Name:

Engineering Design Process
Rubric

Steps of Engineering Design Proces	*Score 1-4*
1. **Identify the Problem:** What exactly is the problem? What do you need to design	
2. **Identify Criteria and Constraints:** What do you need to accomplish? Specify! What are the constraints on time,materials, ect	
3. **Brainstorm Possible Solutions:** Have others approached this activity before? How? What are some solutions? Which are the best ones?	
4. **Generate Ideas:** Can you combine solutions to create new solutions? Clarify solutions/ideas. Do you have any new ideas/solutions? Identify shortcomings of each solution	
5. **Explore Possibilities:** Which ideas might work with criteria and constraints? Are there any alternative solutions/ideas based on further knowledge, investigation or technologies	
6. **Select an Approach:** Review solutions and answer lingering questions. Narrow ideas/solution through a voting process or decision matrix. Decide on a final idea with group consensus.	
7. **Build a Model or a Prototype**: Explore idea in greater detail with annotated sketches. Make critical decisions such as material type, size, shape, etc. Construct a prototype from sketches/drawings so solution can be tested. Test prototype in controlled environment. Gather performance data, analyze and check results against established criteria and constraints. Discuss/note areas of concern, shortcomings and establish need to refine design.	
8. **Refine Design:** Make design changes; modify or rebuild prototype. Keep refining until accuracy and repeatability of prototypes performance results are consistent. Update notes/sketches to reflect changes. Receive critique from another perspective to determine if criteria has been met.	