

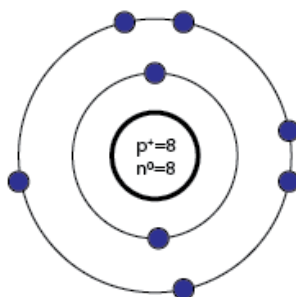
## Grade 9 Chemistry Review

1. What particles are contained in the nucleus of the atom?

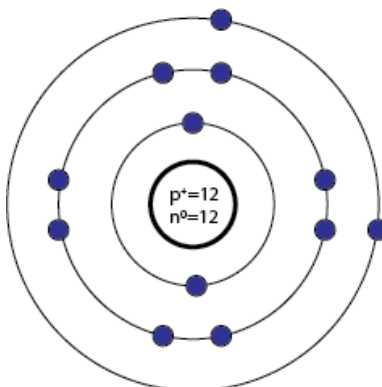
*protons and neutrons*

2. Draw a Bohr atomic model for each of the following elements.

(a) Oxygen



(b) Magnesium



3. What are the properties of a

metal	non-metal
<i>shiny</i> <i>conductor (of heat and electricity)</i> <i>malleable</i> <i>ductile</i>	<i>dull</i> <i>insulator (of heat and electricity)</i> <i>brittle</i>

4. Complete the following chart:

Formula of Molecule	Elements Present	Number of Atoms of Each Element	Total Number of Atoms in the Molecule
HNO <sub>3</sub>	<i>Hydrogen</i> <i>Nitrogen</i> <i>Oxygen</i>	<i>1</i> <i>1</i> <i>3</i>	<i>5</i>
Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>2</sub>	<i>Iron</i> <i>Sulfur</i> <i>Oxygen</i>	<i>2</i> <i>2</i> <i>8</i>	<i>12</i>

5. Physical and chemical changes.

(a) What is the difference between a physical and a chemical change?

*If a physical change occurs, the matter remains the same at the molecular level. Physically it may be different but chemically it is the same. If a chemical change occurs, the changes occur at the molecular level. Bonds between atoms break and form new ones. The chemical composition changes, it is a new substance.*

(b) Label each of the following as chemical or physical changes.

(i) Salt is dissolved in water.           *physical*          

(ii) Gasoline burns in the engine of a car.           *chemical*          

(iii) Water boiling on the stove disappears.           *physical*          

6. List the elements of the halogen family.

*fluorine, chlorine, bromine, iodine, astatine*

7. List the elements of the noble gas family.

*helium, neon, argon, krypton, xenon, radon*