



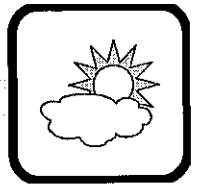
- 1 This chart gives the physical properties of copper.

Physical Properties of Copper

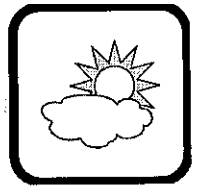
Element	Density	Melting Point	Boiling Point
copper	8.96 g/cm ³	1,084°C	2,560°C

How does the density of a 4-g sample of copper compare to that of a 12-g sample of copper?

- A Its density is one-half the density of the 12-g sample.
 - B Its density is the same density as the 12-g sample.
 - C Its density is twice the density of the 12-g sample.
 - D Its density is three times the density of the 12-g sample.
- 2 Which is considered a good insulator of heat?
- A aluminum, because it allows heat to flow easily
 - B glass, because it allows heat to flow easily
 - C plastic, because heat is unable to flow easily through it
 - D silver, because heat is unable to flow easily through it
- 3 Why are there high and low tides on Earth?
- A They are due to changes in the moon's tilt on its axis.
 - B They are due to the gravitational pull between Earth and the moon.
 - C They are due to the magnetic force between Earth and the moon.
 - D They are due to changes in the moon's speed every month.

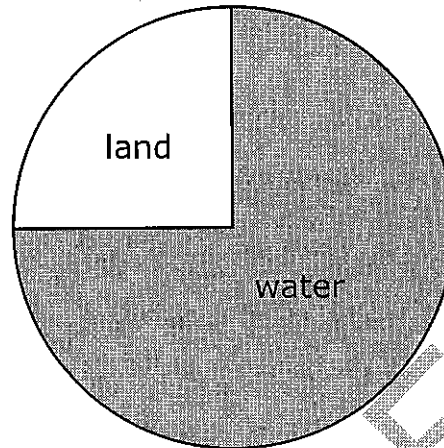


- 4 Which contributes to Earth's ability to sustain life?
- A The atmosphere allows all of the sun's radiation to enter due to Earth's distance from the sun.
 - B The atmosphere prevents all space debris from reaching the surface due to the ozone layer.
 - C The atmosphere is extremely thin due to the temperatures of the sun.
 - D The atmosphere is breathable due to the unique mixture of gases.
- 5 How does gravity support life on Earth?
- A by forcing Earth to continuously spin on its axis, which contributes to day and night
 - B by causing changes in the distance between Earth and the sun, which contributes to the seasons
 - C by keeping water and gases in the atmosphere close to Earth's surface, which contributes to life processes
 - D by preventing meteors and comets from hitting Earth's surface, which protects living organisms from space fragments



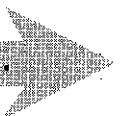
- 6 The diagram below shows the composition of the surface of Earth.

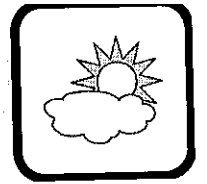
Composition of the Surface of Earth



Which **best** summarizes the composition of the surface of Earth?

- A Three-fourths of Earth's surface is land.
 - B One-fourth of Earth's surface is water.
 - C Earth's surface contains more land than water.
 - D Earth's surface contains more water than land.
- 7 Which is the basic composition of Earth's core?
- A The solid inner core is surrounded by a liquid outer core.
 - B The liquid inner core is surrounded by a solid outer core.
 - C Both the inner core and the outer core are solid.
 - D Both the inner core and the outer core are liquid.





- 8 Which **best** explains the movement of tectonic plates?
- A They move several miles each year because of convection within Earth.
 - B They move several centimeters each year because of convection within Earth.
 - C They move several feet each year because of convection within Earth.
 - D They move several kilometers each year because of convection within Earth.

- 9 This chart compares three different types of waves.

Comparison of P-Waves, Sound Waves, and Light Waves

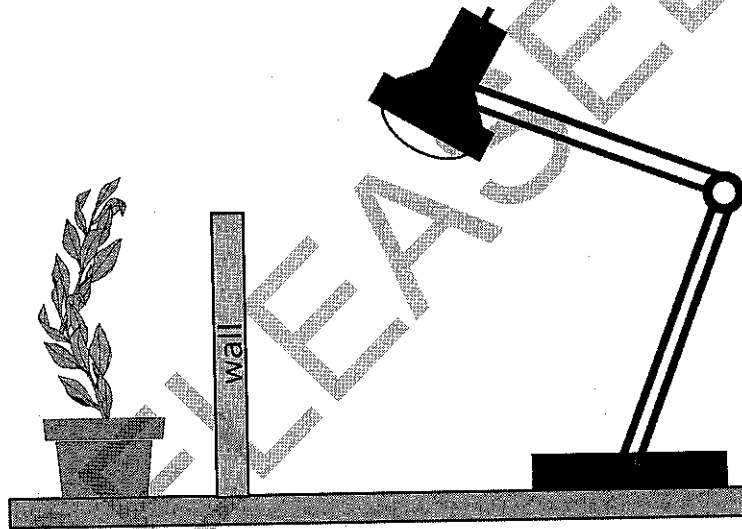
Waves	Occurrence	Wave Characteristics
P-wave	earthquake	compressions and rarefactions
sound	vibrating objects	compressions and rarefactions
light	vibrating charges	crests and troughs

How do the wave characteristics compare for these waves?

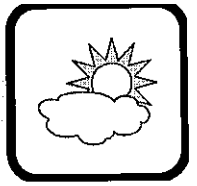
- A Sound waves and P-waves are longitudinal waves, while light waves are transverse waves.
- B Light waves and P-waves are transverse waves, while sound waves are longitudinal waves.
- C Sound waves, P-waves, and light waves are all longitudinal waves.
- D Light waves, P-waves, and sound waves are all transverse waves.



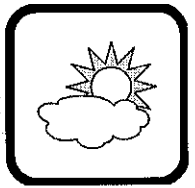
- 10 Which **best** explains the relationship between parent rock and soil composition?
- A Weathered parent rock determines the number of organisms found in the soil.
 - B Weathered parent rock determines the amount of air found in the soil.
 - C Weathered parent rock is the largest component of soil.
 - D Weathered parent rock is the smallest component of soil.
- 11 This illustration shows the reaction of a plant when placed near a light source.



- What would happen to the plant if it were turned away from the light source?
- A The plant would stop growing.
 - B The plant would be unaffected.
 - C The plant would move away from the light source.
 - D The plant would bend towards the light source.



- 12 Tulips are flowers that typically bloom in the spring. How could tulips be forced to bloom in winter?
- A by limiting pruning and trimming of the tulips
 - B by reducing water levels and nutrient uptake by the tulips
 - C by elevating oxygen levels and supplying organic matter to the tulips
 - D by increasing temperature and lengthening daylight for the tulips
- 13 How does sound usually travel?
- A An object vibrates, and those vibrations travel through the air in one direction as transverse waves.
 - B An object vibrates, and those vibrations carry air in one direction as longitudinal waves.
 - C An object vibrates, and those vibrations carry air in all directions as transverse waves.
 - D An object vibrates, and those vibrations travel through the air in all directions as longitudinal waves.
- 14 Which is true for every atom of an element?
- A It can be seen with a magnifying glass.
 - B It is joined together with another atom.
 - C It has mass and volume.
 - D It is weightless.



- 15 A student has two pieces of aluminum foil. Each piece can be folded and rolled into a wire. Why do both pieces of aluminum foil behave the same way?
- A They are composed of the same types of atoms.
 - B They are composed of different types of atoms.
 - C They have the same physical properties, but different chemical properties.
 - D They have the same chemical properties, but different physical properties.
- 16 The chart below shows the amount of sunlight and types of organisms found at different depths in the ocean.

Ocean Life and Sunlight Availability at Ocean Depths

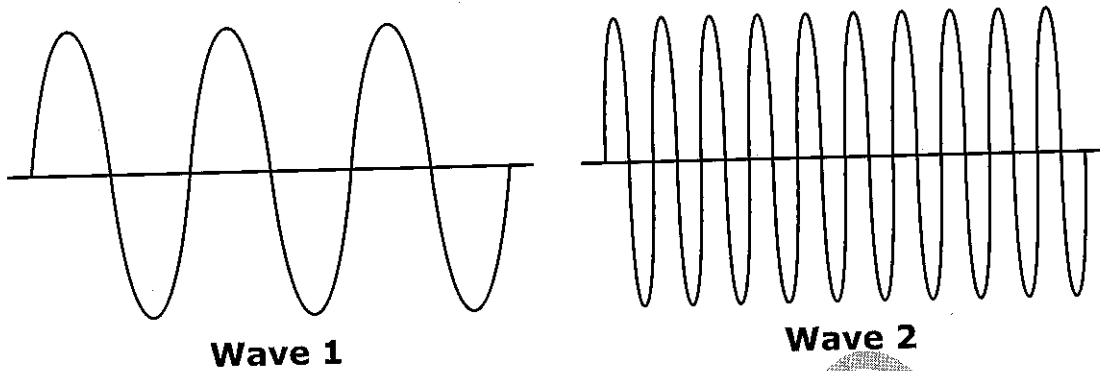
Water Depth (m)	Amount of Sunlight	Organisms
0 – 200	visible sunlight	green seaweed, dolphins
200 – 1,000	small amount of light; light fades fast	giant squid, shrimp
1,000 and deeper	no sunlight; complete darkness	tube worms, lantern fish

Which **best** summarizes the relationship between ocean depth and the availability of sunlight and ocean life?

- A Sunlight is available only at depths of 200 m to 1,000 m.
- B Sunlight is available for organisms at depths of 0 m to 2,000 m.
- C Plants are found mainly at depths of 0 m to 200 m because sunlight is available.
- D Plants are found at depths of 0 m to 2,000 m because sunlight is available.

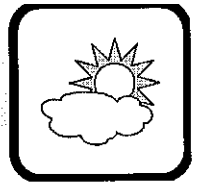


- 17 This is a wave pattern diagram for two transverse waves.



How do the waves compare?

- A Both waves have the same frequency.
 - B Both waves have the same wavelength.
 - C Wave 1 has a longer wavelength than Wave 2.
 - D Wave 1 has a higher frequency than Wave 2.
- 18 Why does sound travel faster through a solid object than in the air?
- A The atoms in the solid object are farther apart than the atoms in the air.
 - B The atoms in the solid object are closer together than the atoms in the air.
 - C The atoms are smaller in the solid object than the atoms in the air.
 - D The atoms are larger in the solid object than the atoms in the air.



19 This table lists the density of four different substances.

Density of Four Different Substances

Substance	Density (g/cm ³)
W	0.5
X	3.0
Y	2.1
Z	1.7

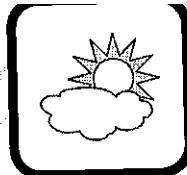
If water has a density of 1.0 g/cm³, which substance will float on the surface of water?

- A Substance W, because it is less dense than water
- B Substance X, because it is more dense than water
- C Substance Y, because it is more dense than water
- D Substance Z, because it is less dense than water

20 Beaker X contains 100 g of table salt and beaker Y contains 50 g of table salt. How do the contents in beaker Y compare to those in beaker X?

- A Both have the same weight.
- B Both have the same solubility.
- C Both have different elements.
- D Both have different melting points.





- 21 Why are people able to see the moon?
- A The moon produces its own light.
 - B Light from Earth reflects off the moon.
 - C Light from the sun reflects off the moon.
 - D The moon is located between Earth and the sun.

- 22 The chart below shows the relationship between plant features and precipitation in certain biomes.

Relationship between Plant Features and Precipitation in Various Biomes

Plant	Biome	Yearly Precipitation (mm)	Plant Features
X	desert	around 250	store water in plant
Y	grassland	500 to 900	deep roots to absorb water
Z	rain forest	2,000 to 10,000	pointed tips on leaves

What **best** summarizes the chart?

- A The amount of precipitation within an area has no effect on plant life and survival.
- B Plants have traits that help them survive in areas with different amounts of precipitation.
- C The ability to store water is important for plants living in areas with 5,000 mm of rain.
- D Deep roots are important for plants living in areas with 200 mm of rain.