

# ATOMS AND MOLECULES WORKSHEET

State whether these statements are true or false

a) An atom is the smallest particle of any element \_\_\_\_\_

b) An ion is an atom having an electric charge \_\_\_\_\_

c) A molecule is the smallest particle of a compound \_\_\_\_\_

d) A compound molecule is composed of similar atoms \_\_\_\_\_

e) The atomic number is the same as the number of protons \_\_\_\_\_

f) The atomic number is the same as the number of electrons \_\_\_\_\_

g) The mass number is equal to the number of neutrons \_\_\_\_\_

h) The mass number is the number of particles in the nucleus \_\_\_\_\_

i) All compounds are molecules, but not all molecules are compounds \_\_\_\_\_

j) Chemical compounds can be found in the Periodic Table \_\_\_\_\_

k) One mole of any substance contains Avogadro's number  
( $6.02 \times 10^{23}$ ) of particles \_\_\_\_\_

l) A dipole refers to the partially positive or negative end of a  
nonpolar molecule \_\_\_\_\_

m) A molecule is the smallest particle of an element that retains its  
chemical properties \_\_\_\_\_

n) In a compound, the components are always combined in definite  
proportions \_\_\_\_\_

o)  $\text{H}_2\text{O}$  is a compound \_\_\_\_\_

p) CO is an element \_\_\_\_\_

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## Answers

State whether these statements are true or false

- a) An atom is the smallest particle of any element True
- b) An ion is an atom having an electric charge True
- c) A molecule is the smallest particle of a compound False
- d) A compound molecule is composed of similar atoms False
- e) The atomic number is the same as the number of protons True
- f) The atomic number is the same as the number of electrons True
- g) The mass number is equal to the number of neutrons False
- h) The mass number is the number of particles in the nucleus True
- i) All compounds are molecules, but not all molecules are compounds True
- j) Chemical compounds can be found in the Periodic Table False
- k) One mole of any substance contains Avogadro's number ( $6.02 \times 10^{23}$ ) of particles True
- l) A dipole refers to the partially positive or negative end of a nonpolar molecule True
- m) A molecule is the smallest particle of an element that retains its chemical properties False
- n) In a compound, the components are always combined in definite proportions True
- o)  $H_2O$  is a compound True
- p)  $CO$  is an element False