Name _____ Date _____

Engineering Process

Follow the steps outlined below to apply the engineering process to solve a problem.

1 Define the Problem
- Define in your own words the problem you are being asked to solve.
- Identify and list the constraints and considerations of the problem.

2 Research
- List questions you have and information you need to help you solve the problem.
- List topics and keywords to use in your research.
- Take detailed notes as you conduct your research, and then write a summary of your findings.

3 Propose a Solution
- Write a summary of your proposed solution to the problem.

4 Design
- Create a detailed design for your solution, labeling all parts and materials.
- Describe how your design will work to solve the problem.

5 Build a Prototype
- Build a prototype based on your design. Your prototype should be suitable for testing.
- List the materials you used.
- Describe in detail how you created the prototype. Be sure to list each step in the process. Include measurements as appropriate.
- Based on your research, explain why you think this solution will work.

6 Test
- Describe how you will test your prototype.
- List the types of data you will gather and record during each test.
- Describe how you will use the data to evaluate and adjust your solution.
- Create a chart to record the data during testing. After each round of testing, review your data and determine what adjustments you need to make before testing again. Describe those adjustments in detail.
- Summarize the testing data and briefly describe the adjustments you made during the testing process.

7 Evaluate
Once testing is complete, review the data from all tests and write answers to the following questions.
- How did your final prototype differ from your first prototype?
- What were the main factors you considered when adjusting your design?
- What worked well and why? What didn't work and why?
- If you did this again, what would you change and why?

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