

1. A reflective telescope has main parts.
  - a. one
  - b. two
  - c. three
  - d. four
  
2. A person who studies stars, planets, and other objects in the sky is called an .
  - a. telescoper
  - b. starsologer
  - c. astronomer
  - d. astrologist
  
3. This type of telescope never has problems seeing through Earth's atmosphere. It uses lenses to enlarge an object.
  - a. Earth-based telescope
  - b. reflecting telescope
  - c. refracting telescope
  - d. space-based telescope
  
4. What instrument can an astronomer use to see objects that are very far away?
  - a. Microscope
  - b. Telescope
  - c. Compass
  - d. Stereoscope
  
5. The first person to use a telescope for astronomy was
  - a. Newton
  - b. Galileo
  - c. Copernicus
  - d. Kepler
  
6. The first type of telescope invented
  - a. refractor telescope
  - b. reflector telescope
  - c. composite telescope
  - d. radio telescope
  
7. The telescope that uses both lenses and mirrors to gather light
  - a. refractor telescope
  - b. reflector telescope
  - c. composite telescope
  - d. radio telescope
  
8. The telescope that detects wavelengths other than visible light
  - a. refractor telescope
  - b. reflector telescope
  - c. composite telescope
  - d. radio telescope
  
9. What is the difference between refracting and reflecting telescopes?
  - a. A refracting telescope uses a convex lens to magnify an image, and a reflecting telescope uses a mirror.
  - b. A refracting telescope uses a mirror, and a reflecting telescope uses a concave lens to magnify an image.
  - c. A reflecting telescope uses a convex lens to magnify an image, and a refracting telescope uses a mirror
  - d. There is no difference.

10. What was the initial problem with the Hubble Space Telescope?
- a. It is a reflecting telescope, and there was a problem with the mirror.
  - b. It is a reflecting telescope, and there was a problem with the ~~lens~~.
  - c. It is a refracting telescope, and there was a problem with the lens.
  - d. It is a refracting telescope, and there was a problem with the mirror.
11. Why are radio telescopes considered to be dependable telescopes?
- a. because they never run out of energy
  - b. because they use radios to help various telescope's computers communicate with each other
  - c. because they use radio waves, which pass freely through Earth's atmosphere in any weather condition
  - d. because they use radio waves, which do not pass freely through Earth's atmosphere due to unpredictable weather
12. Astronomers use to make observations and collect data about objects in the solar system.
- a. telescopes
  - b. satellites
  - c. space probes
  - d. all of the above
13. What successful space telescope was scheduled to operate for 15 years but had its mission time extended thanks to at least 4 service calls?
- a. Hubble
  - b. Chandra
  - c. Giotto
  - d. Cassini
14. What does NASA stand for?
- a. Nationals Acrobats and Swimming Association
  - b. National Aeronautics and Space Administration
  - c. Neighborhood Awareness and Sharing Alliance
  - d. News Administration and Satellite Association
15. A modern application for a satellite is for .
- a. gathering scientific data
  - b. gathering pictures of Earth's surface
  - c. transmitting radio and television signals
  - d. all answers are correct
16. Space probes, unlike satellites, are able to .
- a. gather data
  - b. travel out of the solar system
  - c. go into orbit
  - d. be retrieved
17. How are satellites used?
- a. to gather military information
  - b. to transmit television signals
  - c. to monitor weather
  - d. all of the above
18. What country successfully launched its first satellite named Explorer 1?
- a. China
  - b. Japan
  - c. United States
  - d. Canada

19. What country launched the world's first artificial satellite, the Sputnik?
- a. China
  - b. Germany
  - c. Russia
  - d. United States
20. Trips that people take into space are called .
- a. crewed missions
  - b. uncrewed missions
  - c. space probes
  - d. observations
21. Why did mission scientists put Rosetta to sleep for several years?
- a. to prevent rusting
  - b. to save money
  - c. to analyze data
  - d. to save energy
22. Most forms of energy originally come from
- a. water
  - b. the earth
  - c. the sun
  - d. natural gas
23. Earth's climate
- a. has been stable over the history of the planet
  - b. is changing as a result of natural and human processes
  - c. will stabilize over the next century, according to the predictions of most scientists
  - d. has changed only once due to the evolution of green photosynthesizing plants
  - e. history is undeterminable because there is no method of studying climatic history of the planet
24. Astrobiology is best described as
- a. the study of animals in space
  - b. the scientific search for evidence of intelligent life
  - c. the study of life in the universe
25. What was president John F. Kennedy's goal for the space program?
- a. To go to infinity and beyond.
  - b. To be the first one to land a human on the moon.
  - c. To go to the edge of our solar system.
  - d. To study the effects of the sun on Earth's atmosphere.
26. Why do space telescopes produce clearer images than telescopes on Earth?
27. List two advantages of radio telescopes over optical telescopes.
28. Earthquakes most often occur
- a. in the middle of tectonic plates.
  - b. anywhere near a tectonic plate.
  - c. only in the 'Ring of Fire'.
  - d. on the boundary of tectonic plates.

29. The theory of plate movement and how the continents moved apart over time is called
- a. plate tectonics
  - b. geology
  - c. continental tectonics
  - d. biology
30. What is a tectonic plate?
- a. liquid magma
  - b. technical term used for dinnerware
  - c. lava flowing into the ocean
  - d. the movable crust on top of the earth's mantle
31. Tectonic plates interact at places called plate
- a. reversals
  - b. boundaries
  - c. regions
  - d. centers
32. A tectonic plate segment includes the .
- a. all of the mantle
  - b. the crust and the asthenosphere
  - c. the upper mantle and the crust
  - d. the mantle and the core
33. What type of tectonic plate boundary involves a collision between two tectonic plates?
- a. divergent
  - b. transform
  - c. convergent
  - d. normal
34. Shifting pieces of the Earth's crust are called
- a. magma
  - b. volcano
  - c. tectonic plates
  - d. island
35. The collision of India and Asia that formed the Himalayas is still colliding today, causing the mountain range to continue to rise. What keeps the mountain from getting too big?
- a. erosion
  - b. volcanism
  - c. deposition
  - d. plate tectonics
36. What causes tectonic plates to move?
- a. radiation from within the crust
  - b. magnetic forces from the inner core
  - c. convection currents in the mantle
  - d. slow continental drift
37. The portion of the mantle just below the lithosphere of the earth.
- a. oceanic crust
  - b. asthenosphere
  - c. plate tectonics

38. What can possibly happen at all three types of boundary lines?
- a. an earthquake
  - b. a volcano
  - c. a mountain range
  - d. all of the above
39. Some volcanoes form new as plates move apart and magma rises to the surface of the crust.
- a. volcanoes
  - b. ocean floor
  - c. earthquakes
  - d. mantle
40. A cone-shaped landform that can erupt at times
- a. earthquake
  - b. fault
  - c. epicenter
  - d. volcano
41. A crack where earth's crust can move
- a. fault
  - b. epicenter
  - c. volcano
  - d. earthquake
42. The place underground where plates moves and the earthquake begin.
- a. focus
  - b. fault
  - c. volcano
  - d. earthquake
43. What do you call the sudden movement of Earth's crust?
- a. earthquake
  - b. tsunami
  - c. volcano
  - d. fault
44. Why did Wegener think that continental drift could be used to explain rock scarring in South America, India, and Australia?
- a. volcanoes moved the seafloor
  - b. glaciers cause the scarring
  - c. earthquakes scar rocks
  - d. Hess proposed this theory
45. A transform boundary is a boundary where two plates slide past one another. What geological event will be most likely to occur along a transform boundary?
- a. mountain formation
  - b. volcano eruption
  - c. earthquake
  - d. rift valley
46. Scientists are studying a graph showing the time differences between the seismic P-waves and the seismic S-waves as they travel through Earth. Which information can they learn from the graph?
- a. the magnitude of an earthquake
  - b. the duration of an earthquake
  - c. the epicenter of an earthquake
  - d. the intensity of an earthquake

47. Low land between hills or mountains

- a. valley
- b. island
- c. volcano

48. Earthquake hazards include:

- a. building collapse
- b. fire
- c. liquefaction
- d. all of the above

49. The process of wearing away rocks by natural means is called

- a. erosion
- b. weathering
- c. faults
- d. earthquakes

50. The rapid downhill movement of large amount of rock and soil is called a(n):

- a. erosion
- b. landslide
- c. avalanche
- d. earthquake

51. A dirt and debris filled flood of water

- a. tsunamis
- b. earthquake
- c. mudslide
- d. landslide

52. Water freezing in the cracks of rocks is an example of .

- a. deposition
- b. mechanical weathering
- c. chemical weathering
- d. erosion

53. The movement of rocks.

- a. Deposition
- b. Weathering
- c. Erosion

54. Process in which rocks get broken down.

- a. Weathering
- b. Erosion
- c. Deposition

55. Which of these are put in the correct order?

- a. deposition, erosion, weathering
- b. weathering, erosion, deposition
- c. erosion, deposition, weathering
- d. weathering, deposition, erosion

56. The process in which materials are eroded by weather or ice and are dropped into a new place, creating a new landform

- a. Weathering
- b. Deposition
- c. Erosion

57. Freezing and thawing are a type of

- a. chemical weathering.
- b. erosion.
- c. physical weathering.
- d. deposition.

58. Rocks are broken down by changing the chemical makeup of the minerals through

- a. physical weathering.
- b. erosion.
- c. chemical weathering.
- d. deposition.

59. Water, oxygen, carbon dioxide, and acids are significant agents of .

- a. chemical weathering
- b. abrasion
- c. mechanical weathering
- d. erosion

60. Plains, plateaus, peninsulas, valleys, hills, basins, canyons and mountain are examples of:

- a. Physical Weathering
- b. Chemical Weathering
- c. Erosion
- d. Landforms
- e. Weathering

61. Weathering must take place before erosion.

- a. True
- b. False

62. What changes earth surface?

- a. volcanoes
- b. weathering
- c. erosion
- d. all of the above

63. Weathering and erosion are quick changes to the earth's surface.

- a. True
- b. False

64. What are three major causes for erosion?

- a. snow, tornado, volcano
- b. sinkholes, landslides, mudslides
- c. ice, wind, water
- d. wind, heat, plate tectonics

65. Which of these is an example of weathering?

- a. Mountains are built
- b. Water freezes
- c. Plant roots widen a crack in a rock .
- d. A volcano erupts

66. Erosion can be caused by which of the following? Select all that apply.

- a. wind
- b. water
- c. ice
- d. gravitational pull

66. How do earthworms aid in weathering?

67. Label the following events with a "D" for deposition, "W" for weathering, or "E" for erosion.

- D Layers of sediment forming at the bottom of oceans
- W Water getting into cracks, freezing, and breaking the rocks or pavement apart.
- E Rocks being made smooth by tumbling across a stream bed.
- E A mudslide flowing down a steep hill.
- D Waves dropping sand on a beach
- W Wind blasting sand and rock carving out arches.

68. List three human activities that remove natural vegetation and greatly accelerate erosion

69. By what are most differences in air pressure caused by?

- a. unequal heating of the atmosphere
- b. equal heating of the atmosphere
- c. unequal cooling of the atmosphere
- d. equal cooling of the atmosphere

70. The atmosphere

- a. creates the tides.
- b. has not effect on heat gain or loss.
- c. allows heat to escape quickly in order to cool the planet.
- d. keeps heat from escaping too quickly into space.

71. Which of the following statements best describes humidity?

- a. It is the amount of heat in the atmosphere.
- b. It describes the amount of sunlight in the atmosphere.
- c. It is the amount of water vapor in the atmosphere.

72. Sleet and hail are types of

- a. gases in the atmosphere.
- b. layers in the atmosphere.
- c. air pressure.
- d. precipitation.

73. Which word better matches the sentence?

Layer of gases that surrounds the earth.

- a. weather
- b. atmosphere

74. Which word better fits the sentence?

Rain and snow are two types of .

- a. atmosphere
- b. precipitation

75. Which statement is true about weather?

- a. It occurs throughout the atmosphere
- b. It occurs throughout the upper atmosphere
- c. It occurs throughout the lower atmosphere
- d. It occurs in the stratosphere



76. The atmosphere consists of

- a. helium
- b. hydrogen
- c. oxygen
- d. a mixture of gases

77. is the most abundant gas in the atmosphere (it makes up 78% of the atmosphere).

- a. Oxygen
- b. Argon
- c. Nitrogen
- d. Ozone

78. Average weather conditions in an area over a long period of time

- a. atmosphere
- b. condensation
- c. climate

79. The atmosphere is made primarily of .

- a. oxygen
- b. nitrogen
- c. ammonia
- d. carbon dioxide

80. Which is not a layer of the atmosphere?

- a. Stratosphere
- b. Mesosphere
- c. Thermosphere
- d. Mantle

81. All precipitation is a form of severe weather.

- a. True
- b. False

82. A severe weather watch means which of the following?

- a. The conditions are right for severe weather, but it is not occurring yet.
- b. Severe weather is occurring.
- c. Severe weather has passed through and it is now safe to go outside.
- d. It is the season during which the type of severe weather concerned occurs.

83. Which type of severe weather is NOT an intense tropical storm?

- a. hurricane
- b. typhoon
- c. tropical cyclone
- d. tornado

84. A "snap shot" of conditions at a particular time over a large area.

- a. climate
- b. weather map
- c. isobar
- d. weather

85. What is weather?

- a. An area's long-term weather pattern.
- b. The state of the atmosphere at a given place or time.
- c. Large volume of air that has similar characteristics of temperature and water vapor content
- d. When large air masses of different density, moisture, and temperature meet

86. What causes wind?
- a. a sunny weather pattern followed by a cloudy weather pattern
  - b. an uneven heating of the atmosphere
  - c. a rainy weather
87. Weather is determined by the conditions in the:
- a. thermosphere
  - b. mesosphere
  - c. troposphere
  - d. stratosphere
88. These are used to photograph and track large-scale air movements.
- a. weather balloons
  - b. weather satellites
  - c. sling psychrometers
  - d. barometers
89. Which best describes the difference between climate and weather?
- a. Weather is more predictable than climate
  - b. Weather is less predictable than climate
  - c. Weather and climate are both predictable
  - d. Weather and climate are both unpredictable
90. The anemometer and weather vane are weather tools used to measure wind
- a. Speed and temperature
  - b. Direction and pressure
  - c. Pressure and Temperature
  - d. Direction and Speed
91. What are weather radars?
- a. Machines used to determine the location of precipitation.
  - b. Machines used to determine the movement of precipitation.
  - c. Machines used to determine the amount of precipitation.
  - d. All of the above
92. Which kind of weather is a low-pressure system most likely to bring?
- a. fair weather
  - b. hot, sunny weather
  - c. precipitation
  - d. light breezes
93. A weather vane tells
- a. how fast the wind blows
  - b. the direction from which the wind comes
  - c. the air pressure
  - d. the amount of rain that falls
94. Areas with low pressure have weather that is and areas of high pressure have weather that is .
- a. sunny, cloudy
  - b. cloudy, sunny
95. What is a hurricane?
- a. A large funnel that forms from the sky
  - b. A lightning storm
  - c. A storm that forms at sea and strikes land
  - d. An ice blizzard with gusty winds

96. Atmospheric conditions for a long period of time is called .

- a. weather
- b. climate
- c. humidity

97. The boundary between air masses.

- a. Front
- b. Weather
- c. Barometer

98. The process by which a gas changes into a liquid.

- a. Condensation
- b. Weather
- c. Evaporation

99. Which weather instrument would be the most useful to predict changes in weather?

- a. an anemometer
- b. a rain gauge
- c. a barometer.

100. Rain, sleet, hail, and snow are all part of the process in the water cycle.

- a. transpiration
- b. evaporation
- c. precipitation
- d. condensation

101. is a process in the water cycle, where water vapor rises into the atmosphere.

- a. Precipitation
- b. Transpiration
- c. Condensation
- d. Evaporation

102. Which is a type of cloud?

- a. Darius
- b. Cirrus
- c. Citrus
- d. Dover

103. Storms and severe weather occur when air masses collide. Air masses can be and moist, or and dry.

- a. Cold; warm
- b. Warm; cold

104. A weather prediction before it happens is a .

- a. Forecast
- b. Guess
- c. Hypothesis
- d. Meteorologist

105. Looking at a weather map help you to

- a. Predict weather
- b. See weather station instruments
- c. Look at radar
- d. Find the location of a barometer

106. High pressure systems have weather and are .  
a. rainy, stable  
 b. clear, stable  
c. rainy, unstable  
d. clear, unstable

107. Weather and climate are basically the same thing.  
a. True  
 b. False

108. Which natural hazard is caused by weather?  
 a. flooding  
b. tsunami  
c. earthquake  
d. volcanic eruption

109. A weather instrument that uses microwave frequency radio waves that bounce off water droplets in clouds in order to produce a map of the cloud locations would be .  
a. barometer  
b. anemometer  
 c. radar  
d. weather satellite

110. Blows steadily over long distances in a predictable direction  
a. weather  
b. humidity  
 c. global wind  
d. insolation

111. Which of the following choices is an example of weather?  
a. Florida is generally sunny.  
b. Alaska is generally cold.  
 c. It is hot today.  
d. Rain forests get a lot of rain every year.

112. What force is behind all weather on earth?  
a. wind  
b. gravity  
c. earth's rotation  
 d. energy from the sun

113. The stored in the ocean drives much of Earth's weather.  
 a. heat  
b. energy  
c. currents  
d. water vapour

114. About which two atmospheric conditions does the weather map provide the most information?  
 a. relative humidity and weather fronts  
b. barometric pressure and weather fronts  
c. relative humidity and temperature range  
d. barometric pressure and temperature range

115. Differences in air pressure causes which weather phenomena?

- a. winds
- b. ocean currents
- c. seasons
- d. water cycle

116. Given the right weather conditions, thunderstorms can turn into .

- a. Tornadoes
- b. Hurricanes
- c. Volcanoes

117. Which of the following can be used to measure and describe weather?

- a. form and amount of precipitation
- b. conditions of the sky (cloudy, sunny)
- c. temperature
- d. all of the above

118. How does a meteorologist begin to create a weather forecast?

- a. by going outside and observing the local weather
- b. by reading forecasts from a book
- c. by measuring temperature, precipitation, air pressure, and wind over a large area
- d. by checking sea breezes

119. What causes changes in local weather from day to day?

- a. changes in wind direction
- b. movement of air masses
- c. Earth's movement around the Sun
- d. Earth's rotating on its axis

120. Places located in high latitudes have

- a. a very warm climate.
- b. the same weather as places in other latitudes.
- c. a mix of extremely hot and extremely cold weather.
- d. the coldest climates on Earth.

121. The three main types of clouds are:

- a. Altostratus, Stratus, Cirrus Status
- b. Cumulus, Altocumulus, Cumulusnimbus
- c. Stratuscumulus, Cirrus, Cululus
- d. Cirrus, Stratus, Cumulus

120. The opposite of too much rain is too little or not rain, which causes a .

- a. Rainbow
- b. Flood
- c. Front
- d. Drought

121. Dark clouds cover the sun and the wind blows stronger. From this observation, a person may be able to predict that

- a. Sunny weather is on its way.
- b. A storm is coming.
- c. It is nighttime.

122. Name 3 types of weather.

123. Name the five features of weather.

124. Which kind of severe weather event do you think is the worst? Describe the reasons why you think so.

125. Which word better fits the sentence?  
The surfer rode the large all the way to the beach.

- a. tide
- b. wave

126. Which word better fits the sentence?

We had to move our beach towels as the ocean water moved toward us during high.

- a. tide
- b. wave

127. The regular rising and falling of sea level due mainly to the pull of the moon is called

- a. waves
- b. tides
- c. surf
- d. crest

128. The gravitational pull of the Earth's moon (and sun) generates what ocean phenomenon?

- a. tides
- b. density
- c. turbulence
- d. waves

129. What carries warm water toward the poles?

- a. tides
- b. rivers
- c. waves
- d. currents

130. Which of the following lists ocean waves from smallest to largest?

- a. seiches, chop, capillary waves, swells, tsunamis, tides
- b. swells, capillary waves, seiches, chop, tides, tsunamis
- c. capillary waves, chop, swells, seiches, tsunamis, tides
- d. chop, seiches, swells, capillary waves, tides, tsunamis

131. A is a moderate tide that occurs when the sun and the moon are at right angles.

- a. neap tide
- b. spring tide
- c. diurnal tide
- d. semidiurnal tide

132. Tides that produce the least difference between consecutive high and low tides are called

- a. neap tides.
- b. spring tides.
- c. fall tides.
- d. full tides.

133. A single high and a single low tide daily.

- a. Diurnal tides
- b. Neap tides
- c. Spring tides
- d. Tidal range

134. Aquatic biomes are grouped by .  
a. temperature and precipitation  
b. salinity and latitude  
c. salinity and depth  
d. salinity and temperature

135. The difference between a lake and a pond is .  
a. salinity and depth  
b. temperature and salinity  
c. altitude and surface area  
d. surface area and depth

136. Which factors affect the density of deep-ocean currents?  
a. surface currents and wind strength  
b. clockwise direction and ocean location  
c. hemisphere and amount of salt  
d. temperature and amount of salt

137. The two major controlling factors for deep ocean currents are  
a. salinity and wind  
b. pressure and salinity  
c. wind and temperature  
d. temperature and salinity

138. Due to seafloor spreading, oceanic crust is \_\_\_\_\_ and sediment is \_\_\_\_\_ on ocean ridge crests.  
a. old; thin  
b. old; thick  
c. young; thin  
d. young; thick

139. Which of the following factors affect ocean water density?  
a. pressure  
b. temperature  
c. salinity  
d. all of the above

140. What does turbidity measure?  
a. the salinity of the water  
b. how hot the water is  
c. the visibility of the water  
d. the density of the water

141. Water density increases as \_\_\_\_\_ decreases.  
a. salinity  
b. sand  
c. oxygen levels  
d. temperature

142. Which type of seawater has the greatest density?  
a. warm, with low salinity  
b. warm, with high salinity  
c. cold, with low salinity  
d. cold, with high salinity

143. Only 3% of water on earth is  
a. Salty  
b. Tap water  
c. Fresh water

144. Oceans have a huge effect on weather and climate mainly because

- a. oceans have huge waves
- b. oceans are very salty
- c. the fish and sea creatures give off heat
- d. oceans hold and spread heat around the world by currents

145. The definition of salinity is

- a. the total amount of dissolved salt in seawater
- b. the total amount of dirt in the ocean
- c. the difference between temperature and density
- d. the total amount of minerals in seawater

146. Where do most surface ocean currents and water waves get their energy?

- a. gravity
- b. wind
- c. salinity gradients
- d. the thermocline

147. These currents are responsible for a slow mixing of water between the surface and deeper ocean.

- a. surface currents
- b. deep ocean currents
- c. density currents
- d. California currents
- e. global surface currents

148. Which of the following DOES NOT cause a decrease in salinity?

- a. evaporation
- b. melting of sea ice
- c. precipitation
- d. runoff

149. The world's largest ocean is the

- a. Atlantic Ocean
- b. Pacific Ocean
- c. Arctic Ocean
- d. The Indian Ocean

150. The seas are still rising. Many researchers believe the cause is

- a. global warming
- b. glaciers getting bigger
- c. the ocean water getting more dense
- d. lower temperatures on Earth's surface

151. Which of the following oceans is said to have the saltiest water?

- a. Pacific Ocean
- b. Atlantic Ocean
- c. Red Sea

152. Name the five oceans.

153. The ocean is divided into three basic areas

164. Describe a tsunami.