**Conclusion**

* A Conclusion statement that either:
  + Supports the hypothesis
  + Does not support the hypothesis
* A Conclusion Statement Answers the Question:
  + How did the DEPENDENT Variable change as You changed the INDEPENDENT Variable
  + A VALID Conclusion is one that can be trusted!!
* To be trusted:
  + Experiment should be repeated several times
  + Experiment should be repeated by others
  + If the results are still the same … then the conclusion is more Valid/trusted

**Experimental Error**

* Inaccurate measurements
* Mis-measurements in using scientific tools
* Changing in conditions in science lab
  + (ex. Temperature)
* Can lead to a Conclusion not being Valid

**Bias**

* A wish or expectation in an experiment that leads to a particular conclusion
* Not always a conscious thought (in back of mind)
* Experimenter may not want to be wrong
* Using a control group helps to fight Bias
* Collecting good data help avoid bias
* Careful observation and measurements helps avoid bias

**Causes of Error and Bias**

**1 Human Error (Ex. Writing the wrong number on lab sheet)**

**2 Mismeasurement (Ex. Reading measurement wrong)**

**3 Incomplete Reporting (Ex. World was flat – Until Columbus)**

**4 Strong Opinion (Ex. Customer likes chopped pecans instead of whole pecans – in the pie)**

**5 Past Experiences (Ex, Pigeon biting boy)**

**6 Intentional Bias (On Purpose)**

**7 Unintentional Bias (Not having enough information)**