**Quiz 3A**

# Directions: Answer each of the following questions. Be sure to use complete sentences where appropriate. For full credit be sure to show all of your work. Where appropriate answers should be boxed for clarity, written to the correct number of significant figures, and, include the proper units.

1. In a chemical reaction for the “burning” of sugar (5 points):

C6H12O6 (s) + 6 O2 (g) → 6 CO2 (g) + 6 H2O (g)

* 1. which substances are reactants? \_\_\_\_ C6H12O6 (s), O2 (g)
  2. which substances are products? ­­­­­\_\_\_\_CO2 (g), H2O (g)
  3. This reaction represents a (chemical change or a physical change).

1. Define the Law of Conservation of Mass (2 points).

The Law of Conservation of Mass states that mass can neither be created nor destroyed in a non-nuclear reaction.

1. Do you make any graphs in this week’s experiment (1 point)? \_\_\_Yes
2. Potassium chlorate, KClO3, is a white crystalline solid that melts at 356 °C and starts to decompose at 400 °C to a white crystalline solid, potassium chloride, KCl, and the colorless oxygen gas, O2 (4 points)

2 KClO3 (s) 2 KCl (s) + 3 O2 (g)

* 1. Identify the elements in the sentence above, if any. \_\_\_\_\_O2
  2. Identify the compounds in the sentence above, if any. \_\_\_\_\_KClO3, KCl
  3. Potassium chlorate melts at 356 °C represents a (chemical or physical) property.

1. Classify each of the following as endothermic or exothermic with respect to the underlined substance (3 points):
   1. Cooking a steak \_\_\_\_\_\_\_endothermic
   2. Freezing a popsicle \_\_\_\_\_\_\_exothermic
   3. Burning a piece of paper \_\_\_\_\_\_\_exothermic