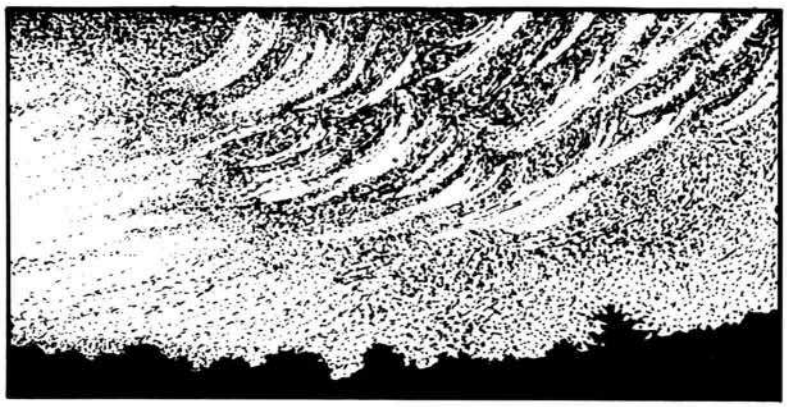
_____ **17.** Most of the water in supercooled clouds exists as:

a. snowflakes. **b.** water droplets.
c. ice crystals. **d.** water vapor.

_____ **18.** A funnel and a cylindrical container could be used to measure the:

a. amount of rainfall. **b.** specific humidity.
c. adiabatic temperature change. **d.** dew point.

Use the diagram below to answer questions 19 and 20.



_____ **19.** What type of cloud is pictured in the diagram?

a. cumulus **b.** stratus **c.** cirrus **d.** nimbus

_____ **20.** At what altitude would you expect to find this type of cloud?

a. 1,000 m **b.** 2,000 m **c.** 4,000 m **d.** 6,000 m

Complete each statement by writing the correct term or phrase in the space provided.

21. The heat released when water condenses and changes to liquid form is called

_____ .

22. The actual amount of water vapor per unit mass of air is expressed as specific

_____ .

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Complete each statement by writing the correct term or phrase in the space provided.

23. When air contacts a cold surface, the air may cool to its dew point by the process of _____ .

24. Water vapor condenses on suspended particles called _____ .

25. Clouds produced by the rising and cooling of large bodies of air are called _____ .

26. Radiation fog is also called _____ .

27. Snowflakes vary in size depending on the air _____ .

28. The type of condensation nucleus that has a crystalline structure similar to ice is called _____ .

29. Droughts may eventually be ended using a rain-producing method called _____ .

30. Snow is measured by both the depth of accumulation and the _____ .

Read each statement and answer it in the space provided.

31. Describe the differences in molecular motion found in ice, water, and water vapor.

32. Describe how a psychrometer works.