Types of Reactions Lab

PART 1:

Materials:
- 5 cm strip magnesium metal
- Crucible tongs
- Bunsen burner
- Flint

Take a 5 cm strip of magnesium ribbon, hold with crucible tongs in the flame of a bunsen burner until it bursts into flames (do not look directly at the light). Record the description of the magnesium before, after and during the experiment.

PART 2:

Materials:
- 5 mL hydrogen peroxide
- 1 small test tube
- 1 small scoop manganese dioxide
- wooden splint
- lit bunsen burner

Pour 5 mL of hydrogen peroxide into a small test tube. Add a very small amount (size of a match head) of manganese dioxide into the test tube. Record any reaction that takes place. Light a wooden splint and blow out (so the splint is glowing) place into the test tube (but not into the solution), record what happens.

PART 3:

Materials:
- piece of copper wire
- 5 mL of silver nitrate solution
- small test tube
- small test tube rack
- steel wool

Clean a 10 cm piece of copper with steel wool and then wind the copper around a pencil, remove pencil and place coiled wire into the test tube. Fill the test tube with silver nitrate solution. Let sit in a test tube rack, record observations after 5 minutes. What metal was displaced?

PART 4:

Materials:
- zinc chloride solution
- Silver nitrate solution
- Small test tube

Add equal amounts of both solutions into the test tube. Record the colour of the solutions before and after the reaction and any other changes that occurred.

PART 5: (if time allows, or teacher demo)

Materials:
- small piece of calcium carbide
- 4 small test tubes
- 1 600 mL beaker
- wooden splint
- bunsen burner
- flint
- crucible tongs

Fill one test tube with water, fill the 2nd half full, the 3rd one quarter full and the last only 1/10th full of water. Fill the beaker ¾ full of water. Place each test tube in the beaker inverted (see teacher demo) so that no water escapes. Place a small piece of calcium carbide into the beaker (using crucible tongs), now carefully yet quickly place each test tube one at a time over the bubbling reaction to collect the escaping gas. Once you have seen the water being completely displaced from the test tube, remove the test tube from the beaker and place on the lab bench (see teacher demo). Cover each test tube with your thumb and shake to mix the gases in the test tube. Place a lit splint into the mouth of each test tube (one at a time) and record the results.

Questions to answer for PART 1-5

1. Write a separate word equation for the reaction that occurred in each part.
2. Write a skeleton equation for each reaction and then balance
3. Identify the type of reaction that occurred in each part and include the general reaction formula.