



## Engineering Design

		Six Months	Four Months	Two Months
<b>STEP 1</b> <b>Select a Topic</b>	Using the Mission Challenges, choose a topic that you and your team would like to investigate	<b>Week 1</b>	<b>Week 1</b>	<b>Week 1</b>
<b>STEP 2</b> <b>Identify a Problem</b>	Choose a problem that faces your community and conforms to the topic you've chosen. Be sure to identify how solving this problem will help your community—and what parts of the community it will directly impact.	<b>Weeks 2-3</b>	<b>Weeks 2-3</b>	<b>Week 2</b>
<b>STEP 3</b> <b>Research the problem</b>	Using at least ten reputable sources, research the problem you have chosen so that you have background information before you begin your investigation or design. At this time you should also determine if you need Institutional Review Board (IRB) approval or if you plan to use a survey and have the proper forms completed before you begin your work.	<b>Weeks 4-7</b>	<b>Weeks 4-5</b>	<b>Week 3</b>
<b>STEP 4</b> <b>Identify the criteria and constraints for the design</b>	Using your research, determine what your design needs to have and what it should not have.	<b>Weeks 8-9</b>	<b>Weeks 6-7</b>	<b>Week 4</b>
<b>STEP 5</b> <b>Build a prototype</b>	Based on your ideas for the design, build a prototype of your design.	<b>Weeks 10-15</b>	<b>Weeks 8-11</b>	<b>Weeks 5-6</b>
<b>STEP 6</b> <b>Test the prototype</b>	Test your prototype to see if it can work.	<b>Weeks 16-21</b>	<b>Weeks 12-14</b>	<b>Week 7</b>
<b>STEP 7</b> <b>Construct a Conclusion</b>	Based on your tests on your prototype, construct a conclusion that explains whether your design will work or not—and why.	<b>Weeks 22-24</b>	<b>Weeks 15-16</b>	<b>Week 8</b>