

**Study Guide - Weather Test****I. Air Pressure**

- Which of these is the best definition of air pressure?
  - the force of air pushing down on you
  - the force of air pushing in one direction as it falls
  - the force of air pushing in all directions as it moves
- Where is air pressure lowest: top of Mt. Everest or in a house at the beach? Explain.

**II. Humidity**

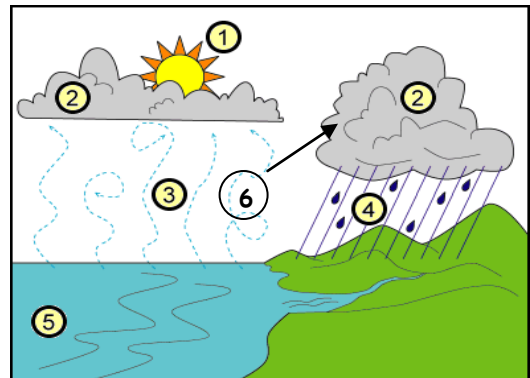
- Which of these is the best definition of humidity?
  - the difficulty we have in cooling off in the winter
  - the water vapor in the air
  - the precipitation in the air
- The warmer the air is, the \_\_\_\_\_ water vapor it can hold.
- A \_\_\_\_\_ is used to measure relative humidity.

**III. Precipitation**

- Precipitation forms when water droplets in the clouds become too \_\_\_\_\_ to stay afloat and fall to the ground.

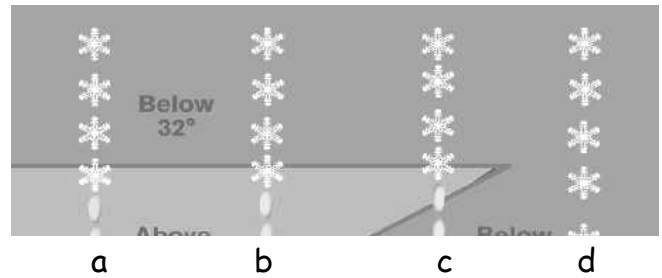
- Label the phases of the water cycle:

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)



8. Identify the types of precipitation demonstrated by the diagram.

a. Begins frozen and then melts before hitting Earth's surface. \_\_\_\_\_  
 b. Begins frozen, melts into rain as it falls and freezes when it hits something on the ground that is colder.



c. Begins frozen, partially melts as it falls and then refreezes into ice pellets before landing.

d. Begins frozen and remains frozen lands as a crystal. \_\_\_\_\_

e. Another type of precipitation not show in the diagram is formed by ice being tossed around in clouds with winds and causing it to grow in size. The ice pellets finally get too large to stay afloat and fall in frozen form. \_\_\_\_\_

#### IV. High and Low Pressure Systems

7. Warm air is less \_\_\_\_\_ than colder air and \_\_\_\_\_ in the atmosphere.

8. Rising moist air causes areas of \_\_\_\_\_ pressure, creates clouds, and is associated with \_\_\_\_\_ weather.

9. Cool air is more \_\_\_\_\_ than warmer air and \_\_\_\_\_ in the atmosphere.

10. Sinking dry air causes areas of \_\_\_\_\_ pressure, evaporates clouds, and is associated with \_\_\_\_\_ weather.

11. Winds are caused by air molecules that move from...

12. Winds are affected by the Coriolis Effect how?

13. Match the following fronts with their descriptions.

Occluded

Warm

Cold

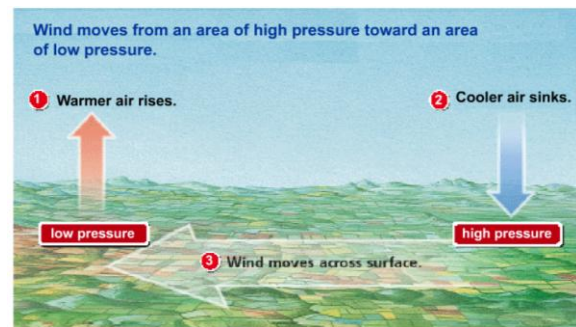
Stationary

\_\_\_\_\_ A warm air mass overtakes a cooler air mass leading to a long period of rain.

\_\_\_\_\_ A warm air mass is trapped between two colder air masses.

\_\_\_\_\_ A warm air mass and a cold air mass meet but neither move leading to several days of consistent weather.

\_\_\_\_\_ A cold air mass overtakes a warmer air mass leading to stormy weather.



## **V. Blizzard**

14. Define blizzard:
15. How can a blizzard occur even when snow is not falling?
16. Which of the following would happen in both a winter blizzard and a summer thunderstorm?
  - a. lightning
  - b. heavy precipitation
  - c. sleet

## **VI. Flood**

17. What are two causes of floods?

## **VII. Hurricane**

18. Where do hurricanes form?
  - a. over cold ocean water
  - b. over dry land
  - c. over warm ocean water
19. What are three dangers of a hurricane?
  - 
  - 
  -

## **VIII. Thunderstorms**

20. What causes a thunderstorm?
  - a. quickly rising warm, humid air
  - b. quickly rising warm, dry air
  - c. quickly sinking warm, humid air
21. What are three dangers of a thunderstorm?
  - 
  - 
  -
22. What two things are produced by a bolt of lightning?

## **IX. Tornado**

23. What other weather elements are associated with tornadoes?

- 
- 

24. What is the rating system for tornadoes?

## X. Weather Forecasting

25. Scientists that studies weather systems are called \_\_\_\_\_.

26. Match each weather tool with its definition:

### Column I

\_\_\_\_\_ radar

\_\_\_\_\_ weather balloon

\_\_\_\_\_ ground station

\_\_\_\_\_ satellite

\_\_\_\_\_ weather planes and ships

### Column II

- takes measurements of air conditions over a large area and at different altitudes such as temperature, air pressure, and humidity
- takes measurements of cloud height; one type is Doppler which also detects air motion and precipitation
- sends information back to Earth while in orbit; records cloud cover, warm and cool regions, and invisible water vapor
- takes measurements in a single location on land such as temperature, precipitation, wind speed, and air pressure
- takes measurements along a path; can be used to gather information from hurricanes or other storms

## XI. Weather Map

Using the following map, answer the following questions:

27. Low pressure often brings stormy weather, and high pressure often brings fair weather.

Which of the locations is most likely to have clear skies?

- Q
- R
- S
- U

28. What kind of front does the line with the half circles represent?

29. In what direction is the cold front moving?

30. What type of weather should city "U" be expecting?

