Section 1

The Hit List

You will create a list of where all the materials in the lab are. This list will be yours for the entire year. You may organize it as you see fit, but it will be up to you to list where you can find each of the following items.

Ring stands	Rings	Tongs
Scoopulas	Test tube holder	Evaporating dish
Sharpies	Graduated cylinder	Stoppers
Test tube rack	Weigh boats	Soap
Bunsen burner	pH meter	Stirring rod
Wire gauze	Crucible	Magnetic stirrers
Matches	Watch glass	Scale
Weigh paper	Test tube	Hand brush & dust pan
Beakers – all sizes	Thermometers	Erlenmeyer Flasks
Hot plates	Filter paper	Glass pipettes
Plastic pipettes	Rubber tubing	Pipette bulbs
Gloves	Funnels	

Create this list in a place in which you WILL NOT LOSE it! You may put this list on your lab top or have it hand written and keep it in your lab book, both are acceptable. In order for you to get credit for this assignment you need to show me your final list, whether electronic or hand written or a printed version.

Stockroom

Go into the stockroom and try to determine how everything is organized. Write out a statement of how you think things are laid out.

Piece of Chemistry

We have been through lab equipment and you all have made your own lab equipment location list. A lot of the glassware and tools you use in the lab have a history. Select a piece of glassware or equipment and give the class a little history lesson. I would like you to convey to the class not only what the equipment is used for but also where/who/how it originated. Your discussion should not last too long, as long as you get the proper information across.

Joseph Priestley's Experiment

Introduction

I am not sure if any of you have heard of the scientist/philosopher Joseph Priestley. He was friends with Thomas Jefferson and John Adams. The letters between Jefferson and Adams reference Priestley more than any other individual, though mostly for philosophical and religious reasons. While performing experiments in his original home in England, he came across a very interesting fact and made a fantastical observation. You are going to perform the Priestley demonstration today using the following materials.

Pre-Lab Questions

1. What gas do plants consume during photosynthesis and what gas do they emit?
2. How do we know which gases plants emit and consume during photosynthesis?
3. When a candle burns, what gas does it use to continue the combustion reaction?
4. What happens when a gas is released into a water? Is the gas trapped under the water or does it expand in all directions.
5. What is a vacuum seal and why can we use an inverted beaker over a pool of water a vacuum seal?

A candle Pool of water Plant Beaker

Matches (for lighting the candle only)

Part I:

Construct an apparatus in which you may suspend the candle above the pool of water. You may construct an object that the candle can sit on, as long as the beaker can be inverted over the candle.

Part II:

You will do the same thing as described above except this time you will place your plant inside the beaker with your candle. Be sure to set it up in way in which the plant is not burned.

Post-Lab Questions

1. Explain the results of what happened in Part I.
2. Explain the results of what happened in Part II.
3. What did Priestley use in order to come to the conclusion that plants take in carbon dioxide and release oxygen?
4. In your own words, how did his discovery impact society's understanding of how the world works.
5. The following is a graph of the global concentration of CO_2 in the atmosphere, please describe what you see. Why is the trend moving upward? Why is there an up and down trend throughout the graph?
6. What other compounds have cyclic courses in nature? Meaning, name something else that is used by one organism/system and produced by another.