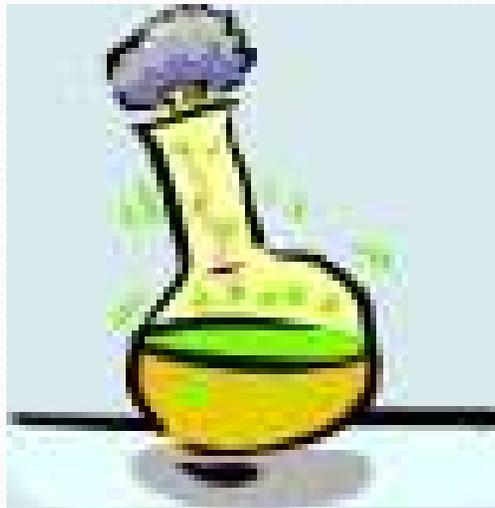


Lesson 1.3

Scientific Method

The Scientific Method

- Systematic study
- Method of verification



Steps of the Scientific Method

1. Make observations
2. State the problem
3. Hypothesis
4. Experiment
5. Collect and analyze data
6. Conclusion

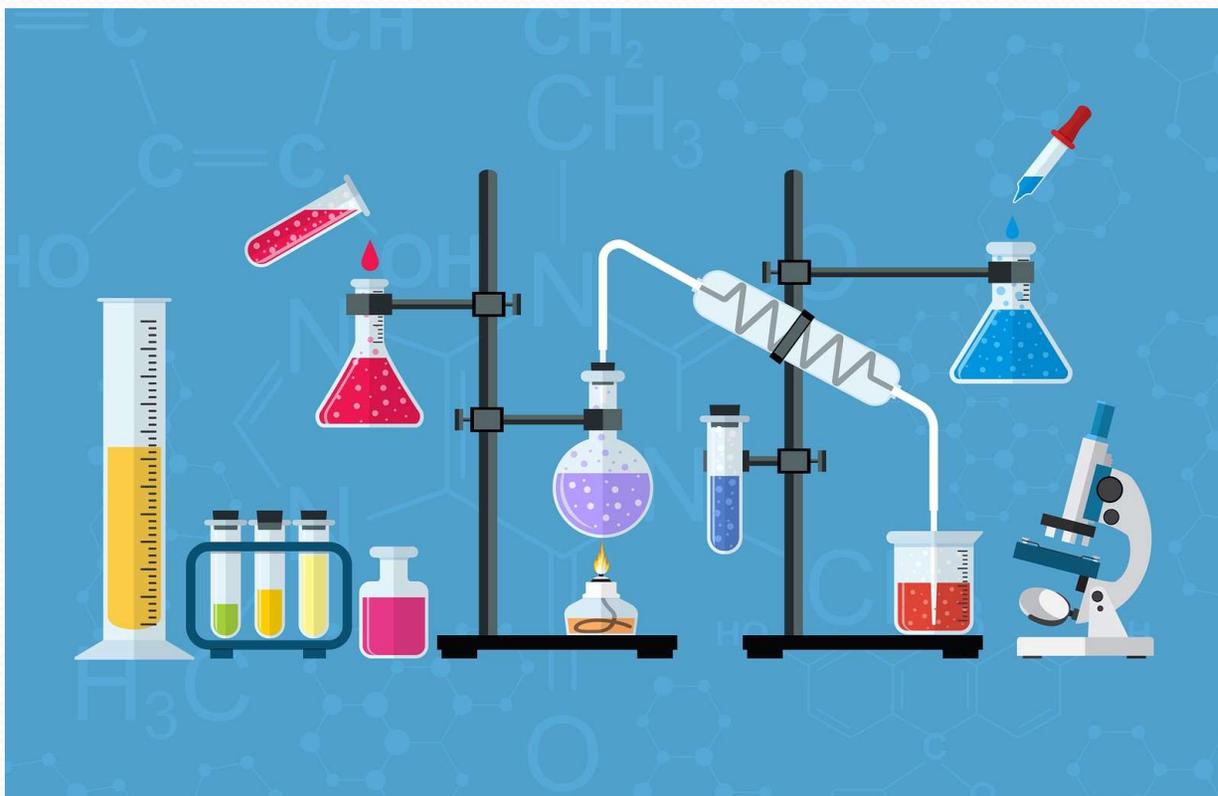
Hypothesis

- Testable predication
- “educated guess”



Experiments

- Controlled observations that test hypothesis



- Qualitative Data

- The five senses

- Quantitative Data

- Numerical information



Qualitative or Quantitative?

- It is yellow
- It boils at 123°C
- It smells sweet
- Its density is 2.26 g/cm^3

Variables

- **Independent**
 - What you change
- **Dependent**
 - What you measure



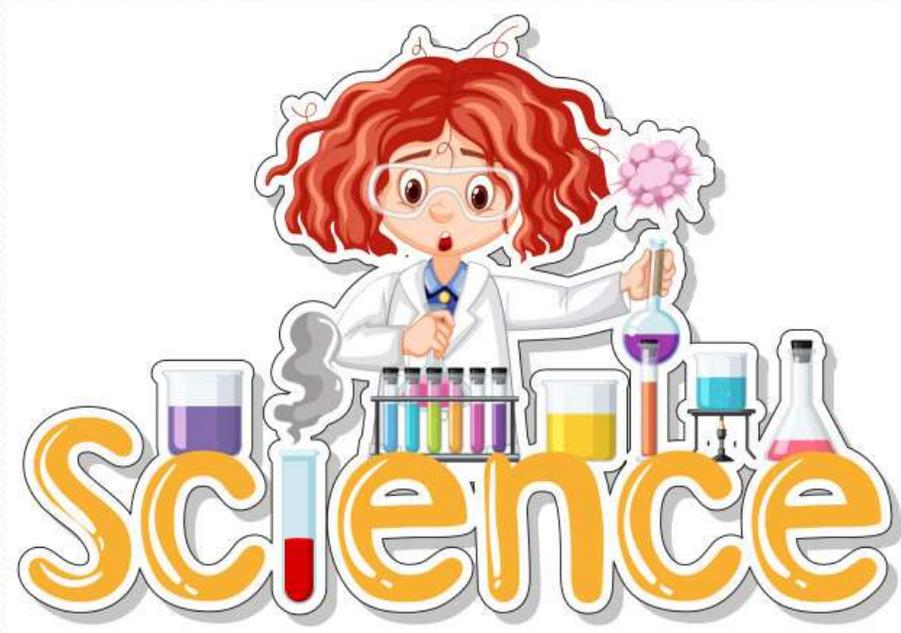
Control

- Standard for comparison



Conclusion

- Make a judgment based on findings



- **Hypothesis:** Never proven, only supported data
- **Theory:** Supported by many, many experiments
- **Scientific Law:** a relationship in nature that has never been disproven

