## ENGINEERING DESIGN RUBRIC

|                    | Unsatisfactory                                                                                                                                                   | Beginning                                                                                                                                                                            | Developing                                                                                                                                                                                                                                   | Exemplary                                                                                                                                                                                                                                                                                                         |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identify & Imagine | Solution does not address the challenge.                                                                                                                         | Solution addresses<br>the challenge<br>and demonstrates<br>significance.                                                                                                             | Solution addresses the challenge, demonstrates global significance, national implications, and local impact.                                                                                                                                 | Solution addresses the challenge, demonstrates global significance, national implications, and local impact. It is meaningful to the participants and their community.                                                                                                                                            |
| Design (           | Design shows no<br>evidence of research.<br>Sketches aren't<br>included. The written<br>plan isn't organized<br>and is hard to follow.                           | Design shows little evidence of research and careful deliberation. Sketches are included with little or no labeling. The written plan has little organization and is hard to follow. | Design shows some evidence of research and careful deliberation. Sketches are included with some labeling. The written plan is organized and could be followed to completion.                                                                | Design shows clear evidence of research and careful deliberation. Detailed sketches are included and have every part labeled. The written plan is well-organized and clearly describes each step to completion.                                                                                                   |
| Create             | Prototype was built<br>freely and a material<br>list isn't included.<br>Materials were<br>handled and stored<br>improperly and safety<br>rules weren't followed. | Prototype was built<br>freely and a material<br>list is included.<br>Materials were<br>handled and stored<br>properly and safety<br>rules were followed.                             | Prototype was built<br>from a team plan and<br>a detailed material list<br>is included. Materials<br>were handled and stored<br>properly and safety rules<br>were followed.                                                                  | Prototype was built from<br>a team plan with detailed<br>procedures. A detailed<br>material list is included.<br>Materials were handled and<br>stored properly and safety<br>rules were followed.                                                                                                                 |
| Test & Improve     | Prototype wasn't tested<br>and inadequate data<br>was collected.                                                                                                 | Prototype was tested<br>for a specified<br>amount of time.<br>Conclusions were<br>drawn from prototype<br>testing.                                                                   | Prototype was tested<br>for a specified amount<br>of time with some data<br>collection. Conclusions<br>were drawn from<br>data collected during<br>prototype testing.<br>Improvements were<br>made to address<br>identified system failures. | Prototype was tested for a specified amount of time with extensive data collection. Conclusions were drawn from data collected during prototype testing. Graphs/charts were used to project outcomes and identify system failures. Improvements were made to address identified system failures and inadequacies. |
| Share              | Findings were not<br>shared with the class<br>or were hard to<br>understand. Student<br>logbooks were not<br>used.                                               | Clear and concise<br>perspectives on what<br>was learned about<br>the topic and the<br>process were shared<br>with the class. Student<br>logbooks were used<br>minimally.            | Clear and concise<br>perspectives on what<br>was learned about the<br>topic and the process<br>were shared with the<br>class in a unique way.<br>Student logbooks were<br>used regularly to record<br>the design process.                    | Clear and concise perspectives<br>on what was learned about<br>the topic and the process were<br>shared with the class in a<br>unique way. Student logbooks<br>were used regularly to record<br>the design process. Findings<br>were presented in a unique<br>way to a broader audience.                          |