Quiz Chapter 4 **Name:** Answers /12

1. Which process below best describes what is happening when a piece of metal rusts? (2)

Answer #1: D

A) Neutralization B) Combustion C) Decomposition D) Oxidation

2. Which of the following changes is considered to be chemical in nature? (2)

Answer #2: B

A) When heated slowly, purple iodine crystals change to a purple gas

B) When a copper roof is exposed to air, it gradually becomes green ✓

C) When copper sulphate crystals dissolve, their blue colour spreads through the water

D) When ice crystals form on a window.

3. In the laboratory, an orange solid was heated in an open container. (2)

The following observations were made:

1. The temperature of the solid increased.
2. The solid turned black.
3. The solid became granular.
4. The mass of the solid increased.

Answer #3: C

Which of these observations allow you to conclude that a chemical change took place?

A) 1 and 3 B) 2 and 3 C) 2 and 4 D) 1 and 4

4. Potassium is a highly reactive metal. When placed in water, a violent reaction occurs, producing potassium hydroxide, KOH, and hydrogen gas, H_2. The balanced equation for this reaction is shown below:

$$2K + 2H_2O \rightarrow 2KOH + H_2$$

Answer #4: B

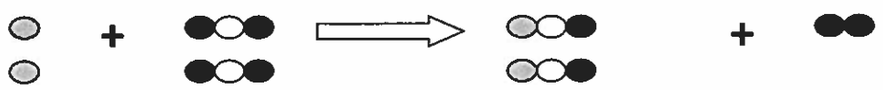
The following symbols were used to construct models for this equation:

○ Potassium (K) ● Hydrogen (H) ○ Oxygen (O)

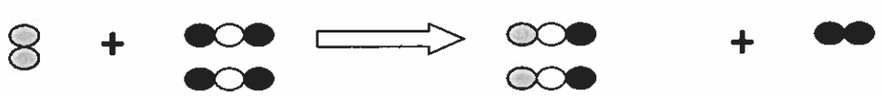
Which of the models below correctly represents the reaction? (2)

A

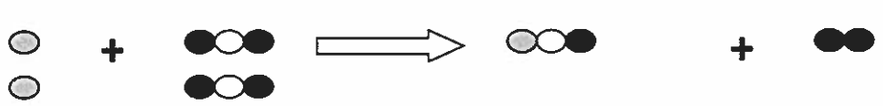
B



C



D



5. The two statements below are related to the fire triangle. Indicate which condition for combustion is being affected. (2)

A) One way of fighting forest fires is to remove all the vegetation from certain areas. fuel

B) Most labs have fire blankets that can be wrapped around somebody whose clothes are on fire. Oxygen

6. Write out the chemical equation that matches this statement, please include the physical states. (2)

One molecule of Magnesium (Mg) solid reacts with two molecules of dissolved hydrochloric acid (HCl) to form one molecule of hydrogen gas and one molecule of dissolved Magnesium Chloride ($MgCl_2$).

$$Mg(s) + 2HCl(aq) \rightarrow H_2(g) + MgCl_2(aq)$$