

## Grade 9 Chemistry Review

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

(a) Oxygen

(b) Magnesium

2. Give two properties and two examples of each of the following:

(a) Metal

(b) Non-metal

3. Complete the following chart:

<b>Formula of Molecule</b>	<b>Elements Present</b>	<b>Number of Atoms of Each Element</b>	<b>Total Number of Atoms in the Molecule</b>
HNO <sub>3</sub>			
C <sub>12</sub> H <sub>22</sub> O <sub>12</sub>			
C <sub>2</sub> H <sub>6</sub> O			

4. List three clues that show a chemical change has occurred (or is occurring).

5. What is the difference between a physical and a chemical change?

6. Label each of the following as chemical or physical changes.

(a) Sulfuric acid is mixed with sugar. \_\_\_\_\_

(b) Salt is dissolved in water. \_\_\_\_\_

(c) Gasoline burns in the engine of a car. \_\_\_\_\_

(d) Water boiling on the stove disappears. \_\_\_\_\_

7. Why is it important to understand the physical properties of a substance that you are using to build a garage?
  
  
  
  
  
  
  
  
  
  
8. List the elements of the halogen family.
  
  
  
  
  
  
  
  
  
  
9. List the elements of the noble gas family.
  
  
  
  
  
  
  
  
  
  
10. Aluminum is one of the most abundant elements in the earth's crust and is relatively cheap today, but in the 19<sup>th</sup> century it was more expensive than gold. Why?
  
  
  
  
  
  
  
  
  
  
11. A scientist discovers a new element he wants to call Naturium. He wants to designate this name with the symbol NA. Two things are wrong with the use of this symbol. Identify one of them.

12. In terms of their electron arrangement, explain why the alkali metals are very chemically active.

13. Pure substances may be either elements or compounds. Explain.

14. How many electrons do you need in the outer shell for the element to be chemically inactive?