**Class Notes: Chemistry and the Scientific Method**

**Objectives:**

1. Define Chemistry and know and explain the 5 different branches
2. State the 5 different steps in the scientific method
3. Name and characterize the 3 states of matter

**Chemistry:** study of substances, what they are made of (composition), and the changes that they undergo

--chemistry is part of a larger whole: chemistry + physics + biology

**Five branches of Chemistry:**

1. **Organic:** the study of substances containing carbon
2. **Inorganic:** the study of chemicals that do not contain carbon
3. **Biochemistry:** the study of processes that take place in living organisms
4. **Analytical:** the study of the composition of substances
5. **Physical:** the mathematical explanations for chemical behavior

**Scientific Method:** steps used for finding the solution to a scientific problem

1. **Observation** – leads to questions and library research
2. **Hypothesis** – possible explanation
3. **Experiment** – control vs. variable (independent vs. dependent)
4. **Data** – leads to analysis
5. **Theory** – explanation of observations, supported by data

**\*Law:** considered statement of observable fact, not an explanation, has not been disproved