Name: _____ Period: _____ Date: _____

Laboratory Safety Rules:
1. Follow directions. 2. Wear safety goggles at all times. 3. Tie long hair back. 4. Keep area and equipment clean. 5. Be careful and cooperate.

Title: Physical and Chemical Changes Laboratory

Research/Investigation Question or Purpose Statement (Problem): The ***purpose*** of this lab is to distinguish between physical and chemical changes.

Background information: If you break a piece of chalk, it loses its original size and shape. You have caused a change in some of its physical properties, but you have not changed the identity of the substance that makes up the chalk. This type of a change is called a physical change and it happens when substances freeze, boil, evaporate, or condense. These transformations may require energy, or may release energy, but the components that make up the substance do not change identity. An element, like iron, will change states if it is allowed to absorb enough energy, but it will still have physical properties that will identify it as iron.

Matter can also undergo transformations which result in a change in the identifying properties of the components that make up the substance. This type of change is called a chemical change. Fireworks exploding, matches burning, eggs rotting and cars rusting are all examples of chemical changes - changes where new materials are formed that were not there before. Most chemical changes can be identified by at least one of four clues which indicate a chemical change has occurred: a gas can be given off, a new color can appear, heat and light can be given off, or a precipitate can be formed. Each of these is evidence that a new substance has formed.

Physical Changes:	**Chemical Changes:**
• Color Change (be careful) • Substance not changed just shape, size • Changing state (freeze, boil, evaporate, condense) • Dissolving • Bending, crushing, mixing, cutting	• Color change (be careful) • Fizzing • Foaming • Heat • Production of sound, light, odor • Change can't be undone • Precipitate