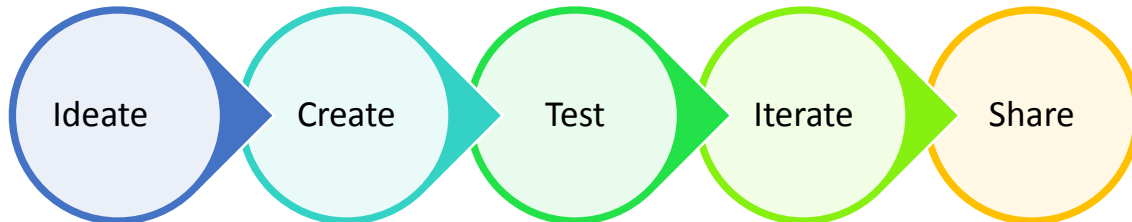


Maker Challenge Design Journal

Challenge name: _____



1. **Ideate:** Brainstorm. 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 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 Selected Idea

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

Reasoning

Why did you choose this idea over the others?

2. **Create.** With constraints and goals in mind, create the first prototype of your selected idea.

Defining Constraints

What are the restrictions and requirements of this challenge? A time limit? A budget? Are you only permitted to use specific materials or tools? Maybe your design needs to be a certain size or weight? List all the constraints below in order to keep your design work focused.

Defining Goals

What do you plan to accomplish with your design? Clearly listing your goals helps you measure the success of your design.

The First Prototype

Sketch what your prototype will look like. Include notes on how you intend it to function, as well as what materials and parts will be used to create. After you have some sketches, physically create your prototype!

3. **Test:** Put your prototype to the test. Use it yourself or 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 above?

Weaknesses

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

Name: _____ Date: _____ Class: _____

User Feedback

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

Ways to Improve

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

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. Include notes on how you intend it to function, as well as what materials and parts will be used to create. 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?

Successes

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

Weaknesses

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

User Feedback

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

Ways to Improve

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

5. **Share:** Share with others your design and your overall experience. Tell the story of how you went from your ideas to your final design. Reflect on 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?

What was the most difficult part of the challenge?

What are the key things you learned from this challenge?

What would you do differently the next time you design something?

What was some feedback from your peers and/or your teacher about your final design? It is useful to write them down (below) in case you want to further improve your design!

This *Maker Challenge Design Journal* was inspired by Tinkerine's version.

Explore their 3D printing lessons at u.tinkerine.com.

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