

Science 9
Chemistry Test Review Chapters 2, 3, 4: Worksheet

1. The sentences in the following list contain errors or are incomplete. In your notebook, write your complete, correct version of each sentence.
 - a. Elements are made up of compounds.
 - b. Nonmetals are shiny and good conductors.
 - c. Protons are negative particles in orbits around the nucleus.
 - d. The mass number is the number of neutrons.
 - e. A Bohr diagram shows protons in orbits.
 - f. Elements in the same period have the same properties
 - g. Noble gases are uncreative liquids
 - h. Alkali metals include sodium, potassium, and chlorine
 - i. Halogens include fluorine, bromine and argon.

2. Match the description on the left with one term on the right. Use each term only once.

Description	Term
a. Smallest particle of an element	Noble gas
b. Substance containing only one type of atom	Heterogenous mixture
c. Pure substance that cannot be broken down	Neutron
d. Particle made of two or more atoms	mixture
e. Charged atom	matter
f. Positive subatomic particle	Protons
g. a mixture in which you cannot see the individual parts	Electron
h. the outermost orbit in a bohr diagram	Atom
i. anything that has mass and takes up space	Halogen
j. Very reactive metal	Bond
k. Very reactive non-metal	Ion
l. Substance containing two or more different types of particles	Pure substance
m. Uncharged subatomic particle	Solution
n. A substance in which the individual parts are identifiable	Molecule
o. Connection between atoms	Element
p. Negative subatomic particle	compound
q. Very un-reactive gas	Alkali metal
r. pure substance that contains two or more elements	Valence

3. List the four parts to particle theory of matter.
4. Describe two compounds that contain atoms of the same elements, but in different proportions.
5. In the periodic table:
 - a. Where are the metals found?
 - b. The non-metals?

6. Given each of the following state if it is a solution or heterogenous mixture:
- A glass of milk
 - A cookie
 - Salt dissolved in water
 - A piece of pizza
7. Identify which element is being described in each situation:
- Group 2 period 4
 - Group 17 period 4
 - Group 18 period 3
 - Group 8 period 4
8. State the type of atoms and the numbers of each type that are present in the following molecules:
- Cu_3PO_4
 - NaNO_3
 - $2\text{V}_2\text{O}_5$
 - 9MgSO_4
 - $\text{Al}(\text{OH})_3$
 - $\text{Sr}_3(\text{PO}_4)_2$
 - $\text{Al}_2(\text{SiO}_3)_2$
 - $3(\text{NH}_4)_3\text{N}$
 - $2\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$
 - $2\text{Ba}(\text{MnO}_4)_2$
9. Write the formula, name and draw the Bohr diagram to show the compound formed by each of the following combinations of elements:
- Potassium and chlorine
 - Magnesium and oxygen
 - Calcium and oxygen
 - Aluminum and sulfur

10. Fill in the blanks in the following table

Element	Symbol	Atomic #	Mass #	Standard atomic notation	# of protons	# of electrons	# of neutrons
Helium	He	2	4				
Oxygen	O		16		8		
Sodium	Na	11	23				
Chlorine	Cl		37			17	
Calcium	Ca					20	22

11. Draw Bohr diagrams for each of the following as elements and ions

- Beryllium
- Nitrogen
- Sulfur
- Potassium
- Lithium
- oxygen