Name: _____ Period: _____ Date: _____

Meteorology (Part 2) Study Guide

Vocabulary:

1- Define Wind:

2- What is an air mass?

3- What are the two main characteristics of air masses?

4- What is a front? What are the 4 types?

5- What is a warm front? How is it shown on a map?

6- What is a cold front? How is it shown on a map?

7- What is a stationary front How is it shown?

8- What is an occluded front? How is it shown?

9- What is a thunderstorm?

10- What is the difference between a cold front and a warm front thunderstorm?

11- What is lightning? What is thunder?

12- What is a tornado?

13- Where are most US tornadoes found? How are they measured?

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14- What is a hurricane? Typhoon? Cyclone?

15- What are the stages of a hurricane?

16-What creates the most damage during a hurricane?

17- What is the Saffir-Simpson scale?

18- How are hurricanes named?

19- What is a station model?

20- What are the main weather instruments?

21- What is El Nino?

22- What is La Nina?

23- What are the global consequences to El Nino?

24- What are the consequences of La Nina?

Meteorology Part 2 Study Guide

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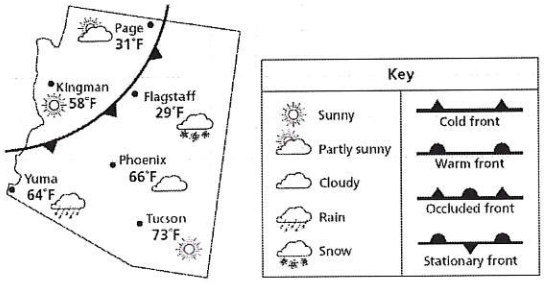
1. Use the information below to answer the following question(s).

   The map below shows the weather conditions for some of the cities in Arizona.



   What type of front is moving through Arizona?

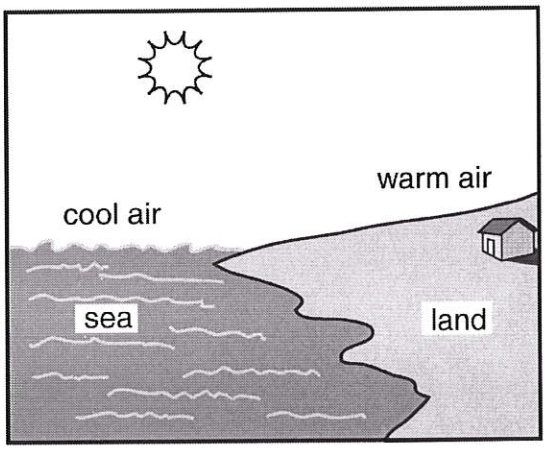
   A. cold front
   B. warm front
   C. occluded front
   D. stationary front

2. Wind can cause erosion that changes the surface of the Earth. Wind erosion can have negative effects on the environment by removing soil and polluting the air during dust storms

   Walter wanted to find out if faster wind speeds increased the amount of wind erosion. Which instrument should he use to measure wind speed?

   A. anemometer
   B. barometer
   C. rain gauge
   D. thermometer

3. The picture below shows a place where air currents will form due to the uneven heating of Earth.

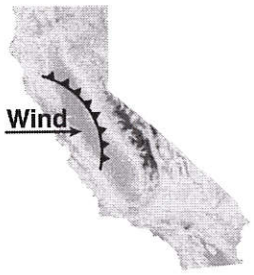


   In which direction will air currents *most* likely move?

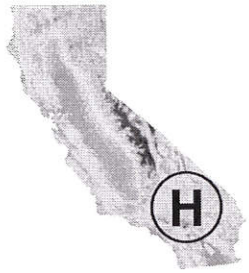
   A. straight down over the land
   B. from the land toward the sea
   C. straight up above the sea
   D. from the sea toward the land

4. Which of the following systems would *most* likely have the greatest amount of moisture associated with it?

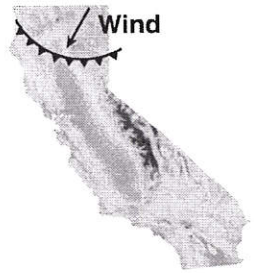
A.



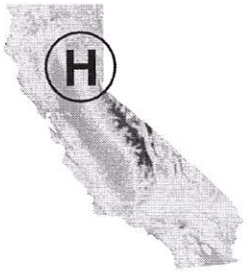
B.



C.



D.



5. Which of the following factors would *most* likely cause a hurricane to decrease in strength?

A. staying over a warm body of water for a long time

B. increasing the number of large clouds

C. moving over a continent

D. moving toward tropical waters

6. A city has a temperature of 75° F, with partly cloudy skies. Weather forecasters are predicting that the air pressure and temperature will drop during the day. Which type of weather is *most* likely for this area in the late afternoon?

A. rainy B. sunny

C. snowing D. hailing

7. A weather balloon with a 2-meter diameter at ambient temperature holds 525 grams of helium. What type of electronic probe could be used to determine the pressure inside the balloon?

A. barometric B. thermometric

C. calorimetric D. spectrophotometric

8. Which of these effects generally occurs as the result of a warm air mass and a cooler air mass converging at Earth's surface?

A. The sky becomes clear.

B. Winds die down.

C. Cloud formation decreases.

D. Stormy weather patterns develop.

9. The Gulf Stream in the Northern Hemisphere and the Brazilian Current in the Southern Hemisphere move poleward. Compared to inland areas at the same latitude, the coastal areas bordering these currents will

A. be warmer.

B. be more arid.

C. have more advection fogs.

D. have shorter growing seasons.

10. When comparing temperatures of two California regions of the same latitude, students found that the nighttime temperature dropped significantly at the desert site but only slightly at the coastal site. This difference is mostly caused by

A. lower wind speeds in the desert than at the coast.

B. less water vapor in the desert than at the coast.

C. lower carbon dioxide levels in the desert than at the coast.

D. less vegetation in the desert than at the coast.

11. A weather satellite can take a picture of a hurricane from space and send it to Earth in seconds.

How would the people of Hawaii benefit by having a picture of a hurricane so quickly?

A. The picture can change the direction of the hurricane.

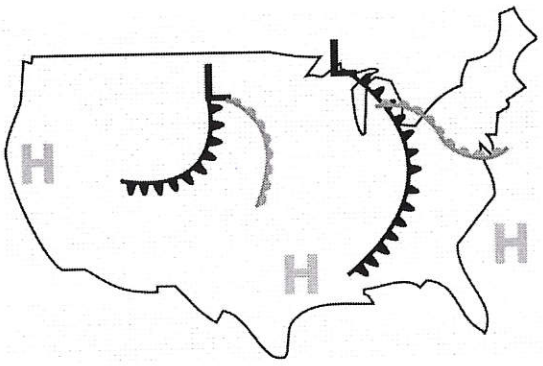
B. People will know how long the hurricane will last.

C. The effect of the hurricane on the beach will be changed.

D. People can be warned about the approaching hurricane.

12. Use the weather map below to help you answer the following question .

Weather Map



Which symbol on the map shows a cold front?

A. H

B. L

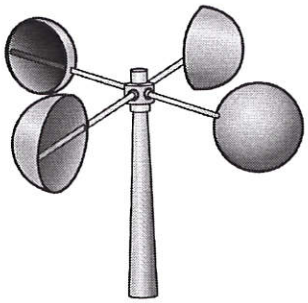
C. 

D. 

13. Which weather instrument measures air pressure?

A. thermometer
B. anemometer
C. rain gauge
D. barometer

14. The picture below shows a weather instrument.



What is this weather instrument designed to measure?

A. air temperature
B. rainfall amount
C. snowfall amount
D. wind speed

15. Thunderstorms and hurricanes are examples of severe weather.

Which of these weather conditions is necessary for the formation of thunderstorms and hurricanes?

A. a cold rain falling to the ground
B. air masses combining to create a high-pressure area
C. winds spiraling downward and away from the center of a storm
D. air moving toward the center of a storm and rising into the atmosphere

16. Several meteorological tools track and record the weather for one day. The observations are recorded in the table below.

Meteorological Data

Measurement	Time		
	8:00 A.M.	10:00 A.M.	12:00 Noon
Wind speed (km/hr)	5	12	20
Temperature (°C)	7	2	−4
Barometric pressure (inches Hg)	30.3	29.9	29.5
Relative humidity (%)	50	73	85

What kind of weather can *most correctly* be predicted for midafternoon?

A. a rain shower

B. a snowstorm

C. unseasonably warm and sunny conditions

D. cold air temperatures with no precipitation

17. Wendy wants to find out how much precipitation will occur during the next storm. Which tool should she use to collect these data?

A. Rain gauge

B. Anemometer

C. Thermometer

D. Balance scale

18. What two weather instruments measure amounts of water?

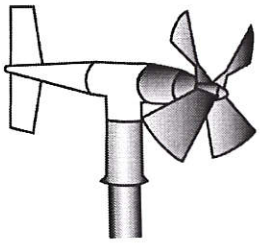
A. Hygrometer and barometer

B. Rain gauge and hygrometer

C. Barometer and anemometer

D. Anemometer and rain gauge

19. Look at the picture of the instrument below.



What information does this instrument measure?

A. Humidity

B. Air pressure

C. Wind speed

D. Temperature

20. Which tool should be used to measure the amount of water vapor in the air?

A. Anemometer

B. Barometer

C. Hygrometer

D. Thermometer

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21. What do meteorologists depend on to forecast an approaching storm?

A. air pressure
B. temperature
C. humidity
D. wind speed

22. Which is *most likely* part of a weather station in a school?

A. balance scales
B. magnifying lens
C. rain gauge
D. telescope

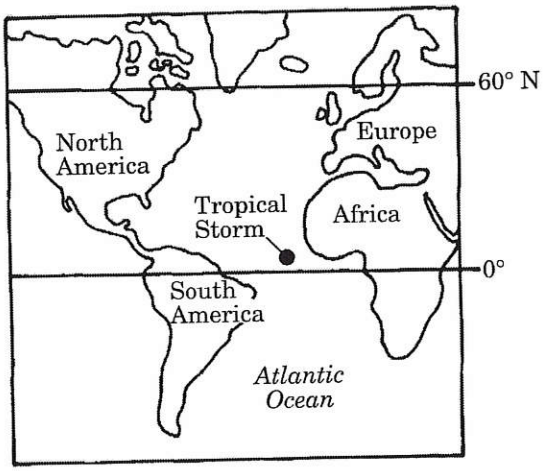
23. Where do climate conditions cause hurricanes to become larger and more powerful?

A. over warm water
B. over cold water
C. over mountains
D. over dry, flat land

24. Which factor is *most* helpful in determining where a thunderstorm is coming from and where it may go?

A. humidity
B. wind speed
C. wind direction
D. amount of rainfall

25. This map shows part of the Atlantic Ocean.



If a tropical storm forms off the west coast of Africa, what effect will the storm *most likely* have on weather in the eastern parts of North America?

A. a reduction in the probability of severe winter weather
B. an increase in the probability of severe winter weather
C. a reduction in the probability of a hurricane
D. an increase in the probability of a hurricane

26. Which tool is used to determine precipitation amounts?

A. balance scale
B. hygrometer
C. rain gauge
D. thermometer

Period: _____