Engineering Design Matrix

<table>
<tr><td colspan="5">

Title of the Project
What is the need you are meeting or the *problem you want to solve* through doing this project?

</td></tr>
<tr><td colspan="5">

Goal - what you want to accomplish with your project. A goal is the end product and the answer to your question.
Define a Need: What do users of your product need? Is it a new version of an existing product that has more speed, lighter weight, or lower cost? Or, is it a product with an entirely new combination of features never before seen, like the first light bulb invented by Edison in the 1800's.

</td></tr>
<tr><td colspan="5">

Criteria - the guidelines, standards, and requirements you decide upon to control the design and testing in a fair and equal way.
Establish Design Criteria: Design criteria are requirements you specify for your design that will be to make decisions about how to build the resulting product. For example, you might set out to desig baseball bat that has design criteria calling for the same strength and size as an aluminum bat, but ha weight.

</td></tr>
<tr><td colspan="5">

Prototype Design
Build and Test a Prototype: A prototype is the first full-scale and functional model of your invention. You build it from what you think is the preliminary design that best meets your design criteria. Sometimes it is impossible to meet all your design criteria and you need to choose a compromise. Include materials and equipment you will be using/designing.

</td></tr>
<tr><td colspan="5">

How will you measure the success of the design?
What *conditions*, equipment, tests will be used to determine usability of design.

</td></tr>
<tr>
<td>

Criteria
What are you measuring?

</td>
<td></td><td></td><td></td><td></td>
</tr>
<tr>
<td rowspan="3">

Prototype Tests
Each design needs to be tested for each criteria

</td>
<td></td><td></td><td></td><td></td>
</tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">

Controlled Factors
How are you going to be sure that you are testing for your criteria only.

</td></tr>
</table>

Engineering Project Design Matrix

Title of the Project _____ _____				
Goal _____ _____				
Criteria – Standards _____ _____				
Prototype Design (Materials/Equipment) _____ _____ _____ _____				
How will you measure the success of the design? _____ _____ _____ _____				
Criteria				
Prototype Test for each criteria				
Controlled Factors _____ _____ _____ _____				