UNIT 5 Key

Grade 6 Science EOG Quiz Answer Key

Hydrology and Meteorology - (S6E3.a.) Water On Earth's Surface, (S6E3.b.) Water Cycle, (S6E3.d.) Ocean Movements

Student Name: _____ Date: _____

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1) Most of the earth's surface is covered with

A) land.
B) polar ice.
C) salt water
D) fresh water.

Explanation:
Salt water is located in the oceans, and this covers over 70% of the earth's surface.

2) About 3% of the water on Earth is freshwater. Only about 40% of that freshwater is available for human use. Why is so much freshwater unavailable for human use?

A) It is frozen.
B) It is polluted.
C) It is salt water.
D) It is in aquifers.

Explanation:
Only 40% of the small amount of freshwater on Earth is available for man's use because **it is frozen.** Water in aquifers *is* available for use. Freshwater is not salty.

3) Where is most of the Earth's freshwater located?

A) in lakes
B) in rivers
C) in oceans
D) in glaciers

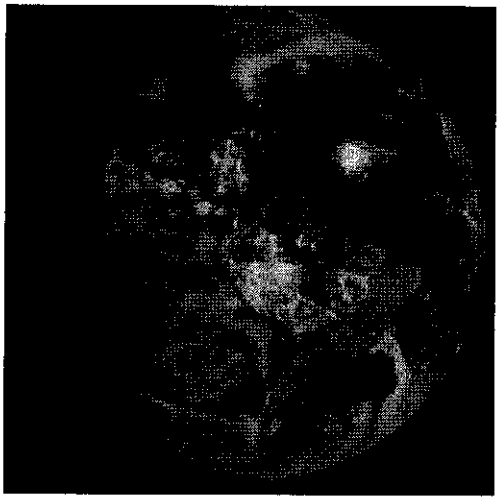
Explanation:
Only 3% of the freshwater on Earth is freshwater in nature, and about two-thirds of this is frozen **in glaciers.**

4) What percent of the earth is covered by water?

A) 20%
B) 50%
C) 70%
D) 85%

Explanation:
Water covers **70%** of the Earth. Oceans, lakes, streams, ponds, and glaciers are all filled with water.

5)

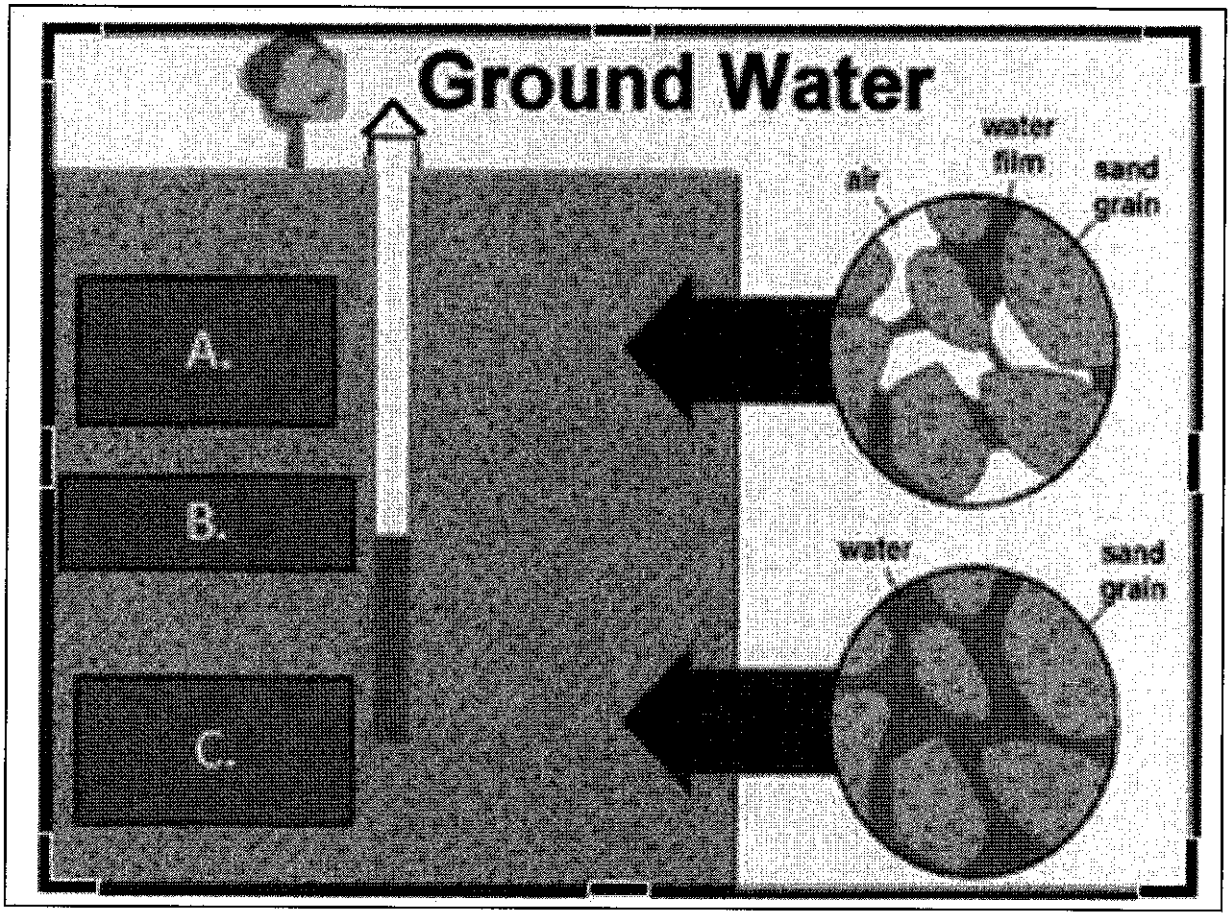


Most of the Earth's water is found in

A) glaciers.
B) lakes.
C) oceans.
D) rivers.

Explanation:
The **oceans** contain almost three quarters of all of the water found on Earth.

6)

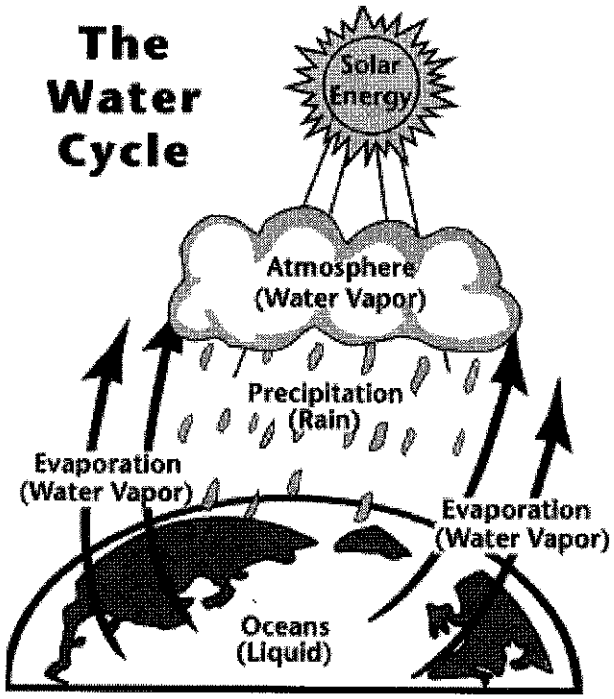


Water soaks into the ground and becomes *groundwater.* The correct labels for the layers within the Earth, as illustrated in the diagram, are

A) A. zone of aeration - B. zone of saturation - C. water table.
B) A. zone of saturation - B. water table - C. zone of aeration.
C) A. zone of aeration - B. water table - C. zone of saturation.
D) A. water table - b. zone of aeration - C. zone of saturation.

Explanation:
The correct order of layers is **A. zone of aeration - B. water table - C. zone of saturation.** Groundwater enters into the zone of aeration, which is unsaturated. The area where the water has filled all the spaces in the soil is called the zone of saturation. At the top of this zone is the water table.

7)



According to the diagram of the water cycle, what happens to the water in the oceans before it becomes water in the atmosphere?

A) It evaporates.
B) It becomes a liquid.
C) It is sent to the sun.
D) It turns into precipitation.

Explanation:
The arrow leading up from water storage in oceans goes to evaporation and condensation before it leads to water storage in the atmosphere. Therefore, before water becomes water storage in the atmosphere, **it evaporates.**

8) When humans remove vegetation from an area, the water cycle is MOST directly affected in which way?

A) clouds in the area will increase
B) runoff from the area will decrease
C) evaporation in the area will decrease
D) precipitation in the area will increase

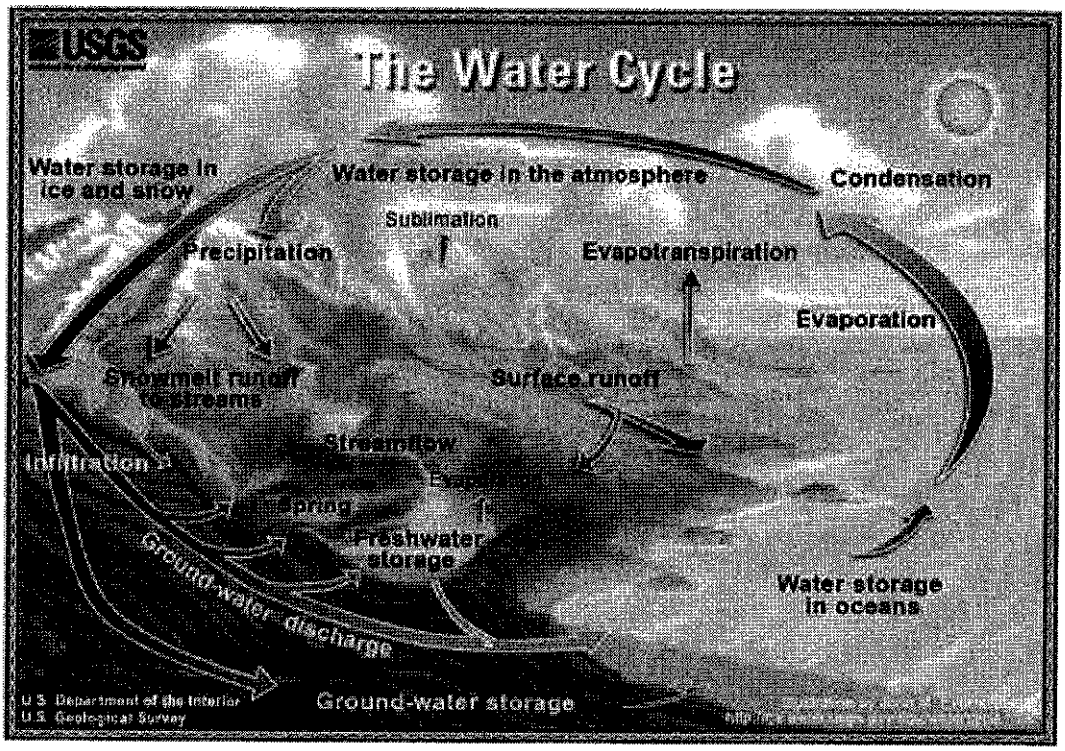
Explanation:
A decrease in vegetation in an area will lead to reduced transpiration and, hence, the evaporation from plant leaves. Therefore, **evaporation in the area will decrease.**

9) During the water cycle, the sun's energy evaporates water from the surface of Earth. This water is the source of

A) respiration.
B) transpiration.
C) precipitation.
D) ozone depletion.

Explanation:
Precipitation results from water that evaporates from Earth.

10)

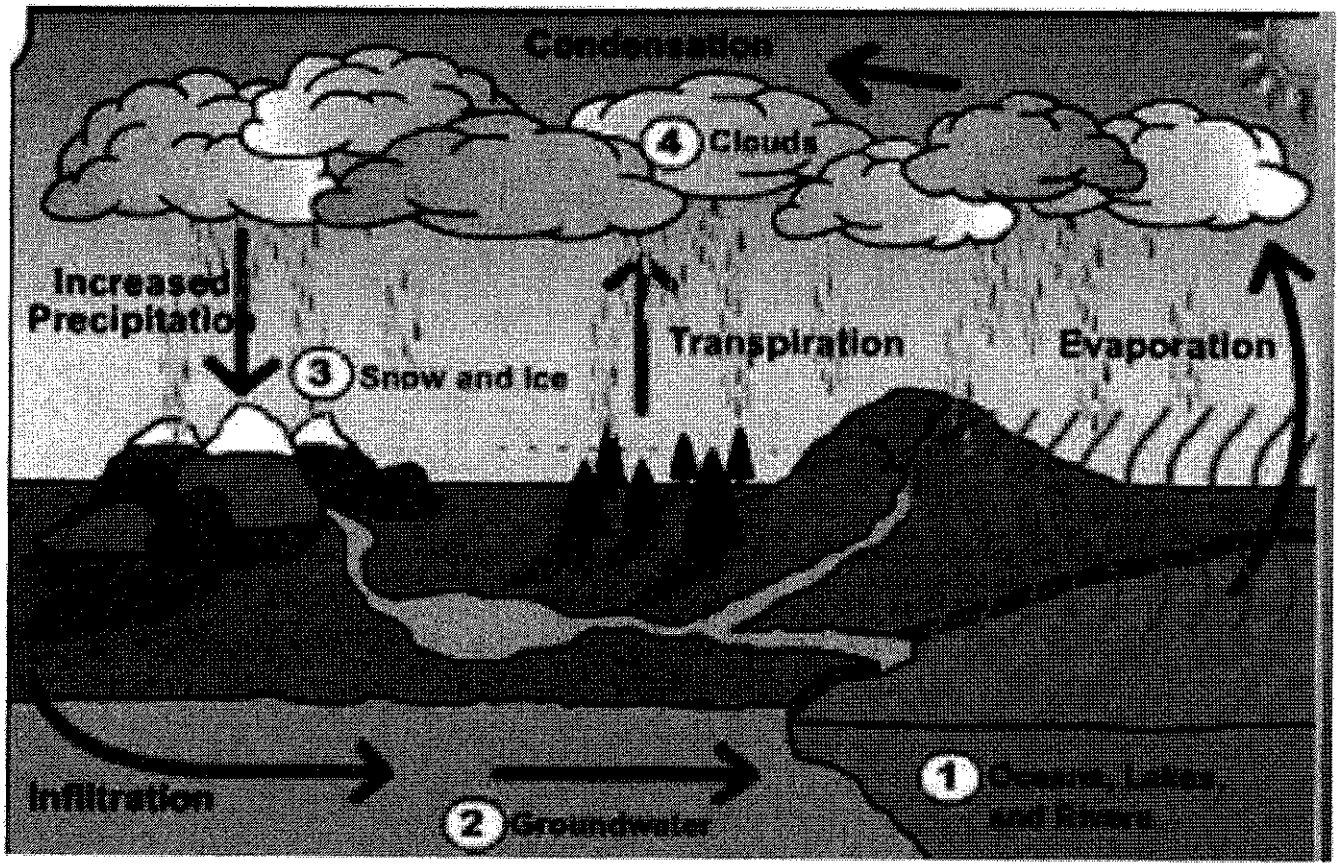


Without heat from the Sun, the water cycle would

A) reverse.
B) not work.
C) slow down.
D) not be affected.

Explanation:
Without heat from the Sun, the water cycle **would not work**. Heat powers the water cycle.

11)



Groundwater moves from the ground through plants and then back into the atmosphere through the process of

A) condensation.
B) precipitation.
C) run-off.
D) transpiration.

Explanation:
Plants put water back into the atmosphere through the process of **transpiration.**
Water is carried through plants from roots to small pores on the underside of leaves, where it changes to vapor and is released to the atmosphere. Transpiration is evaporation of water from plant leaves.

12) When the Sun heats up the surface of a puddle of water, the water

A) condenses.
B) evaporates.
C) infiltrates.
D) precipitates.

Explanation:
Evaporation causes the water on the surface of a puddle to disappear. The Sun raises the temperature of the water to above the boiling point, and the water turns into water vapor.

13) The dominant gas in the atmosphere that forms clouds is

A) oxygen.
B) nitrogen.
C) water vapor.
D) carbon dioxide.

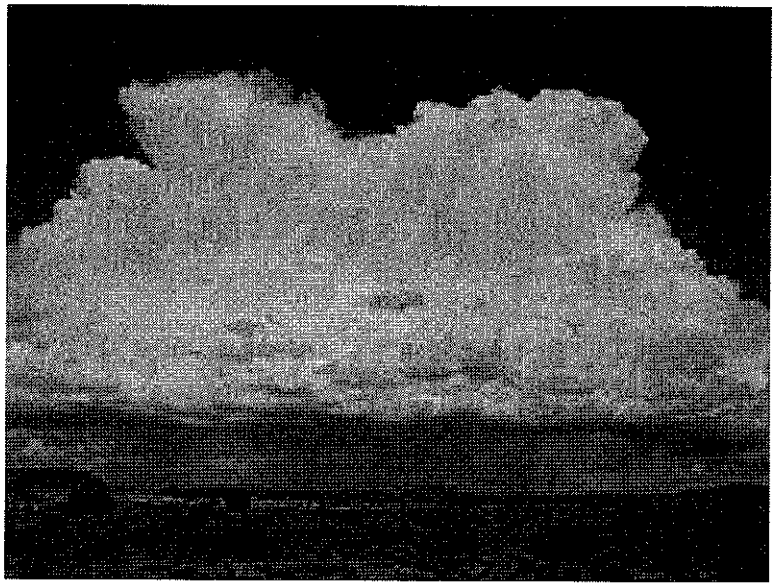
Explanation:
Clouds are formed by **water vapor** condensing into water droplets or ice particles that come together.

14) Rain, hail, sleet and snow are all examples of

A) deposition.
B) frozen water.
C) precipitation.
D) tornado warning signs.

Explanation:
Precipitation is any form of water that falls from the sky, including rain, hail, sleet and snow.

15)



This is a type of *cloud* that gets bigger and bigger, sometimes getting very dark on the bottom. This is a sign to us on earth that _____ will fall soon.

A) dew
B) fog
C) rain
D) temperatures

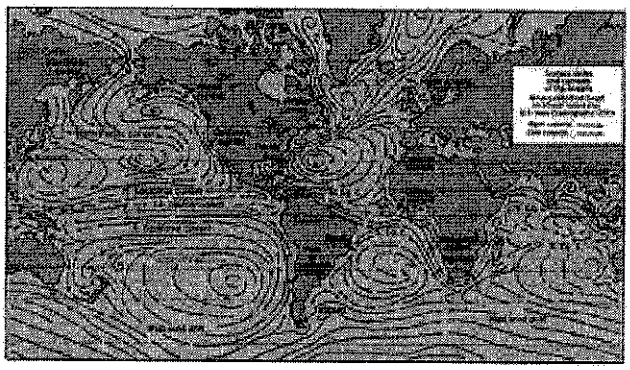
Explanation:
Cumulus clouds, especially dark clouds, tell us that **rain** is on the way.

16) Which statement BEST describes why warm ocean currents are usually surface currents?

A) Warm water is less dense than cold water.
B) Ocean tides bring warm water to the surface.
C) Warm water contains more salt than cold water.
D) Ocean water loses heat to the air at the surface.

Explanation:
Warm water is less dense than cold water. When water is heated, it expands slightly and becomes less dense. This makes warm water rise to the surface, while cold water sinks. This explains why warm ocean currents are surface currents, rather than deep currents.

17)



Ocean currents are caused by water's density differences. The density differences in the ocean water are due to different salt concentrations and differences in

A) waves.
B) temperature.
C) plate tectonics.
D) volcanic activity.

Explanation:
The answer is **temperature**because water that is very cold sinks into deep water basins due to an increase in the water's density.

18)

The Gulf Stream current shown here makes the waters of the North Atlantic

A) warmer.
B) cooler.
C) more dense.
D) less nutrient rich.

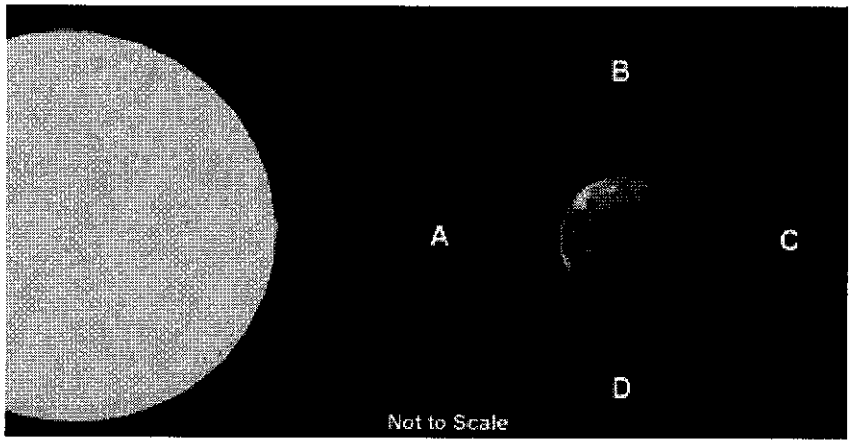
Explanation:
The Gulf Stream current moves the heated waters of the Gulf of Mexico northward, causing parts of the Atlantic and North Atlantic to be **warmer**.

19) Large waves, called _____, are different from surface waves and are usually caused by underwater earthquakes, volcanic eruptions, or landslides.

A) swells
B) tsunamis
C) breakers
D) capillary waves

Explanation:
Large waves called **tsunamis** are different from surface waves and are usually caused by underwater earthquakes, volcanic eruptions, or landslides. Tsunamis are also called tidal waves.

20)



Neap tides, relatively weak tides, occur when the Moon is in position(s)

A) A.
B) B.
C) A and C.
D) B and D.

Explanation:
Weak tides, called neap tides, are experienced in the Earth's oceans when the sun is in positions**B or D**. In this case, the sun and moon interfere with each other in producing tidal bulges on Earth.

21) Which factor MOST directly affects the flow of ocean currents?

A) differences in pressure
B) differences in temperature
C) Earth's revolution round the Sun
D) the Moon's revolution round Earth

Explanation:
Differences in temperature are a major factor affecting the flow of ocean currents. Warm currents carry thermal energy from the warmer parts of the ocean to the cooler parts. Cold currents flow from cooler to warmer regions of the ocean. The Moon's revolution round Earth causes tides. Tides should not be confused with ocean currents.

22) The height of a wave is MOST affected by the

A) speed of the wind
B) speed of the ocean
C) salinity of the ocean
D) amount of solar energy

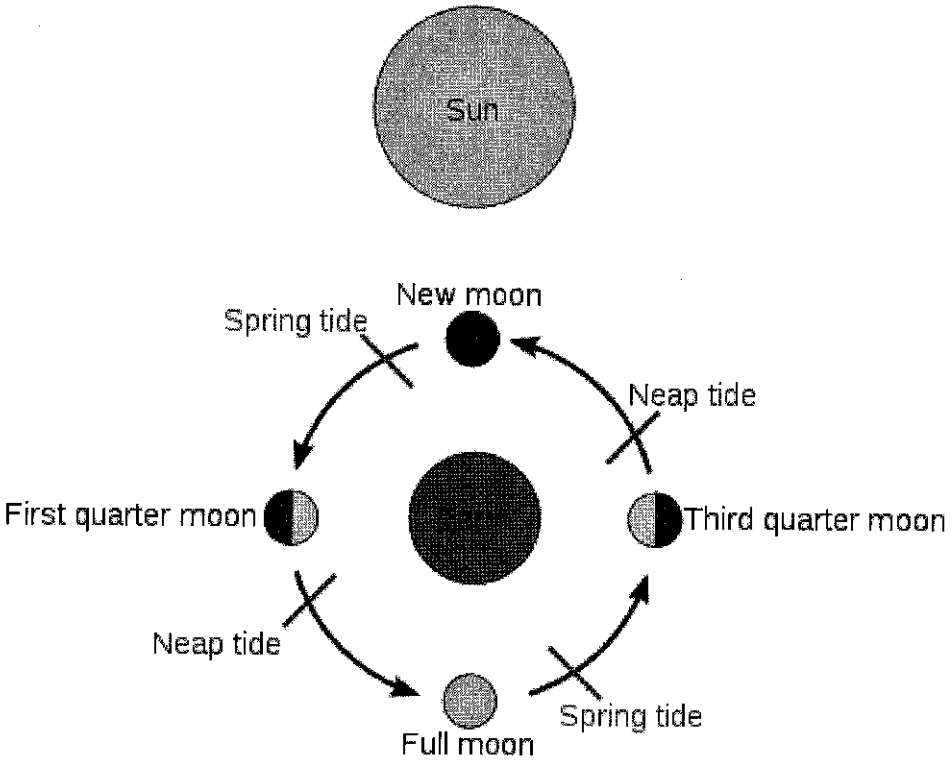
Explanation:
The **speed of the wind**, the direction of the wind, and the duration of the wind all affect the height of a wave.

23) Some ocean currents are caused by differences in the density of water from place to place around the globe. What two factors cause differences in ocean water density?

A) differences in water temperature and wind
B) differences in water temperature and phases of the moon
C) differences in the amount of dissolved salts and gravity
D) differences in water temperature and amount of dissolved salts

Explanation:
The density of ocean water is affected by **differences in water temperature and amount of dissolved salts**. Some animals use ocean currents to move from one area of the ocean to another.

24)



_____ tides, tides that are weaker than normal, happen when the Moon is at first or last quarter phase and the sun and moon interfere with each other.

A) High
B) Low
C) Neap
D) Spring

Explanation:
Weak tides, called **neap** tides, happen when the sun and moon interfere with each other. There are still high and low tides, they are just not *as* high or low.

25) Which factor is MOST responsible for the ocean tides?

A) the wind
B) earthquakes
C) the moon's gravity
D) density differences in the water

Explanation:
The factor that is MOST responsible for the ocean tides rather than ocean currents is **the moon's gravity.** The other three answer choices are responsible for producing currents and waves.

26) Surface currents and waves are powered by

A) wind and heat.
B) wind and tides.
C) boats and wind.
D) heat and weather.

Explanation:
Surface currents and waves are powered by **wind and heat**. Other factors such as gravitational pull, salinity, and the Earth's rotation also affect surface currents and waves.

27) The overall direction of the major cold ocean currents is largely

A) east to west.
B) west to east.
C) higher to lower latitudes.
D) lower to higher latitudes.

Explanation:
Higher latitudes, which are closer to the poles, are colder than lower latitudes. Cold ocean water flows from **higher to lower latitudes** , as cold water moves in to replace rising warm water closer to the equator. The shapes of the continents also determine the actual paths of the currents.

28) What is the MOST important factor affecting the movement of water in an ocean?

A) currents
B) molecules
C) tides
D) waves

Explanation:
Currents
There are two types of ocean currents: surface currents and deep water currents.
Surface currents make up about 10% of all the water in the ocean. They are in the upper 400 meters of the ocean.
Deep Water Currents make up the other 90% of the ocean
These waters move around the ocean basins by density driven forces and gravity. The density difference is a function of different temperatures and salinity

29) _____ is the cause of most ocean surface currents.

A) Gravity
B) The moon
C) The wind
D) Earth's orbit

Explanation:
The wind is the cause of most ocean surface currents. Ocean currents are rivers of hot or cold water within the ocean. Surface currents are generated from the force of the wind acting on the water's surface.

30) Earth's rotation causes surface currents in the Northern Hemisphere to

A) curve clockwise
B) move in straight lines.
C) curve counterclockwise.
D) move in diagonal lines.

Explanation:
Surface currents in the Northern Hemisphere **curve in a clockwise** direction. In the Southern Hemisphere, surface currents curve in a clockwise direction.