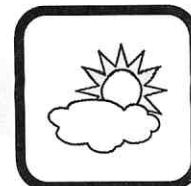
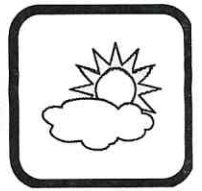




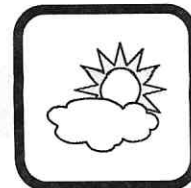
- 1 How does sonar detect an object in water?
  - A by sending sound waves that reflect off the object
  - B by sending sound waves that are absorbed by the object
  - C by sending sound waves to detect the composition of the object
  - D by sending sound waves that measure the object's temperature
  
- 2 Which causes an object to appear green?
  - A While reflecting all the other colors in the visible spectrum, it absorbs green.
  - B While reflecting all the other colors in the visible spectrum, it scatters green.
  - C While absorbing all the other colors in the visible spectrum, it reflects green.
  - D While scattering all the other colors in the visible spectrum, it reflects green.
  
- 3 How do foam earplugs affect the sound a person hears?
  - A The foam reduces the rate of sound vibration.
  - B The foam increases the rate of sound vibration.
  - C The foam reduces the amount of energy in the sound vibrations.
  - D The foam increases the amount of energy in the sound vibrations.



- 4 Some earthquakes cause the ground to shake more than others. What factor in an earthquake's waves causes a greater shaking of the ground?
- A less energy
  - B lower frequency
  - C larger amplitude
  - D slower speed
- 5 Which statement **best** describes white light after it passes through a prism?
- A The white light is a combination of all wavelengths of the visible spectrum.
  - B The white light is a combination of the wavelengths of red and blue.
  - C The white light has no electromagnetic energy.
  - D The white light contains ultraviolet energy.
- 6 Why are humans unable to hear ultrasound waves?
- A Ultrasound waves do not cause matter to vibrate.
  - B Ultrasound waves do not have energy when traveling.
  - C Ultrasound waves have a higher frequency than humans can hear.
  - D Ultrasound waves have a larger amplitude than humans can hear.

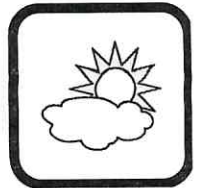


- 7 Sam found two pieces of pure silver on two different continents and melted them. Why did the two pieces of pure silver have the same melting point?
- A Silver is a metal with high conductivity.
  - B The melting point of all metals is the same.
  - C Silver is composed of the same types of atoms.
  - D The melting point of all natural minerals is the same.
- 8 What happens to steam during condensation?
- A It loses energy and changes to a liquid.
  - B It loses energy and changes to a gas.
  - C It gains energy and changes to a liquid.
  - D It gains energy and changes to a gas.
- 9 What is the **best** way to determine if a sample is pure gold?
- A compare the color of the sample with a sample of pure gold
  - B compare the luster of the sample with a sample of pure gold
  - C compare the volume of the sample with a sample of pure gold
  - D compare the melting point of the sample with a sample of pure gold

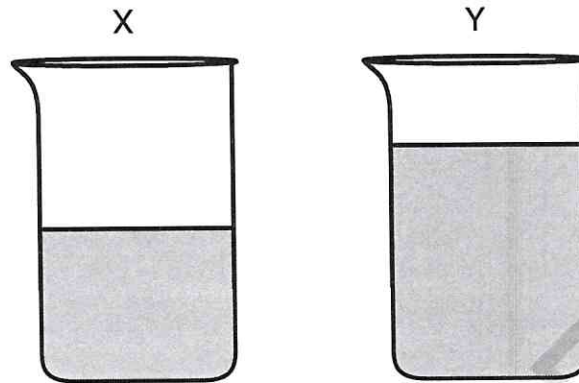


- 10 Two pieces of copper wire are rolled into a coil to make a bracelet. Which statement describes the copper wire?
- A Both copper wires are different because they came from different sources.
  - B Both copper wires are the same because they were able to bend.
  - C Both copper wires are made of the same types of atoms.
  - D Both copper wires are made of different types of atoms.
- 11 What change occurs when a liquid evaporates?
- A The particles absorb heat and get closer together.
  - B The particles absorb heat and spread farther apart.
  - C The particles release heat and get closer together.
  - D The particles release heat and spread farther apart.



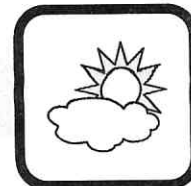


- 12 Two identical beakers containing water, which have not yet been placed in the sun, are shown below.

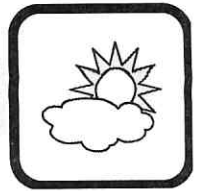


If both beakers are placed outside, in the sun, for the same amount of time, what effect will the sun have on the water in each beaker?

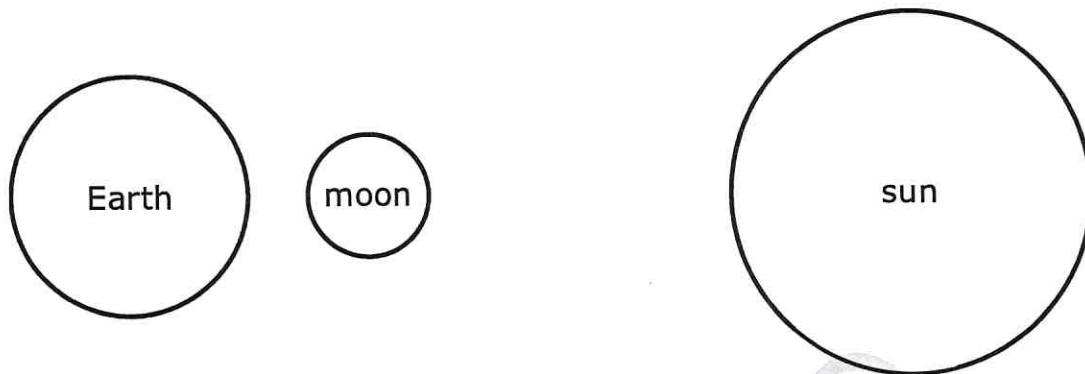
- A The water in beaker Y will heat faster because the volume of the water is greater.
  - B The water in beaker Y will heat faster because the density of the water is greater.
  - C The water in beaker X will heat faster because the density of the water is lower.
  - D The water in beaker X will heat faster because the volume of the water is lower.
- 13 What will initially happen when a metal rod with a temperature of  $60^{\circ}\text{C}$  is placed into a  $5^{\circ}\text{C}$  cold water bath?
- A Heat will travel out of the metal rod and into the water.
  - B Heat will travel out of the water and into the metal rod.
  - C The temperatures of the metal rod and the water will both increase.
  - D The temperatures of the metal rod and the water will both decrease.



- 14 How does a 5-g sample of pure gold compare to a 50-g sample of pure gold?
- A They have the same melting point but different masses.
  - B They have the same volume but different melting points.
  - C They have the same volume but different boiling points.
  - D They have the same mass but different boiling points.
- 15 Lin notices that the temperature of the room increases when the afternoon sun shines through the window. She experiments by covering the window using four different materials to find out which works best to reduce the temperature of the room. Which material works best?
- A black paper, because it reflects light
  - B white paper, because it absorbs light
  - C aluminum foil, because it reflects light
  - D newspaper, because it absorbs light
- 16 People who work on electrical power lines wear thick rubber gloves. Why are their gloves made of rubber?
- A Rubber conducts heat.
  - B Rubber conducts electricity.
  - C Rubber does not conduct heat.
  - D Rubber does not conduct electricity.



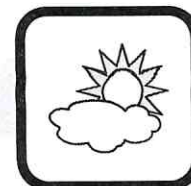
- 17 An arrangement is shown below.



What effect does this arrangement have on the tidal range?

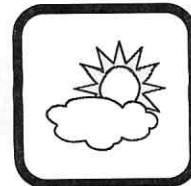
- A The tide is larger than normal because the gravitational forces of the sun and moon pull in the same direction.
  - B The tide is larger than normal because the gravitational forces of the sun and moon pull in opposite directions.
  - C The tide is smaller than normal because the gravitational forces of the sun and moon pull in the same direction.
  - D The tide is smaller than normal because the gravitational forces of the sun and moon pull in opposite directions.
- 18 Why is the distance between Earth and the sun **most** important?
- A The distance prevents solar flares from reaching Earth's atmosphere.
  - B The distance is the source of Earth's magnetic field.
  - C The distance causes the different seasons on Earth.
  - D The distance contributes to Earth's ability to support life.





- 19 As planets revolve around distant stars, they block some of the light from reaching the Kepler space telescope. The telescope measures changes in the brightness of stars as planets move in front of them. How has the Kepler telescope improved our understanding of the universe?
- A It has aided in the discovery of planets outside the solar system.
  - B It has aided in the discovery of planets inside the solar system.
  - C It has aided in the discovery of life outside the solar system.
  - D It has aided in the discovery of life inside the solar system.
- 20 What causes the summer to be the warmest season?
- A The Earth's tilt causes the shortest days with the most intense sunlight.
  - B The Earth's tilt causes the longest days with the most intense sunlight.
  - C The Earth's tilt causes the longest days with the least intense sunlight.
  - D The Earth's tilt causes the shortest days with the least intense sunlight.
- 21 Which **best** describes Earth's crust?
- A It is the thickest layer of Earth.
  - B It is composed of several continental plates.
  - C It contains layers of stationary rock.
  - D It is more dense than the other layers of Earth.





- 22 Which **most likely** causes seafloor spreading?
- A earthquakes
  - B divergent boundaries
  - C convergent boundaries
  - D transform fault boundaries
- 23 Which statement **best** explains the role of environmental conditions in the formation of soil?
- A Areas near fresh or salt water produce wet, sandy soil.
  - B Areas with high temperatures produce soil at a faster rate.
  - C The rocks and climate of an area determine the type of soil.
  - D The number of organisms living in the soil determine its type.
- 24 Which **best** describes the density of Earth's layers?
- A The crust is the most dense because it is the top layer.
  - B The mantle is the most dense because it is the thickest layer.
  - C The outer core is the most dense because it is the only liquid layer.
  - D The inner core is the most dense because it is under the most pressure.