

1. Of these units, the one that represents volume is _____.

- A. cm
 - B. mm³
 - C. cm²
 - D. kg
-

2. A quantity in an experiment that can have more than one value is a _____.

- A. constant
 - B. standard
 - C. unit
 - D. variable
-

3. The density of a cube that measures 1.00 cm on each side and has a mass of 2.0g is _____.

- A. 0.50 g/cm³
 - B. 0.50 cm³/g
 - C. 1.00 g/cm³
 - D. 2.0 g/cm³
-

4. A possible hypothesis based on the information in this table is _____.

Animal Life Span			
	Cow	Dog	Horse
Resting Heart Rate	52 beats per min	95 beats	48 beats per min
Average Life Span	18 years	16 years	27 years

- A. average life span is proportional to heart rate
 - B. heart rate is not related to animal size
 - C. larger animals have faster heart rates
 - D. heart rate is not related to lifespan
-

5. An explanation based on knowledge gained from many experiments is called a _____.

- A. theory
 - B. conclusion
 - C. hypothesis
 - D. scientific law
-

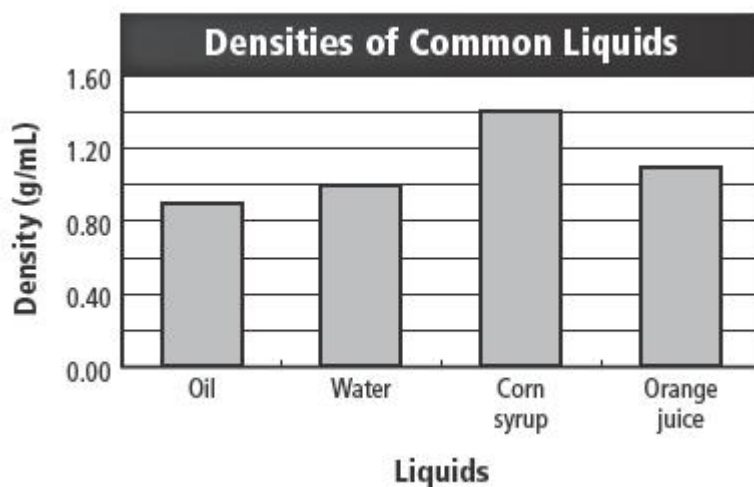
6. The base unit of mass in the SI system is the _____.

- A. gram
 - B. mole
 - C. kilogram
 - D. pound
-

7. The best type of graph for showing how something is divided into parts is a _____.

- A. bar graph
 - B. line graph
 - C. model
 - D. circle graph
-

8. Based on the information on the table, which statement is true?



- A. Corn syrup has the highest density of the three liquids.
- B. Corn syrup will dissolve in water.
- C. Corn syrup and orange juice are very similar.
- D. Water will float on top of oil.
-
9. The symbol dL is used to represent a measure of _____.
- A. intensity of light
- B. volume
- C. length
- D. time
-
10. The purpose of a control in an experiment is to _____.
- A. keep the temperature from getting too high
- B. change one variable while observing another
- C. provide a standard to which to compare the results
- D. record changes in a value
-
11. What technological object would be most valued in a developing country?
- A. compact discs
- B. portable water purifier
- C. electric can opener
- D. video recorder
-

12. Which is NOT normally a source of funding for technology?

- A. federal government
 - B. private foundation
 - C. private industry
 - D. local government
-



This is the end of the test. When you have completed all the questions and reviewed your answers, press the button below to grade the test.

Grade the Test

Please read our [Terms of Use](#) and [Privacy Notice](#) before you explore our Web site. To report a technical problem with this Web site, please contact [Technical Support](#).

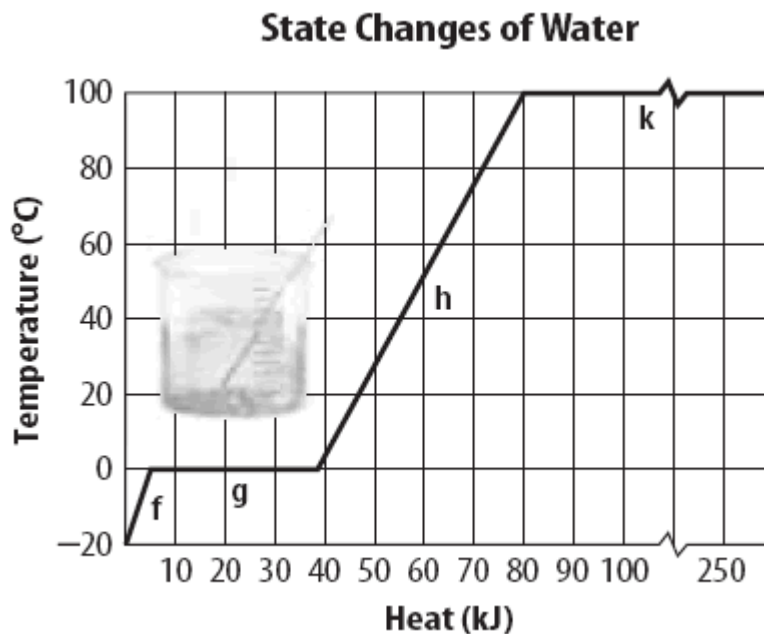


The McGraw-Hill Companies

1. Water at 108 °C and 1 atm is found in which state of matter?

- A. liquid
- B. gas
- C. plasma
- D. solid

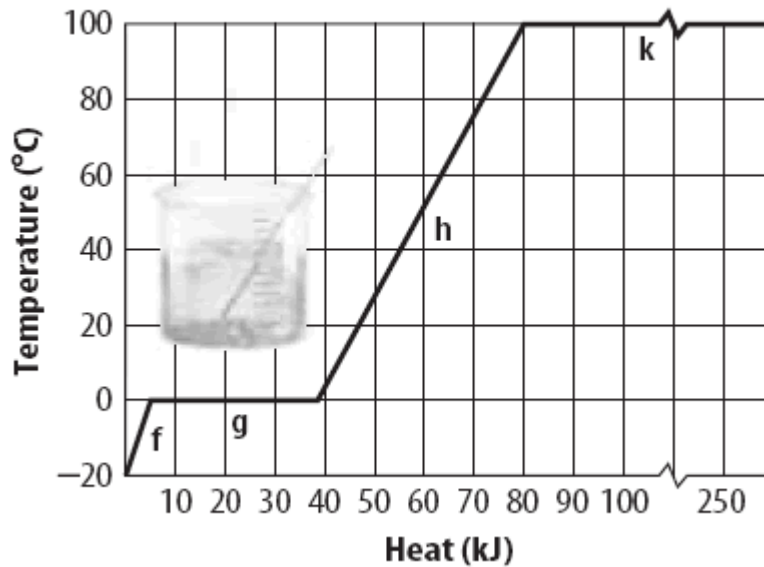
2. On which points on the graph is water increasing in temperature?



- A. F and G
- B. G and K
- C. F, G, H, and K
- D. F and H

3. On which points on the graph is the water changing state?

State Changes of Water



- A. F and G
- B. G and K
- C. F and H
- D. F, G, H, and K
-

4. Which of these is likely to have matter in a plasma state?

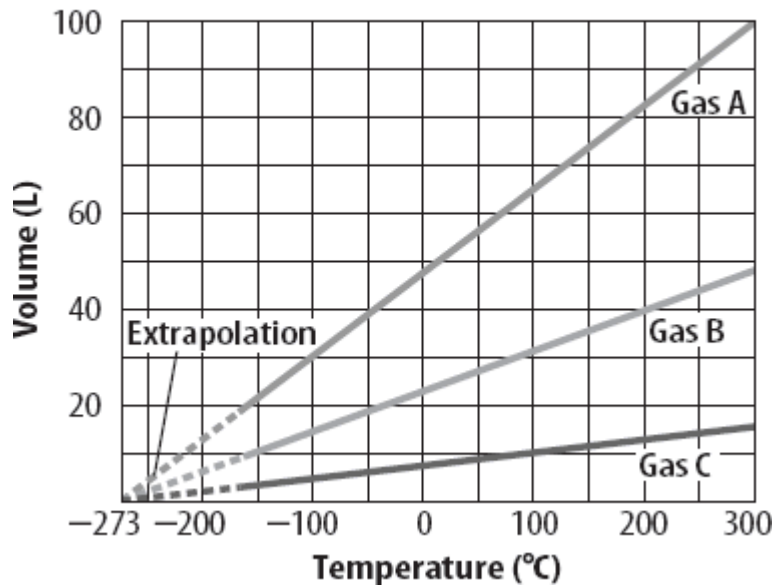
- A. incandescent light
- B. lightning
- C. microwave oven
- D. steam
-

5. In which state of matter are the particles likely to be closest together?

- A. gas
- B. liquid
- C. plasma
- D. solid
-

6. Which of the following statements is NOT true?

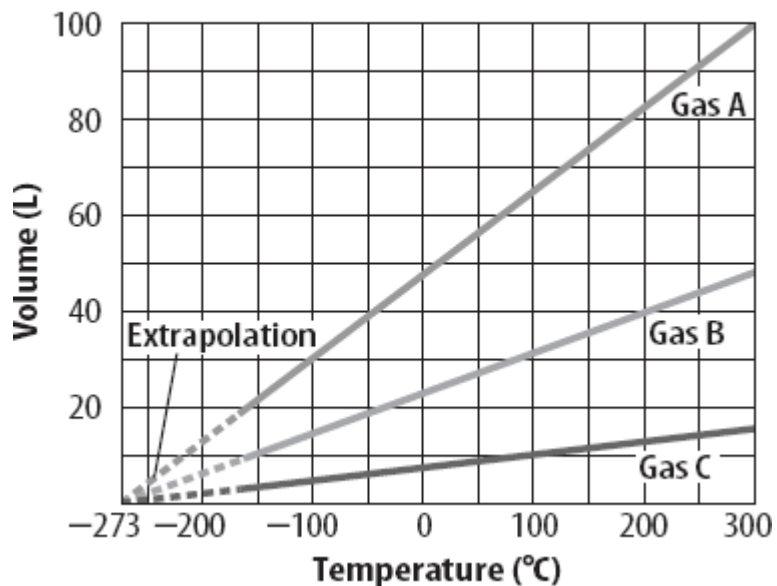
Gas Characteristics



- A. Gas A had the greatest increase in volume.
- B. Gas C had the greatest increase in volume.
- C. Gas B had less volume as it cooled.
- D. The gases all increased in volume as the temperature increased.

7. At approximately what temperature is the volume of gas A about 30 Liters?

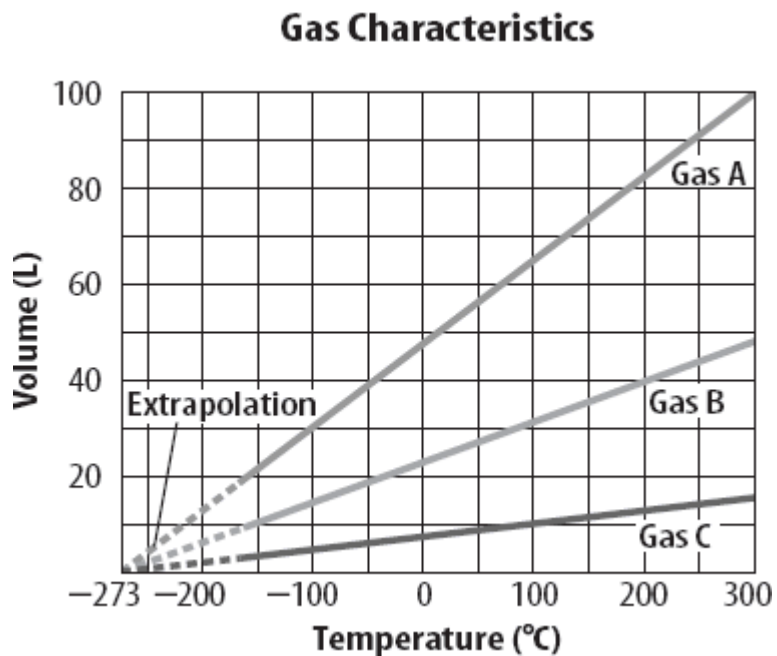
Gas Characteristics



- A. 0 °C
- B. 100 °C
- C. 200 °C

D. -100 °C

8. At what temperature range were measurements taken during this experiment?



- A. -273 °C to -175 °C
 B. -175 °C to 300 °C
 C. -273 °C to 300 °C
 D. 0 °C to 300 °C

9. The amount of energy needed to change a substance from the solid phase to the liquid phase at the substance's melting point is the _____.

- A. heat of vaporization
 B. melting point
 C. kinetic energy
 D. heat of fusion

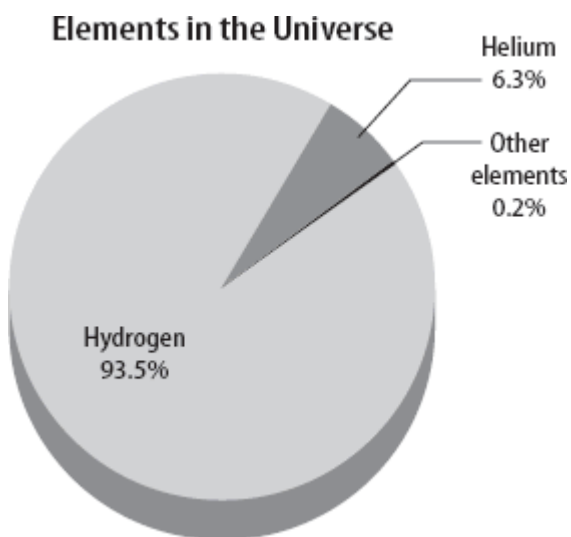
10. At a constant temperature, an increase in pressure of a gas causes the volume to _____.

- A. increase
 B. remain the same
 C. increase or decrease depending on the gas

1. Which of the following statements about elements is true?
- A. An element is composed of two or more different substances.
 - B. All known elements are naturally occurring.
 - C. Zinc, copper, and iron are elements.
 - D. There are about 150 known elements.
-

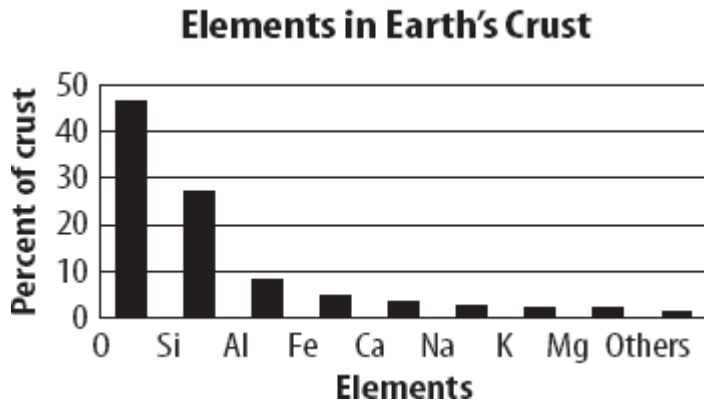
2. Table salt, NaCl, is an example of which type of material?
- A. colloid
 - B. element
 - C. compound
 - D. mixture
-

3. Based on the information shown, what percentage do the elements carbon and oxygen account for in the universe?



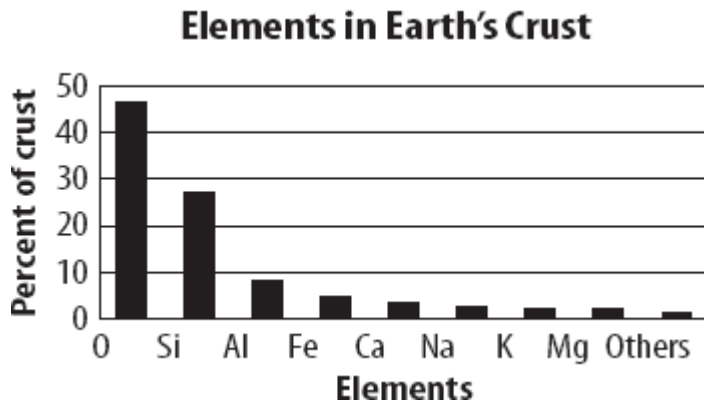
- A. Less than 0.1%
 - B. 1.0%
 - C. Less than 0.2%
 - D. 6.5%
-

4. Which element makes up about 27 percent of Earth's crust?



- A. calcium (Ca)
- B. iron (Fe)
- C. silicon (Si)
- D. oxygen (O)

5. Based on the table, the Earth's crust contains approximately how many times more silicon (Si) than aluminum (Al)?



- A. 2 times
- B. 3 times
- C. 5 times
- D. 10 times

6. Based on the law of conservation of mass, which of these is a true statement?

- A. The mass of the products is always greater than the mass of the materials which react in a chemical change.
- B. The mass of the products is always less than the mass of the materials which react in a chemical change.

- C. Matter is neither lost nor gained during a chemical change.
 - D. A certain mass of material must be present for a reaction to occur.
-

7. Which of these describes a chemical change?

- A. When liquid water is heated, it changes to a gas.
 - B. When a piece of rock salt is hit with a hammer, it forms smaller crystals.
 - C. A glass rod placed in a flame becomes hot.
 - D. Gasoline burns in an engine to form carbon dioxide and water.
-

8. Which of these is a homogeneous mixture?

- A. milk
 - B. tea
 - C. sand on a beach
 - D. sodium chloride
-

9. Muddy water is an example of a _____.

- A. colloid
 - B. element
 - C. suspension
 - D. solution
-

10. If using a microscope allows you to see substances in a mixture, that mixture is _____.

- A. heterogeneous
 - B. homogeneous
 - C. a solution
 - D. microgeneous
-

11. The ability of a metal to be drawn out into thin wires is a _____.

- A. physical property
- B. physical change

- C. chemical property
 - D. chemical change
-

12. Which of the following is an example of physical weathering?
- A. acid rain corroding a statue.
 - B. Formation of stalactites in a cave.
 - C. Change of calcium carbonate in limestone to calcium hydrogen carbonate.
 - D. Formation of a canyon by a flowing stream.
-

13. A(n) _____ is a substance in which all the atoms in it are alike.
- A. mixture
 - B. compound
 - C. solution
 - D. element
-

14. Which of the following is a homogeneous mixture?
- A. soft drink
 - B. milk
 - C. gelatin
 - D. pond water
-



This is the end of the test. When you have completed all the questions and reviewed your answers, press the button below to grade the test.

Grade the Test

Please read our [Terms of Use](#) and [Privacy Notice](#) before you explore our Web site. To report a technical problem with this Web site, please contact [Technical Support](#).

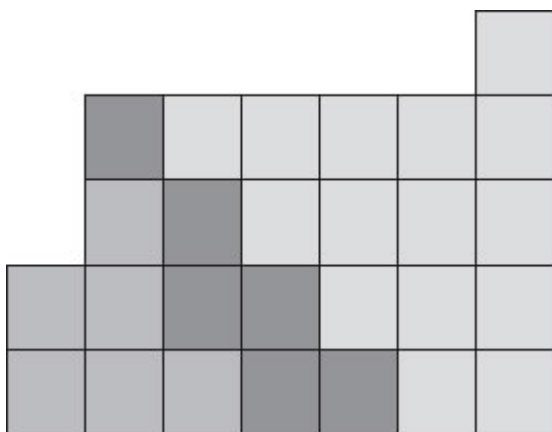
1. The number of which type of particle determines the identity of an element?

- A. electrons
 - B. neutrons
 - C. protons
 - D. photons
-

2. Which group of elements on the periodic table is the least reactive?

- A. Group 1
 - B. Group 18
 - C. Group 2
 - D. Group 17
-

3. The illustration shows the upper right section of the periodic table. How are the elements in the lightly shaded region to the right classified?



- A. lanthanides
 - B. metalloids
 - C. actinides
 - D. non-metals
-

4. The illustration shows the upper right section of the periodic table. What element is represented by the single box at the top?

- A. hydrogen
 B. helium
 C. neon
 D. zinc

5. The illustration shows the upper right section of the periodic table. Which section of the table represents the metalloids?

- A. lightly shaded section to the right
 B. medium shaded section to the left
 C. dark shaded section in middle
 D. Metalloids are not located on this part of the table.

6. The first proposal that there is a smallest particle beyond which a substance cannot be divided was made by _____.

- A. Aristotle
 B. Mendeleev

- C. Thomson
- D. Democritus
-

7. The table lists properties of some elements. Which of these elements belong to the third period of the periodic table?

Element	Electrons in a Neutral Atom	Electrons in Outer Energy Level
Carbon	6	4
Oxygen	8	6
Neon	10	8
Sodium	11	1
Chlorine	17	7

- A. all of the elements
- B. carbon, oxygen and neon
- C. chlorine only
- D. sodium and chlorine
-

8. The table lists properties of some elements. Which element would you expect to be in group 18 of the periodic table?

Element	Electrons in a Neutral Atom	Electrons in Outer Energy Level
Carbon	6	4
Oxygen	8	6
Neon	10	8
Sodium	11	1
Chlorine	17	7

- A. carbon
- B. neon
- C. chlorine
- D. sodium
-

9. Which of these particles are not hypothesized to be made up of smaller particles?

- A. atoms
 - B. electrons
 - C. neutrons
 - D. protons
-

10. The element hydrogen has three naturally occurring isotopes. Which of the following describes the relationship of these isotopes?

- A. different mass, different atomic number
 - B. same mass, different atomic number
 - C. different mass, same atomic number
 - D. same mass, same atomic number
-

11. Which of the following models of the atom reflects the unpredictable motion of the electron?

- A. electron cloud
 - B. solid ball the same throughout
 - C. ball of raisin-cookie dough with raising representing electrons
 - D. small ball within a large shell containing empty space
-

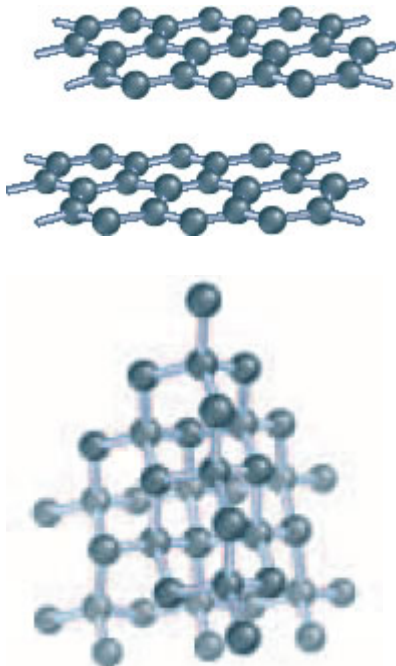
12. An atom containing six positive charges and six negative charges has _____ charge.

- A. a strong negative
 - B. a positive
 - C. a negative
 - D. no net
-

13. The ____ of an element is the number of _____ of an atom of that element.

- A. atomic mass, electrons in the nucleus
- B. atomic number, protons in the nucleus
- C. mass number, protons plus neutrons in the outermost energy level

1. What does this illustration represent?

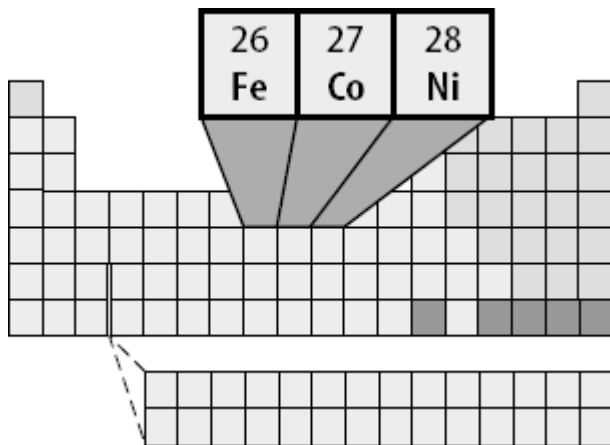


- A. bonding of metal atoms
 - B. allotropes of carbon
 - C. isotopes of carbon
 - D. two different elements
-

2. What term describes the Group 2 elements beryllium, magnesium, and calcium?

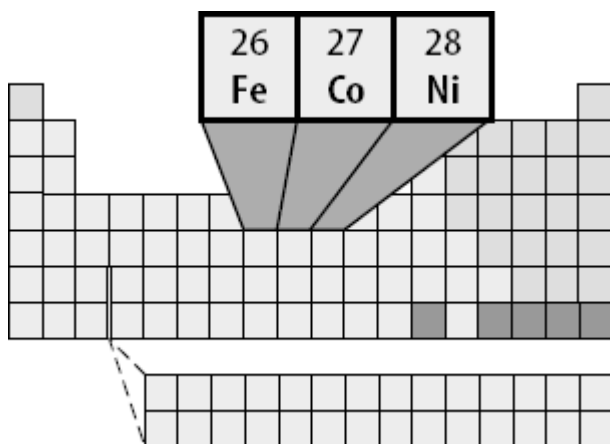
- A. alkaline earth metals
 - B. alkali metals
 - C. lanthanides
 - D. transition metals
-

3. To which major group do these elements belong?



- A. actinides
- B. lanthanides
- C. metalloids
- D. transition metals
-

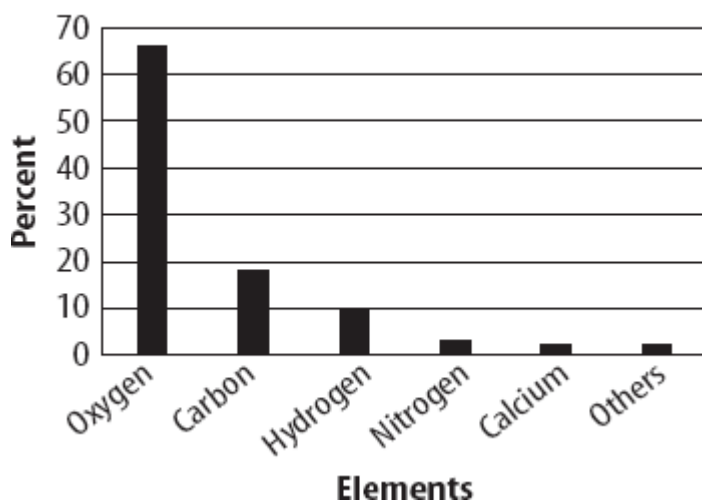
4. These elements are commonly used in making?



- A. batteries
- B. lanthanides
- C. jewelry
- D. steel
-

5. Which of the following elements is present in all organic compounds and is found in the human body?

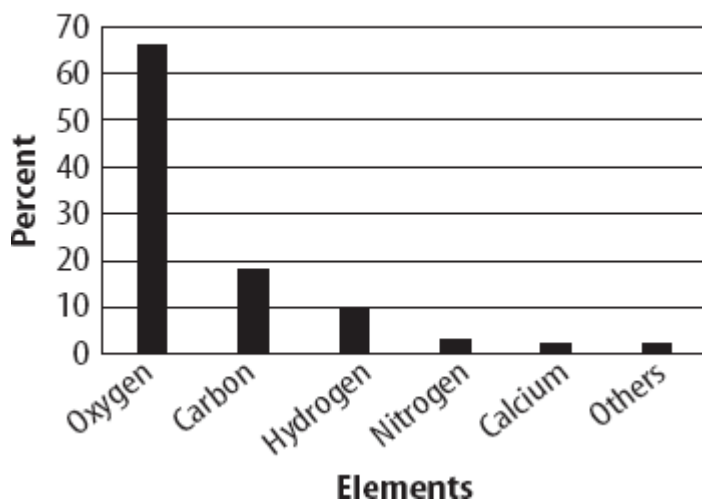
Elements in the Human Body



- A. calcium
B. carbon
C. nitrogen
D. oxygen
-

6. About what percent (by mass) of the human body is composed of non-metals?

Elements in the Human Body



- A. 67%
B. 80%
C. 98%
D. 100%
-

7. Which of the following statements is true about the elements larger than uranium?
- A. They have both radioactive and non-radioactive isotopes.
 - B. Some of them are very stable.
 - C. They are not obtained from natural sources.
 - D. They are responsible for the radioactivity observed in uranium mines.
-
8. A molecule of ozone is made of _____.
- A. two oxygen atoms
 - B. a nitrogen atom and two oxygen atoms
 - C. three oxygen atoms
 - D. a sulfur atom and two oxygen atoms
-
9. The main component of semiconductors is _____.
- A. aluminum
 - B. carbon
 - C. tin
 - D. silicon
-
10. Which of the following is the most reactive of all metals?
- A. alkaline earth metals
 - B. alkali metals
 - C. lanthanides metals
 - D. actinide metals
-



This is the end of the test. When you have completed all the questions and reviewed your answers, press the button below to grade the test.

Grade the Test

Please read our [Terms of Use](#) and [Privacy Notice](#) before you explore our Web site. To report a technical problem with this Web site, please contact [Technical Support](#).