Scientific Discovery

1. ## Purpose:
   - Reason for the investigation

2. ## Research:
   - Knowledge of the field studied

3. ## Hypothesis:
   - Educated guess of outcome
   - Explanation of why

4. ## Design Plan:
   - Instructions
   - Materials
   - Variables identified
   - Data gathering plan

5. ## Execution:
   - Data gathered put in form of table or chart
   - Line, bar, circle graph(s) also made
   - Written data analysis

6. ## Interpretation:
   - Interpretations and Conclusions
   - Real world applications
   - Knowledge gained

Engineering Design

1. Need:
   - Solving a problem

2. Research:
   - Knowledge of the field studied

3. Design Requirements:
   - Identify the criteria and constraints

4. Design Plan:
   - Beginning and alternative drawn designs
   - Identification of a final design
   - Instructions
   - Materials
   - Data gathering plan

5. Construction, Testing, Redesigning:
   - Construct the prototype
   - Test, gather, and analyze data
   - Redesign—then test, gather, and analyze data
   - Continue until the criteria & constraints are met

6. Reflection:
   - A detailed account of your project to include:
     o Conclusions
     o Real world applications
     o Knowledge gained

Computer Design

1. ## Need:
   - Solving a problem

2. ## Research:
   - Knowledge of the field studied

3. ## Design Requirements:
   - Identify the criteria and constraints

4. ## Design Plan:
   - Beginning and alternative written codes
   - Identification of a final solution code
   - Data gathering plan

5. ## Programing, Testing, Redesigning:
   - Program the computer
   - Test, gather, and analyze the data
   - Redesign—then test, gather, and analyze data
   - Surveys administered for others to test it
   - Continue until the criteria & constraints are met

6. ## Reflection:
   - A detailed account of your project to include:
     o Conclusions
     o Real world applications
     o Knowledge gained