Design Thinking Journal

Project:

Student Name:

Name: _____

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Name: _____

What is the problem?

I need to design a solution to:

This is WHY I need to design a solution:

How does this meet other people/animal needs:

Prior Knowledge

What do you already know? Below, list as much information you can about your problem. (Think about who, what, where, when, why.)

Name: _____

Do some research!

Research the problem. What types of things will help you understand the problem better? Research these areas and cite your resources.

Notes	Source

Name: _____

Empathize

It's important to understand the problem from the view of the person(s) affected by it. It helps with designing a solution to the problem.

Think about the following questions:

- Who is affected by your problem?
- How are they affected?
- How might they feel about this problem?
- Describe their emotions.

	is/are feeling	

about

Imagine!

Brainstorm possible solutions. Guidelines: Without adult help, come up with as many possible ideas as you can. Create something that doesn't already exist, but it might be possible one day. Remember: There are no bad ideas! Focus on lots of possibilities from your entire team, and list as many ideas as you can. Go wild! *Challenge*: When you run out of ideas, push yourself to think of **FIVE** more.

Ideas

Name: _____

More Ideas

Name: _____

Design a Prototype

Which idea do you feel is the best for solving your problem? Pick your most-promising solution. Sketch a rough draft of your idea in the spaces below.

Front view:

Side view:

Top view:

What do you want to call your prototype?

Name: _____

Develop a Prototype

A prototype is something physical that you can use to show others about your idea. It is something that can be held or seen. It does not need to be "pretty" or actually work, it just needs to convey your idea.

Select and Gather Materials

Choose the materials that will best help you test and demonstrate your idea. Is your idea best seen digitally or on paper? Does it need to be held in someone's hand?

Physical	Digital
• Play-Doh • Legos • Craft supplies (popsicle sticks, construction paper, glue, scissors, pipe cleaners, yarn, etc.) • Poster board • Photos • Sketching and Paper Prototyping (for apps and websites)	• TinkerCAD • Minecraft EE • Google Sites • Google Slides • Google Drawings • Adobe Spark • Microsoft Sway • Bubbl.us

Build

Take a picture or screenshot of your prototype and put it in the space below. You can also include a link to your prototype if you created it digitally.

Name: _____

Test & Improve

You will need to collect data to test whether or not your prototype solves your problem. It's important to gather feedback to see if you need to improve your design. Take notes as you ask others to test out your design so you can improve your prototype.

Alpha Testing

Partner up and talk about what problem you're trying to solve. Then share your prototype. Let your partner touch and hold your design. Listen to their feedback, and take notes. Ask them the following questions and record their answers:

- What is one thing you like about my prototype?
- What questions do you have about my prototype?
- What is one thing I can improve with my prototype?

Things They Like	Questions they have	Things to Improve

First Iteration

Now that you have the feedback above, improve your prototype.

- Use the "Questions they have" to improve your design to make the answers to these questions apparent.
- Use the "things to improve" to improve your design to make it better solve your problem.

Take a picture of your prototype after it's first iteration and put it in the space below.

Name: _____

Beta Testing

Partner up again and share your improvements. Let your partner touch and hold your design. Listen to their new feedback, and take notes. Ask them the following questions and record their answers:

- What is one thing you like about my prototype?
- What questions do you have about my prototype?
- What is one thing I can improve about my prototype?

Things They Like	Questions They Still Have	Things to Improve

Second Iteration

Now that you have the feedback above, improve your prototype again.
Take a picture of your prototype after it's second iteration and put it in the space below.

Name: _____

Reflection

How does your final prototype solve your initial problem?

Recall when you empathized with the people who would be affected by the problem. How do you think they'd feel about your solution to the problem?

What did you learn from this experience? If you could start all over, what would you do differently?

Name: _____

Notes