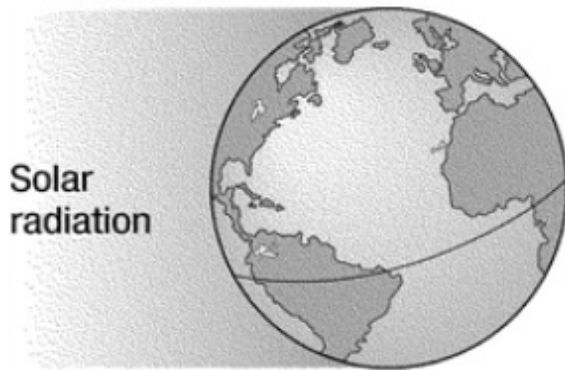


Module Test: Weather and Climate

1) A student goes the beach. She thinks that at night the sand will get cooler faster than the water. Which describes the student's thinking?

- A) She is correct because the sandy beach will absorb thermal energy more slowly than the ocean.
- B) She is correct because the specific heat of water is higher than of the sandy beach.
- C) She is incorrect because the specific heat of land and water are not different.
- D) She is incorrect because the ocean releases heat to the air more quickly than la

2) Which part of Earth is receiving the most solar radiation?



Module Test: Weather and Climate

3) Why are polar regions colder than other regions of Earth?

4) Sea and land breezes are caused because _____.

- A) the land heats and cools more slowly than the water
- B) the land heats and cools more quickly than the water
- C) air moves more easily over water than over land
- D) air moves more easily over land than over water

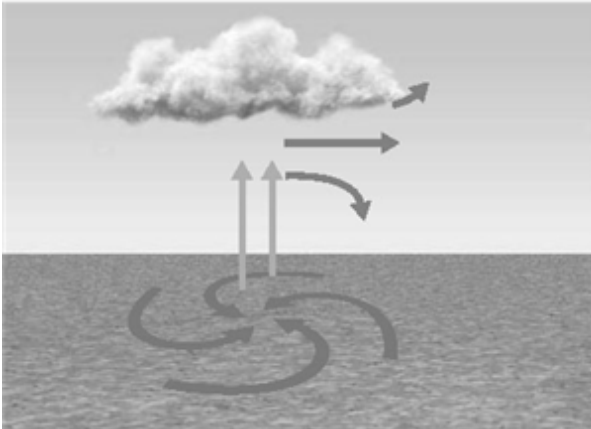
5) What is the cause of the Coriolis Effect?

- A) Earth's rotation
- B) the tilt of Earth's axis
- C) the distance of Earth from the Sun
- D) Earth's position in its orbit

Module Test: Weather and Climate

6) Describe the prevailing westerlies.

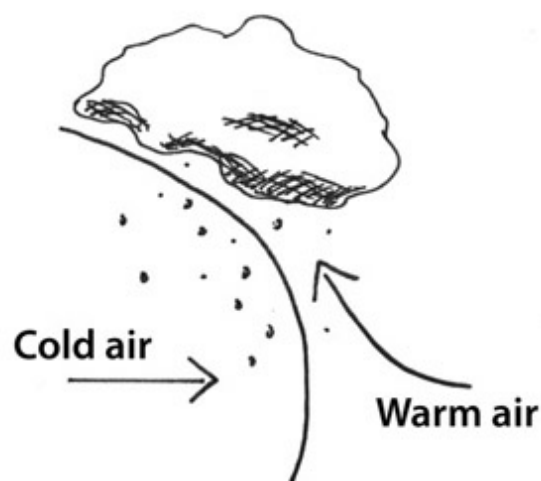
7) Which type of system is shown in the figure?



- A) cold front
- B) low pressure
- C) stationary front
- D) high pressure

Module Test: Weather and Climate

8) Use the diagram to answer the questions.



The figure shows the formation of a front. What type of weather is associated with this type of front?

- A) cool breezes and snow flurries
- B) light winds and precipitation
- C) intense precipitation and thunderstorms
- D) thick clouds and fog

Module Test: Weather and Climate

- 9) The map shows some of the major ocean currents near the continental United States. A student lives in a town in the midwest at the same latitude as Cape Hatteras. Which sentence describes how the climate of the midwest town compares to the climate of Cape Hatteras?



- A) It will have hotter temperatures in the summer.
- B) It will have less precipitation over the year.
- C) It will have more snow in the winter.
- D) It will experience a smaller range of temperatures over the year.
- 10) How are climate and weather related?
- A) Climate is the weather closer to the equator.
- B) Climate cannot be affected by human activities.
- C) Climate is the average weather over a long period of time.
- D) Climate changes day to day, weather is fairly constant.
- 11) A student is asked to describe the climate in their region. Which statement correctly describes climate?
- A) "It's cold and raining outside."
- B) "It rains about 20 inches a year here."
- C) "The wind blew my trash can across the street."
- D) "It snowed 18 inches this winter."

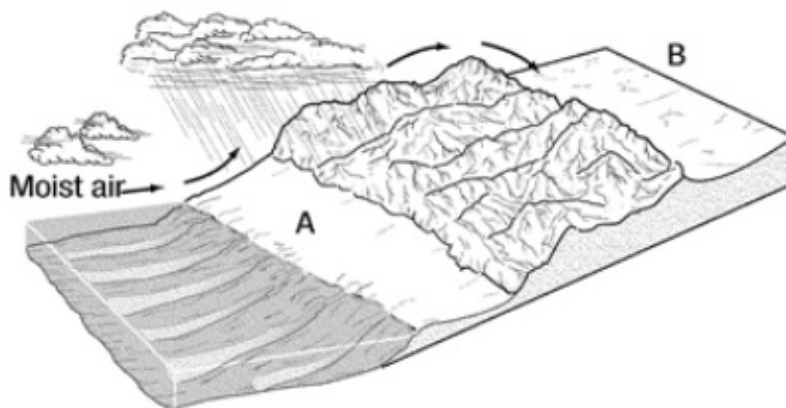
Module Test: Weather and Climate

12) A city near an ocean has a more constant _____ throughout the year than an inland city of the same latitude.

13) Which is NOT something used to determine a region's climate?

- A) amount of precipitation
- B) number of people
- C) average temperature
- D) kinds of plants

14) How does the climate in area B compare to the climate in area A?



- A) colder
- B) wetter
- C) windier
- D) drier

Module Test: Weather and Climate

- 15)** Students collect data over several days on two air masses approaching one another. The students want to use this data to predict changes in the weather conditions when the two air masses interact.
- a. Identify **two** properties of the air masses that the students can observe in order to make their predictions.

- b. Describe **two** predictions the students can make about the interacting air masses, based on the information they collect.

Student Name: _____

Date: _____

Module Test: Weather and Climate

c. Explain why the students can use their data and their understanding of how air masses interact to predict how the weather will change.

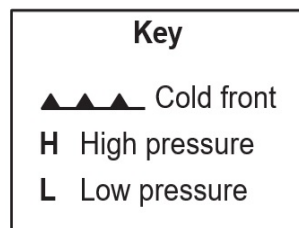
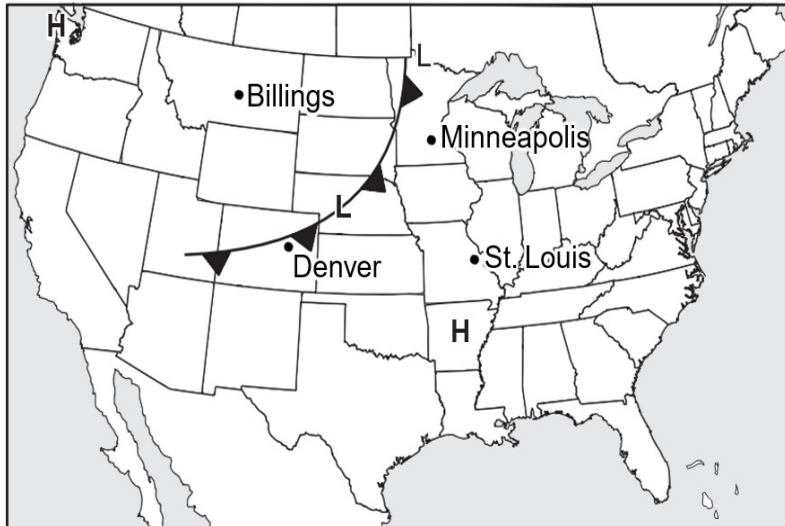
Student Name: _____

Date: _____

Module Test: Weather and Climate

Module Test: Weather and Climate

- 16) The map shows the weather in parts of the United States on one day. Felicia and Jorge go to school in Minneapolis. They want to collect weather data in their schoolyard over the next couple of days and compare the data to the data shown on the map.



- a. Identify **three** types of data that Felicia and Jorge should collect to help them compare their data to the data on the map and identify the tools they need to collect the data.

Student Name: _____

Date: _____

Module Test: Weather and Climate

b. For each type of data that Felicia and Jorge collect, describe how they can use the data to help them see if the weather map is correct. Explain your answers.

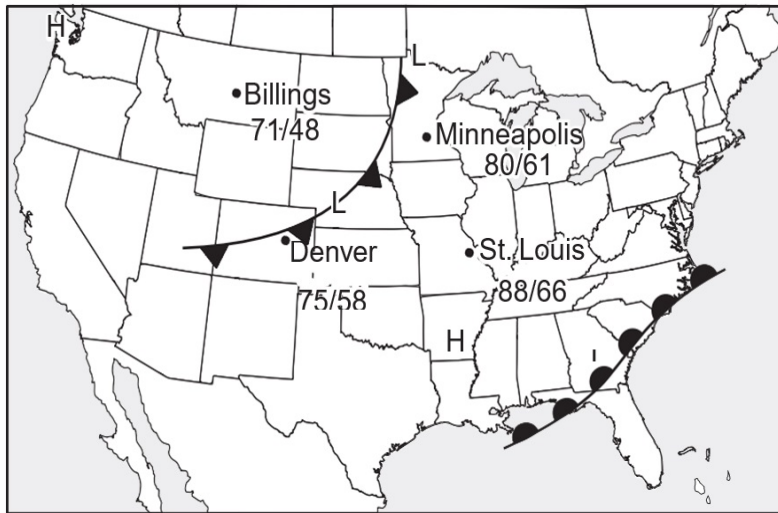
Student Name: _____

Date: _____

Module Test: Weather and Climate

Module Test: Weather and Climate

17) The map shows some weather data for one day in the United States. The given temperatures are in degrees Fahrenheit.



Key	
	Warm front
	Cold front
H	High pressure
L	Low pressure

a. Identify **three** types of data that were collected so a meteorologist can select the accurate weather front symbols to put on the map.

Student Name: _____

Date: _____

Module Test: Weather and Climate

b. Identify the type of data that residents in St. Louis should collect in order to know what kind of weather to expect over the next few days. Explain your reasoning.

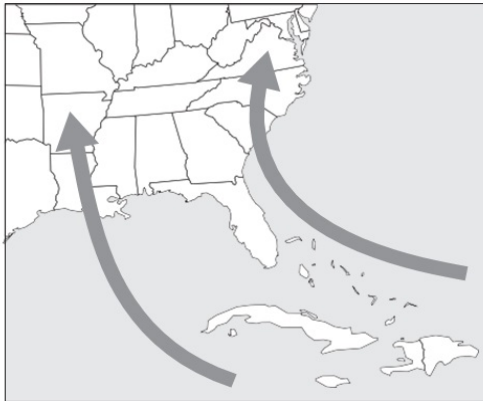
Student Name: _____

Date: _____

Module Test: Weather and Climate

Module Test: Weather and Climate

18) The map shows air masses moving toward the southeastern United States.



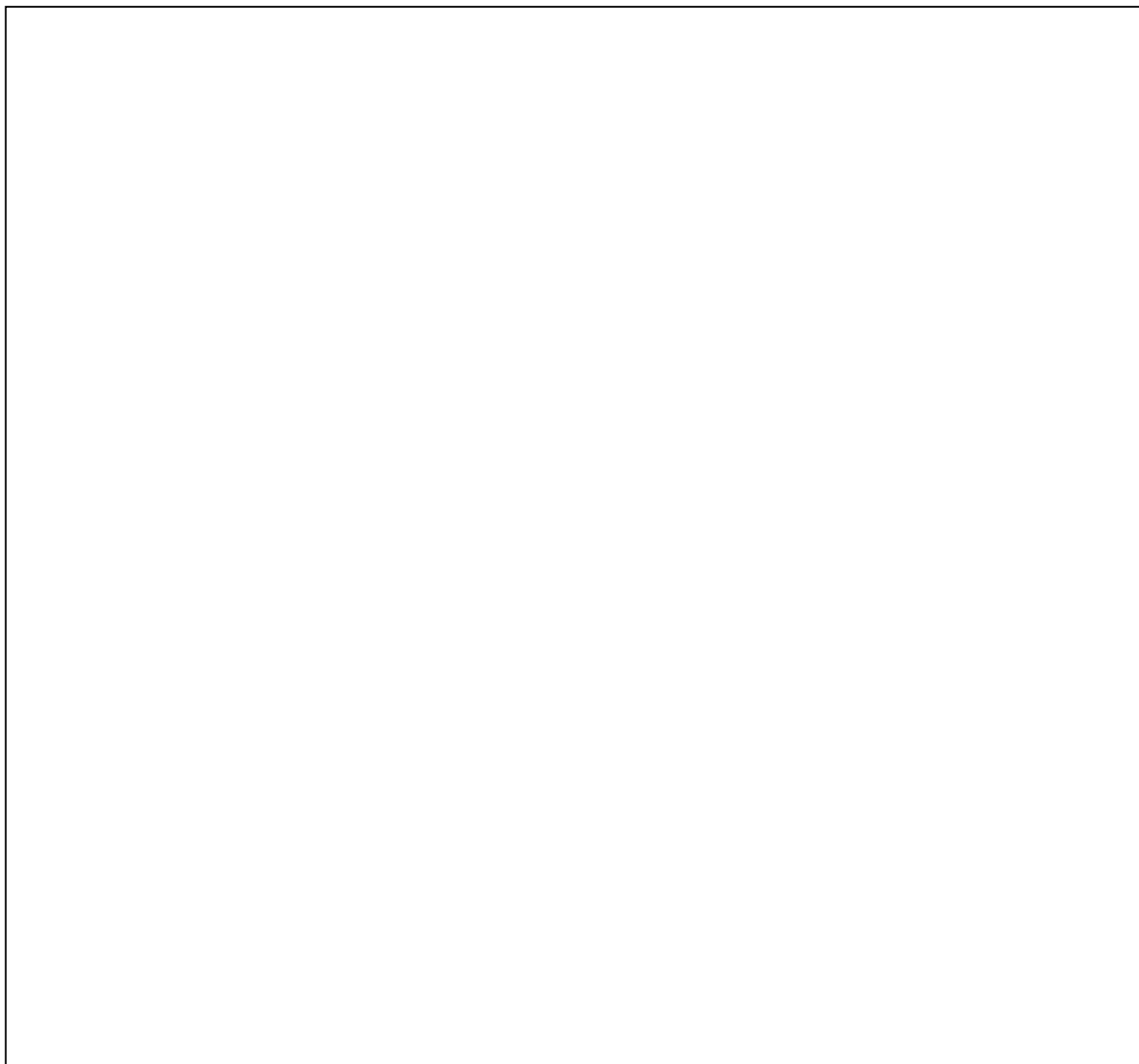
a. Identify the types of data that must be collected to determine the characteristics of the air masses shown in the map, in order to predict weather.

Student Name: _____

Date: _____

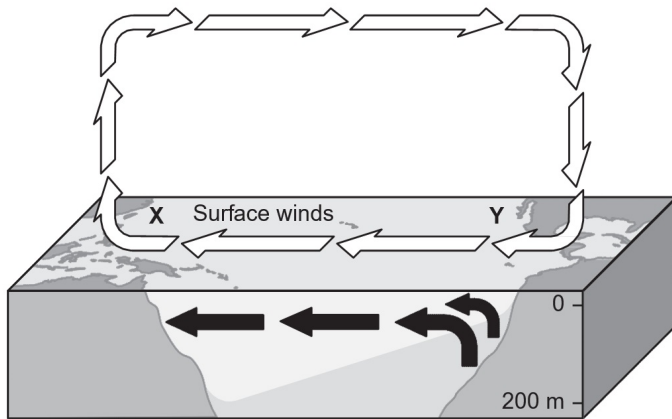
Module Test: Weather and Climate

b. Predict the characteristics of the air masses shown in the map. Explain your prediction.



Module Test: Weather and Climate

- 19) The model shows the movement of the air in the atmosphere and the movement of the water between locations X and Y, which are near the equator.



Based on the model, compare the climates of locations X and Y. Explain your answer using evidence from the model.

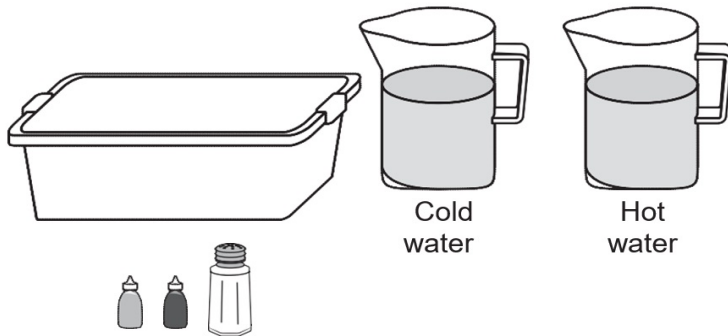
Student Name: _____

Date: _____

Module Test: Weather and Climate

Module Test: Weather and Climate

- 20)** Colin uses the following materials to model ocean currents: blue food coloring, red food coloring, a clear tub, a pitcher filled with cold water, a pitcher filled with warm water, and salt.



- a. Write a procedure that uses these materials to model how ocean currents form in the ocean and move as a result of differences in density and Earth's uneven heating.

Student Name: _____

Date: _____

Module Test: Weather and Climate

b. Explain how the model demonstrates the processes given in part (a). Your answer should include the characteristics that drive deep ocean currents and the relationship between ocean currents and Earth's heat.