

## Name of Engineering Design Challenge

**Overview:** *Write an overview of the project here:*

**Background Information:** *This should be what students have been learning about:*

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**Problem:** *State the problem here:*

**Challenge:** *State the challenge here:*

**Criteria/Constraints:** *List the specific criteria here. Some of the criteria will be the constraints.*

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**Ask:** What is the problem I have been asked to solve, and what are my criteria and constraints? Restate in your own words:

**Research:** Think about your challenge. What have others done before? What designs currently exist, and how can they be modified to solve your problem?

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**Imagine:** What types of materials would be work best based on the challenge and the outlined constraints? Why have you selected those materials? How will you use the materials? Think of new ways to use them.

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**Plan:** Below please sketch and label two separate designs. Your sketches should be very detailed including any measurements and materials and amount of each material that will be needed to complete your design.

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**Create and Test:** Choose the best design from the 2 you created above. Make a shopping list of materials you will need (including amount of each material). Make notes about what happened during the build...what went right and why...what went wrong and how you fixed it.

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**Improve** - Reflect and Redesign: What did you change and why? How did your changes affect the outcome of your redesigned product?