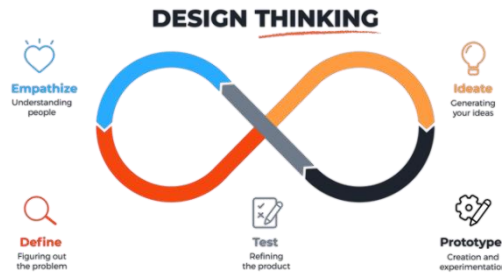


2023 STEAM/Science Week

Whole School Challenge

Names: _____ Yr & Rm: _____



Problem:

This year's National Science Week theme is all about INNOVATION! Innovation is coming up with new and interesting solutions and ideas that improve how we live our lives. So, to innovate, we need to find something that can be improved!

For this year's task, finding the problem is part of your solution!

Task:

*In groups (families, or friends) follow the DESIGN THINKING process to **design a prototype for a solution to a problem at Churchlands Primary School.***

Follow this document to provide your responses and ideas along the way. Submit the named and completed booklet to the office by the end of Thursday 7th September. Groups that show clear working out and have the correct answer will win a prize!



Look here https://www.youtube.com/watch?v=r0VX-aU_T8 for more information on Design Thinking!

Step 1: Empathise and Define

The first step of your entry for the challenge is thinking about an issue or problem around the school that you can then start to find a solution for. It could be anything! From inside the classroom, out on the playground, or anywhere else! As long as it is related to CPS or going to school at CPS.

If you are not sure of a problem, the **Empathise** means to listen to other people – so maybe you could ask your school friends and peers what they think is a problem at school! Or you might know exactly what you would like improved!

Write a clear sentence that explains the problem, then add a sentence as to why it is a problem, or how it is affecting people.

Define

A problem at Churchlands PS is....

Because...

Step 2 Ideate:

The next steps needs us to move from thinking about problems, to solutions! When we **Ideate**, we want to come up with a wide range of ideas first. Like brainstorming, we want quantity (the number of ideas) over quality (well thought out ideas). **THE MORE THE BETTER!**

For Design Thinking, we don't want to be controlled by money or even 'realism' so you are free to use your imagination when thinking of ideas. "Did somebody say: hoverboards to get to French?"

Tips to ideate!

- Go for quantity.
- Build on the ideas of others.
- Encourage wild ideas!
- Don't invent anything that already exists.
- No ideas from adults – kids only!

Use a timer and have four short idea sessions to ideate. 4 mins, 3, mins, 2 mins, 1 min

In each timed session DRAW as many solutions to your problem below. The idea of having a short break in between brainstorm, and timing the brainstorm helps your brain think without constraints.

Draw each different idea in a separate box below.

Finally, use a system to first choose your top-three solutions, and then your favourite solution! Tips to choose include discussing and voting.

IMPORTANT – you receive more points for ORIGINAL ideas (ideas that others have not thought of) and it doesn't matter if the technology does not exist yet! SO CHOOSE YOUR FINAL SOLUTION WISELY

Step 3 Prototype:

The final step for this challenge is designing and illustrating a **prototype** for your chosen solution. A prototype is a 'working' model that shows how your idea works. It is usually 'rough' (or draft quality) and completed very quickly – so users, or students, can see how it works and then suggest more improvements. The improvements are made to the prototype, and the process repeats. That way an effective solution, while may not be very pretty, is created very quickly.

When the users are happy with the final results, proper, 'clean' (detailed and neat) versions can be created.

For our challenge, you do NOT have to make a prototype. (you can, but you will only be getting points for the illustration or image).

DRAW (illustrate) and label a detailed prototype of your solution in the box below. Give your solution a name too. You will receive points for how detailed and clear your design is.



Entering your solution:

Hand into the school office by the end of Thursday, 7th September.

Solutions will be scored on the following criteria:

- Clearly defined need (problem)
- Evidence of a range of solution ideas
- Quality of a labelled prototype illustration for ONE of your solutions
- Originality of your chosen solution