1. Ideate

Come up with as many ideas as you can for the challenge. Don’t worry about whether they would work or not just yet. Write them down or sketch them out.
Now that you have brainstormed and come up with a list of ideas, pick one that you’d like to create. It could be the one you think is the most feasible, or simply one that you personally would enjoy creating the most.

**The Chosen Idea**

Briefly describe your idea. What is it? What will it do?

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**Reasoning**

Why did you choose this idea over the others?

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2. Create

With constraints and goals in mind, create the first prototype of your chosen idea.

Defining Constraints

What are the restrictions and requirements of this challenge? Is there a time limit? Are you only allowed to use specific materials or tools? Maybe your design has to be a certain size or weight? List out all the constraints below to keep your design focused.

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Defining Goals

What do you plan to accomplish with your design? Clearly listing out your goals will help you measure how successful your design is.

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The First Prototype

Sketch what your prototype will look like. It’s a good idea to include notes on how you intend the prototype to function, as well as what materials or parts will be used to create it. After you have some sketches, physically create your prototype!
3. Test

Put your prototype to the test. Use it yourself or even ask others to try using it. Record any findings and come up with ways to improve your design.

Successes
What worked? Did the prototype accomplish any of the goals you listed previously?

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Weaknesses
What didn’t work? Which goals still need to be met?

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User Feedback
If you asked others to test your prototype, what feedback did you receive?

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Ways to Improve
Can you think of a few possible ways to improve your design?

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4. Iterate

Using your findings from the tests, make improvements to your design. Don’t be afraid to completely take it all apart and start from scratch if it comes down to it. Continue to test and record your findings.
Prototype #_____  

Sketch what your prototype will look like. It’s a good idea to include notes on how you intend the prototype to function, as well as what materials or parts will be used to create it. After you have some sketches, physically create your prototype!
Improvements Made
What’s new in this prototype? Why did you decide to make the changes you did?
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Successes
What worked? Did the prototype accomplish any of the goals you listed previously?
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Weaknesses
What didn’t work? Which goals still need to be met?

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Ways to Improve
Can you think of a few possible ways to improve your design?

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5. Share

Share your design and your overall experience with others. Tell the story of how you went from your ideas to your final design. Be proud of what you have accomplished!

Give Your Design a Name: ____________________________________________

What is it and how does it work? Draw it out!
Which part of the challenge did you enjoy the most?
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What was the most difficult part of the challenge?
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What are the key things you learned from this challenge?
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What would you do differently the next time you design something?

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What are some feedback from your peers and/or your teacher on your final design? It’s useful to note them down here in case you want to further improve your design!

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