

## Science 9 Chemistry Unit Exam Review

Terms:

Alloy	Physical change	Combustability	Physical properties
Chemical properties	Chemical change	Corrosion	Noble gas
Neutron	Mixture	Matter	Protons
Electron	Atom	Halogen	Bond
Ion	Pure substance	Solution	Molecule
Element	Compound	Alkali metal	Alkaline earth metal
Valance	Heterogenous mixture		

- Label each of the following properties as physical or chemical:
  - Copper sulphate crystals are blue.
  - Gold is an excellent conductor of electricity.
  - Iron rusts when exposed to air and water.
  - Calcium reacts with water to produce hydrogen.
  - Gasoline burns in an automobile engine.
- For each of the following state which physical property is being described
  - Water boils at 100°C
  - Oxygen is a gas at room temperature
  - Maple syrup is thicker than water
  - Under a magnifying glass sugar appears to be made of tiny cubes
  - Gold can be hammered into thin sheets
  - Kool aid dissolves in water
  - A diamond cannot be scratched or dented
  - Lead is heavier than feather
- Fill in the blanks in the following sentences with a word or phrase to make the sentence correct.
  - An alloy is a mixture of \_\_\_\_\_.
  - Protons are \_\_\_\_\_ charged particles.
  - The neutron is a \_\_\_\_\_ particle found in the \_\_\_\_\_ of an atom.
  - In all atoms, the number of \_\_\_\_\_ is equal to the number of \_\_\_\_\_.
- State whether each of the following changes is a physical change or a chemical change.
  - The snow on the sidewalk outside your house melts.
  - A piece of silverware gradually tarnishes when left exposed to air.
  - Milk turns sour after several days.
  - The three sugar cubes that you add to your coffee disappear when you stir the coffee.
  - You accidentally spill some bleach on your favorite blue shirt and end up with white stains on the shirt.
  - To reconnect a loose wire in your computer, the technician melts some solder.
  - Your windshield has frost on it after a cold night.
  - Mixing of cake batter in a bowl.
- State the type of atoms and the numbers of each type of atoms present in the following
 

a. MgBr <sub>2</sub>	c. NaOH	e. 3Al(OH) <sub>3</sub>
b. Cu <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>	d. 2CaCl <sub>2</sub>	f. 2Ca(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>
- Write the formula, name and draw the Bohr diagram to show the compound formed by each of the following combinations of elements:
 

a. Sodium and sulfur	b. Lithium and fluorine	c. Aluminum and oxygen
----------------------	-------------------------	------------------------

7. Complete the blanks in the following table:

Element	Symbol	Atomic #	Mass #	Standard Atomic Notation	# of protons	# of electrons	# of neutrons
		9	19				
Calcium					20		21
	Fe		56			26	
		35					45

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

a. Beryllium	b. Oxygen	c. Chlorine	d. Magnesium
--------------	-----------	-------------	--------------