

## Earth Science Ch. 8 Practice Test.tst

### Multiple Choice

Identify the choice that best completes the statement or answers the question.

- \_\_\_\_ 1. Relative humidity can be measured with a(n)
- |    |               |
|----|---------------|
| a. | anemometer.   |
| b. | barometer.    |
| c. | psychrometer. |
| d. | thermometer.  |
- \_\_\_\_ 2. The two main parts of a psychrometer are
- |    |  |
|----|--|
| a. | a rain gauge and a measuring stick.                |
| b. | a wet-bulb thermometer and a dry-bulb thermometer. |
| c. | a collecting funnel and a measuring tube.          |
| d. | a set of cups and a spinning axle.                 |
- \_\_\_\_ 3. Two conditions are required for cloud formation: cooling of the air and
- |    |   |
|----|---|
| a. | the absorption of infrared energy.      |
| b. | the unequal heating of Earth's surface. |
| c. | the presence of particles in the air.   |
| d. | the influence of the Coriolis effect.   |
- \_\_\_\_ 4. Large clouds that often produce thunderstorms are called
- |    |                      |
|----|----------------------|
| a. | stratus clouds.      |
| b. | cumulonimbus clouds. |
| c. | cirrus clouds.       |
| d. | nimbostratus clouds. |
- \_\_\_\_ 5. Any form of water that falls from clouds is called
- |    |                |
|----|----------------|
| a. | dew.           |
| b. | evaporation.   |
| c. | condensation.  |
| d. | precipitation. |
- \_\_\_\_ 6. The difference between sleet and hail is
- |    |                                     |
|----|-------------------------------------|
| a. | the temperature of the ice pellets. |
| b. | the size of the ice pellets.        |
| c. | where the ice pellets formed.       |
| d. | both b and c.                       |
- \_\_\_\_ 7. Cold, dry air affecting the northern United States in winter often comes from
- |    |                                  |
|----|----------------------------------|
| a. | maritime polar air masses.       |
| b. | maritime tropical air masses.    |
| c. | continental polar air masses.    |
| d. | continental tropical air masses. |
- \_\_\_\_ 8. What kind of weather would a continental tropical air mass that formed over northern Mexico bring to the southwestern United States?
- |    |                |
|----|----------------|
| a. | monsoon rains  |
| b. | warm and moist |
| c. | cold and moist |
| d. | hot and dry    |
- \_\_\_\_ 9. The prevailing westerlies, the major wind belts over the continental United States, generally push air masses from
- |    |                 |
|----|-----------------|
| a. | east to west.   |
| b. | west to east.   |
| c. | north to south. |
| d. | south to north. |
- \_\_\_\_ 10. When a rapidly moving cold air mass overtakes a slow-moving warm air mass, the result is a(n)

a.	cold front.
b.	occluded front.
c.	warm front.
d.	stationary front.

\_\_\_\_ 11. When a warm air mass and a cold air mass meet and neither can move the other, the result is a(n)

a.	occluded front.
b.	warm front.
c.	stationary front.
d.	cold front.

\_\_\_\_ 12. When a warm air mass overtakes a cold air mass, it forms a(n)

a.	occluded front.
b.	warm front.
c.	stationary front.
d.	cold front.

\_\_\_\_ 13. A major difference between cyclones and anticyclones is

a.	their size.
b.	where they occur.
c.	the direction of their winds.
d.	how often they occur.

\_\_\_\_ 14. Weather associated with an anticyclone is generally

a.	cloudy but dry.
b.	windy and cloudy.
c.	wet and cloudy.
d.	dry and clear.

\_\_\_\_ 15. A funnel-shaped cloud that touches Earth's surface is called a

a.	hurricane.
b.	cyclone.
c.	tornado.
d.	thunderhead.

\_\_\_\_ 16. Thunderstorms form within

a.	high altocumulus clouds.
b.	high cirrocumulus clouds.
c.	large cumulonimbus clouds.
d.	low cirrus clouds.

\_\_\_\_ 17. Tornado Alley includes the states of

a.	New York and California.
b.	Florida and North Carolina.
c.	Texas and Kansas.
d.	Pennsylvania and Illinois.

\_\_\_\_ 18. Hurricanes typically form over

a.	cold ocean water.
b.	tropical rain forests.
c.	warm ocean water.
d.	very dry land masses.

\_\_\_\_ 19. The eye of a hurricane

a.	has the highest winds.
b.	has dense clouds.
c.	produces the storm surge.
d.	is calm.

\_\_\_\_ 20. A "dome" of water that sweeps across the coast where a hurricane lands is called a(n)

a.	eye.
b.	storm surge.
c.	eyewall.

d.	jet stream.
21. A storm is a(n)	
a.	“dome” of water that sweeps across the coast where a hurricane lands.
b.	huge body of air that has similar temperature, humidity, and air pressure at any given height.
c.	boundary where unlike air masses meet and do not easily mix.
d.	violent disturbance in the atmosphere.
22. One of the best places to seek protection during a tornado is	
a.	in the attic.
b.	beside either the stove or the refrigerator.
c.	in the garage.
d.	in the basement of a well-built building.
23. The most dangerous aspect of a snowstorm is often the	
a.	high winds.
b.	depth of snow.
c.	brightness.
d.	air temperature.
24. One example of a safe place to be during a thunderstorm is	
a.	riding in a boat.
b.	swimming in a lake.
c.	sitting under a tree.
d.	crouching in a low area.
25. If people are asked to evacuate during a hurricane watch, they are being asked to	
a.	seek shelter in their homes.
b.	move away from the windows in their homes.
c.	leave the area temporarily.
d.	move away permanently.
26. Scientists who study weather and try to predict it are called	
a.	astronomers.
b.	climatologists.
c.	meteorologists.
d.	weatherologists.
27. Which of the following sources of weather data would enable a meteorologist to follow the path of an approaching thunderstorm?	
a.	a chart of data from previous storm surges
b.	radar
c.	a network of aneroid barometers
d.	weather balloons
28. Small lines at the end of the shaft that represents wind direction on a weather map indicate	
a.	air temperature.
b.	wind speed.
c.	air pressure.
d.	relative humidity.
29. A cloud cover symbol that is 3/4 black and 1/4 white represents	
a.	20–30 percent cloud cover.
b.	50–60 percent cloud cover.
c.	70–80 percent cloud cover.
d.	90–100 percent cloud cover.
30. Isobars are lines on a map joining places that have the same	
a.	wind speed.
b.	temperature.

c.	humidity.
d.	air pressure.

### Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

- \_\_\_\_ 31. The three main types of clouds are cumulus, stratus, and altos.  
\_\_\_\_\_
- \_\_\_\_ 32. Most of the world receives more rain than snow. \_\_\_\_\_
- \_\_\_\_ 33. Cold, humid air masses that bring fog to the West Coast are continental polar air masses. \_\_\_\_\_
- \_\_\_\_ 34. In the continental United States, air masses are commonly moved by the prevailing westerlies and jet streams. \_\_\_\_\_
- \_\_\_\_ 35. The boundary where unlike air masses meet but do not easily mix is called a(n) jet stream. \_\_\_\_\_
- \_\_\_\_ 36. At a warm front, warm air meets and moves over cold air.  
\_\_\_\_\_
- \_\_\_\_ 37. The low air pressure of anticyclones is often associated with storms and precipitation.  
\_\_\_\_\_
- \_\_\_\_ 38. Rain or snow usually is associated with falling air pressure.  
\_\_\_\_\_
- \_\_\_\_ 39. Tornadoes form in the same kind of cloud as thunderstorms.  
\_\_\_\_\_
- \_\_\_\_ 40. During a tornado, the basement is the safest place to be.  
\_\_\_\_\_

### Completion

Complete each statement.

41. If 4 grams of water vapor are present in a cubic meter of air that can hold a maximum of 10 grams, the \_\_\_\_\_ is 40 percent.
42. Clouds form when water vapor in air becomes liquid water in the process called \_\_\_\_\_.
43. The \_\_\_\_\_ is the temperature at which water in air changes from a gas to a liquid.
44. Clouds that form near the ground and look like fluffy heaps of cotton are called \_\_\_\_\_.
45. Flat, layered \_\_\_\_\_ clouds can cover most of the sky.
46. Mist and drizzle are made of small \_\_\_\_\_.
47. An ice pellet larger than 5 millimeters in diameter that forms during a thunderstorm is called a(n) \_\_\_\_\_.
48. A(n) \_\_\_\_\_ air mass can bring thunderstorms to the United States in summer.
49. Hot, dry air moves into the Southwest in summer from a(n) \_\_\_\_\_ air mass.
50. A(n) \_\_\_\_\_ front may bring many days of rain because neither air

mass can move the other.

51. Where a warm air mass is caught between two cooler air masses, a(n) \_\_\_\_\_ front occurs.
52. A(n) \_\_\_\_\_ front is a fast-moving front that often brings thunderstorms followed by clear skies.
53. From the center of a “high,” or \_\_\_\_\_, winds spiral outward toward areas of lower pressure.
54. A large amount of humid air that cools below 0°C can produce a(n) \_\_\_\_\_ storm.
55. Storms that form within large cumulonimbus clouds and produce rain and lightning are called \_\_\_\_\_.
56. A hurricane’s storm surge is caused by a combination of high winds and \_\_\_\_\_.
57. Sudden, violent floods that occur shortly after a storm are called \_\_\_\_\_.
58. A long-lasting storm that begins over the warm surface of the ocean and has winds of 119 kilometers per hour or higher is a(n) \_\_\_\_\_.
59. During a thunderstorm, a person should not touch objects that are made of \_\_\_\_\_.
60. On newspaper weather maps, colors are often used to indicate \_\_\_\_\_ ranges for different areas.

### Short Answer

*Use the diagram to answer each question.*

61. What is the temperature of the dry-bulb thermometer?
62. What is the temperature of the wet-bulb thermometer?
63. How do the temperatures of the wet-bulb and dry-bulb thermometers compare?
64. Suppose the relative humidity of the air is 85 percent and the reading of the dry-bulb thermometer is 26°C. What is the reading of the wet-bulb thermometer?
65. Based on the temperatures shown in the diagram, what is the relative humidity of the air?
66. Suppose the relative humidity of the air is 54 percent and the temperature of the dry-bulb thermometer is 16°C. What is the temperature of the wet-bulb thermometer?

*Use the diagram to answer each question.*

67. What does A represent? In what direction is it moving?
68. What is B called? What does it connect?
69. What does C represent?
70. What does D represent? In what direction is it moving?
71. What does E represent?
72. What is F called? What does it connect?

## Essay

73. Name the type of cloud that looks like rows of cotton balls very high in the sky. What kind of weather can you predict from these clouds?
74. Compare and contrast maritime tropical and continental tropical air masses.
75. Compare and contrast a cold front and a warm front.
76. What are the “highs” and “lows” indicated on weather maps of the Northern Hemisphere? How does each one form?
77. Define *hurricane* and explain how a hurricane forms.
78. You and a friend are hiking in the wilderness when you become caught in a thunderstorm. Your friend wants to seek shelter under the nearest tree. Is this a good idea? If not, what should you do?
79. What should you do to stay safe if you are caught in a snowstorm?
80. Explain why weather forecasts are not always accurate.

## Earth Science Ch. 8 Practice Test.tst

### Answer Section

#### MULTIPLE CHOICE

1. ANS: C PTS: 1 DIF: L1  
OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.7.b  
BLM: knowledge
2. ANS: B PTS: 1 DIF: L2  
OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.7.b  
BLM: comprehension
3. ANS: C PTS: 1 DIF: L2  
OBJ: CaES.8.1.2 Explain how clouds form. STA: S 6.4.e  
BLM: comprehension
4. ANS: B PTS: 1 DIF: L2  
OBJ: CaES.8.1.3 Name the three main types of clouds. STA: S 6.4.e  
BLM: comprehension
5. ANS: D PTS: 1 DIF: L1  
OBJ: CaES.8.2.1 Identify the common types of precipitation. STA: S 6.4.e  
BLM: knowledge
6. ANS: D PTS: 1 DIF: L2  
OBJ: CaES.8.2.1 Identify the common types of precipitation. STA: S 6.4.a  
BLM: analysis
7. ANS: C PTS: 1 DIF: L2  
OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America, and describe how they move. STA: S 6.4.e BLM: application
8. ANS: D PTS: 1 DIF: L2  
OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America, and describe how they move. STA: S 6.4.e BLM: application
9. ANS: B PTS: 1 DIF: L1  
OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America, and describe how they move. STA: S 6.4.e BLM: knowledge
10. ANS: A PTS: 1 DIF: L2  
OBJ: CaES.8.3.2 Name the main types of fronts. STA: S 6.4.e  
BLM: application
11. ANS: C PTS: 1 DIF: L2

OBJ: CaES.8.3.2 Name the main types of fronts. STA: S 6.4.e  
 BLM: application  
 12. ANS: B PTS: 1 DIF: L1  
 OBJ: CaES.8.3.2 Name the main types of fronts. STA: S 6.4.e  
 BLM: knowledge  
 13. ANS: C PTS: 1 DIF: L2  
 OBJ: CaES.8.3.3 Explain the type of weather that is associated with cyclones and anticyclones.  
 STA: S 6.4.e BLM: analysis  
 14. ANS: D PTS: 1 DIF: L1  
 OBJ: CaES.8.3.3 Explain the type of weather that is associated with cyclones and anticyclones.  
 STA: S 6.4.e BLM: knowledge  
 15. ANS: C PTS: 1 DIF: L1  
 OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
 STA: S 6.4.e BLM: knowledge  
 16. ANS: C PTS: 1 DIF: L1  
 OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
 STA: S 6.4.e BLM: knowledge  
 17. ANS: C PTS: 1 DIF: L2  
 OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
 STA: S 6.4.e BLM: application  
 18. ANS: C PTS: 1 DIF: L1  
 OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
 STA: S 6.4.e BLM: knowledge  
 19. ANS: D PTS: 1 DIF: L2  
 OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
 STA: S 6.4.e BLM: comprehension  
 20. ANS: B PTS: 1 DIF: L1  
 OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
 STA: S 6.4.e BLM: knowledge  
 21. ANS: D PTS: 1 DIF: L1  
 OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
 STA: S 6.4.e BLM: knowledge  
 22. ANS: D PTS: 1 DIF: L1  
 OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm.  
 STA: S 6.4.d BLM: knowledge  
 23. ANS: A PTS: 1 DIF: L2  
 OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm.  
 STA: S 6.4.e BLM: comprehension  
 24. ANS: D PTS: 1 DIF: L2  
 OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm.  
 STA: S 6.4.d BLM: application  
 25. ANS: C PTS: 1 DIF: L2  
 OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm.  
 STA: S 6.4.d BLM: comprehension  
 26. ANS: C PTS: 1 DIF: L1  
 OBJ: CaES.8.5.1 Explain how weather forecasters predict the weather.  
 STA: S 6.4.e BLM: knowledge  
 27. ANS: B PTS: 1 DIF: L2  
 OBJ: CaES.8.5.1 Explain how weather forecasters predict the weather.  
 STA: S 6.4.e BLM: application  
 28. ANS: B PTS: 1 DIF: L2  
 OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
 STA: S 6.4.e BLM: application  
 29. ANS: C PTS: 1 DIF: L2  
 OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
 STA: S 6.4.e BLM: application  
 30. ANS: D PTS: 1 DIF: L1

OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: knowledge

### MODIFIED TRUE/FALSE

31. ANS: F, cirrus
- PTS: 1 DIF: L2
- OBJ: CaES.8.1.3 Name the three main types of clouds. STA: S 6.4.e  
BLM: comprehension
32. ANS: T PTS: 1 DIF: L2
- OBJ: CaES.8.2.1 Identify the common types of precipitation. STA: S 6.4.e  
BLM: comprehension
33. ANS: F, maritime
- PTS: 1 DIF: L2
- OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America, and describe how they move. STA: S 6.4.e BLM: comprehension
34. ANS: T PTS: 1 DIF: L1
- OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America, and describe how they move. STA: S 6.4.e BLM: knowledge
35. ANS: F, front
- PTS: 1 DIF: L2
- OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America, and describe how they move. STA: S 6.4.e BLM: comprehension
36. ANS: T PTS: 1 DIF: L2
- OBJ: CaES.8.3.2 Name the main types of fronts. STA: S 6.4.e  
BLM: application
37. ANS: F, cyclones
- PTS: 1 DIF: L2
- OBJ: CaES.8.3.3 Explain the type of weather that is associated with cyclones and anticyclones. STA: S 6.4.e BLM: application
38. ANS: T PTS: 1 DIF: L2
- OBJ: CaES.8.3.3 Explain the type of weather that is associated with cyclones and anticyclones. STA: S 6.4.e BLM: application
39. ANS: T PTS: 1 DIF: L1
- OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form. STA: S 6.4.e BLM: knowledge
40. ANS: T PTS: 1 DIF: L1
- OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm. STA: S 6.2.d BLM: knowledge

### COMPLETION

41. ANS: relative humidity
- PTS: 1 DIF: L3
- OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.4.e  
BLM: analysis
42. ANS: condensation
- PTS: 1 DIF: L2 OBJ: CaES.8.1.2 Explain how clouds form.
- STA: S 6.4.a BLM: comprehension
43. ANS: dew point



PTS: 1 DIF: L2 OBJ: CaES.8.1.2 Explain how clouds form.  
STA: S 6.4.e BLM: comprehension  
44. ANS: cumulus

PTS: 1 DIF: L1  
OBJ: CaES.8.1.3 Name the three main types of clouds. STA: S 6.4.e  
BLM: knowledge  
45. ANS: stratus

PTS: 1 DIF: L2  
OBJ: CaES.8.1.3 Name the three main types of clouds. STA: S 6.4.e  
BLM: comprehension  
46. ANS:  
drops of water  
water droplets

PTS: 1 DIF: L2  
OBJ: CaES.8.2.2 Explain how the different types of precipitation form.  
STA: S 6.4.e BLM: comprehension  
47. ANS: hailstone

PTS: 1 DIF: L1  
OBJ: CaES.8.2.2 Explain how the different types of precipitation form.  
STA: S 6.4.e BLM: knowledge  
48. ANS: maritime tropical

PTS: 1 DIF: L2  
OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America,  
and describe how they move. STA: S 6.4.e BLM: application  
49. ANS: continental tropical

PTS: 1 DIF: L2  
OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America,  
and describe how they move. STA: S 6.4.e BLM: application  
50. ANS: stationary

PTS: 1 DIF: L2 OBJ: CaES.8.3.2 Name the main types of fronts.  
STA: S 6.4.e BLM: application  
51. ANS: occluded

PTS: 1 DIF: L1 OBJ: CaES.8.3.2 Name the main types of fronts.  
STA: S 6.4.e BLM: knowledge  
52. ANS: cold

PTS: 1 DIF: L2 OBJ: CaES.8.3.2 Name the main types of fronts.  
STA: S 6.4.e BLM: application  
53. ANS: anticyclone

PTS: 1 DIF: L2  
OBJ: CaES.8.3.3 Explain the type of weather that is associated with cyclones and anticyclones.  
STA: S 6.4.e BLM: comprehension  
54. ANS:  
snow  
winter

PTS: 1 DIF: L1  
OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.  
STA: S 6.4.e BLM: knowledge

55. ANS: thunderstorms

PTS: 1 DIF: L2

OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.

STA: S 6.4.e BLM: comprehension

56. ANS: low pressure

PTS: 1 DIF: L2

OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.

STA: S 6.4.e BLM: comprehension

57. ANS: flash floods

PTS: 1 DIF: L1

OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.

STA: S 6.4.e BLM: knowledge

58. ANS: hurricane

PTS: 1 DIF: L2

OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.

STA: S 6.4.e BLM: application

59. ANS: metal

PTS: 1 DIF: L1

OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm.

STA: S 6.2.d BLM: knowledge

60. ANS: temperature

PTS: 1 DIF: L2

OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.

STA: S 6.4.e BLM: application

### SHORT ANSWER

61. ANS:

24°C

PTS: 1 DIF: L2

OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.7.b

BLM: analysis

62. ANS:

20°C

PTS: 1 DIF: L2

OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.7.b

BLM: analysis

63. ANS:

The wet-bulb temperature is 4 Celsius degrees lower than the dry-bulb temperature.

PTS: 1 DIF: L2

OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.7.b

BLM: analysis

64. ANS:

24°C

PTS: 1 DIF: L2

OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.4.e

BLM: application

65. ANS:  
69 percent

PTS: 1 DIF: L2  
OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.4.e  
BLM: analysis

66. ANS:  
11°C

PTS: 1 DIF: L2  
OBJ: CaES.8.1.1 Describe humidity and how it is measured. STA: S 6.4.e  
BLM: application

67. ANS:  
a cold front; south

PTS: 1 DIF: L2  
OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: analysis  
68. ANS:  
isotherm; points of equal temperature

PTS: 1 DIF: L2  
OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: analysis  
69. ANS:  
an occluded front

PTS: 1 DIF: L2  
OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: analysis  
70. ANS:  
a warm front; east

PTS: 1 DIF: L2  
OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: analysis  
71. ANS:  
a stationary front

PTS: 1 DIF: L2  
OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: analysis  
72. ANS:  
isobar; points of equal air pressure

PTS: 1 DIF: L2  
OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: analysis

## ESSAY

73. ANS:  
The clouds are cirrocumulus clouds, which are high clouds made mostly of ice crystals. They often indicate that a storm is on the way.

PTS: 1 DIF: L2  
OBJ: CaES.8.1.3 Name the three main types of clouds. STA: S 6.4.e

BLM: application

74.           ANS:

Both are warm air masses that form in the tropics and have low air pressure. Maritime tropical air masses form over oceans, so they are humid. Continental tropical air masses form over land, so they are dry.

PTS: 1           DIF: L2

OBJ: CaES.8.3.1 Identify the major types of air masses that affect the weather in North America, and describe how they move.           STA: S 6.4.e           BLM: analysis

75.           ANS:

Both types of fronts are areas where two air masses meet. At a cold front, a moving cold air mass meets and slides under a warm air mass. The warm air is pushed over the cold air, often triggering violent storms. At a warm front, a moving warm air mass meets and moves over a cold air mass, often bringing humid conditions and rain or snow. Warm fronts typically move more slowly through an area than cold fronts do.

PTS: 1           DIF: L2           OBJ: CaES.8.3.2 Name the main types of fronts.

STA: S 6.4.e           BLM: analysis

76.           ANS:

As warm air rises, air pressure drops, causing cooler air to move in to take its place. As this happens, cooler air blows inward in a counterclockwise motion, forming a cyclone, or "low." A "high," or anticyclone, is a high-pressure center of dry air from which winds spiral outward in a clockwise motion. Lows are associated with clouds, wind, and precipitation. Highs are generally associated with clear skies and dry weather.

PTS: 1           DIF: L3

OBJ: CaES.8.3.3 Explain the type of weather that is associated with cyclones and anticyclones.

STA: S 6.4.e           BLM: synthesis

77.           ANS:

A hurricane is a tropical storm that has winds of 119 kilometers per hour or higher. A hurricane forms as a low-pressure area over warm water. It begins as a tropical disturbance, growing in size and strength to become a hurricane. At a low-pressure area, warm, moist air rises and forms clouds. More air is drawn in as winds spiral inward toward the areas of low pressure.

PTS: 1           DIF: L2

OBJ: CaES.8.4.1 List the main kinds of storms and explain how they form.

STA: S 6.4.e           BLM: comprehension

78.           ANS:

You should not seek shelter under a tree, because lightning may strike the tree. To avoid being struck by lightning, you should find a low area away from trees and crouch with your head down.

PTS: 1           DIF: L3

OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm.

STA: S 6.2.d           BLM: evaluation

79.           ANS:

Try to find shelter from the wind. Cover exposed parts of your body and try to stay warm and dry. If you are in a car, only keep the engine running if the exhaust pipe is clear of snow.

PTS: 1           DIF: L2

OBJ: CaES.8.4.2 Describe measures that can be taken to ensure safety in a storm.

STA: S 6.2.d           BLM: comprehension

80.           ANS:

Weather satellites and radar provide up-to-the-minute weather data. Powerful computers can use these data to forecast the weather. But weather forecasts still are not always accurate. One reason for this is the butterfly effect. In the butterfly effect, a small change in the weather today can cause a larger change in the weather a week later. A small, unpredictable event can cause a large disturbance that throws off a weather forecast.

PTS: 1 DIF: L3  
OBJ: CaES.8.5.2 Describe what can be learned from information shown on weather maps.  
STA: S 6.4.e BLM: synthesis