

Inventor's Log Part 2

Prototyping your idea

Climate action heroes!

Name _____

Year _____

Class _____

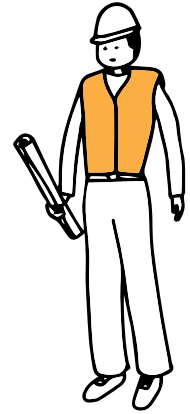
From 2D to 3D!

Drawing is a fantastic way to capture your ideas when inventing and should always be the first step. Now we need to propel them into the next dimension – off the paper and into reality – from 2D to 3D!

The first step to a real invention is to make a model of it. This is called prototyping. It doesn't need to actually 'work', it's really to start seeing how your object could look as a real thing.

Designers, architects and artists all do it. They get messy with materials to feel what their idea is like in their hands before they embark on a project, and spend quite a long time making models to make sure they get it right.

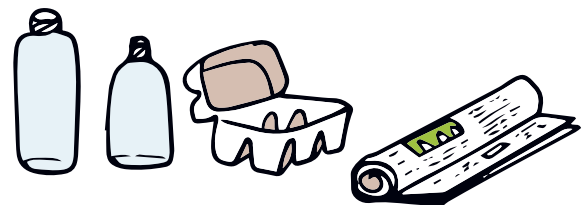
It's a lot of fun! So let's get making!



Making prototypes doesn't need special materials or skills – you can find lots of things around the house that you could use (but make sure it's OK with a grown-up!). For example, cardboard is great, it's everywhere and you can cut it, roll it, squish it and fold it into pretty much anything!



Keep empty cereal boxes, egg boxes or toilet tubes and you will have some ready-made shapes to play with. What a fun way to recycle!



You could use cardboard packaging, old shoe boxes, paper plates or paper cups of different textures and thickness.



These are just some of the things you could use, but the list doesn't have to stop there. It's another chance for you to use your imagination!

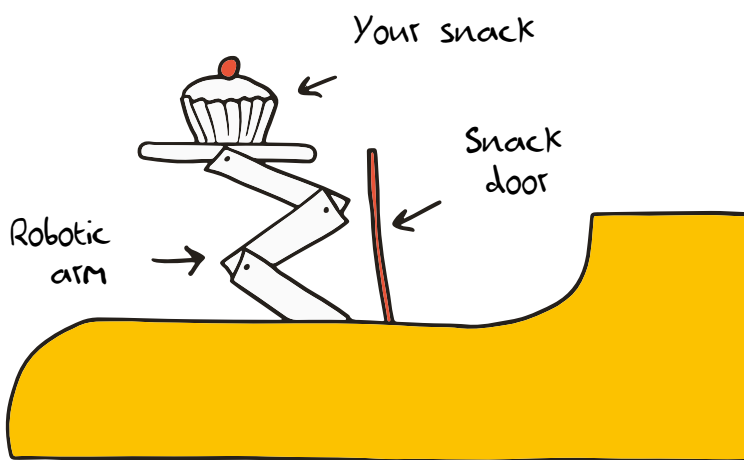
Thinking in 3D...

Once you have your invention drawing, it's a good idea to think about how it will look from different sides. This will help you to start imagining what it will look like as a real object.

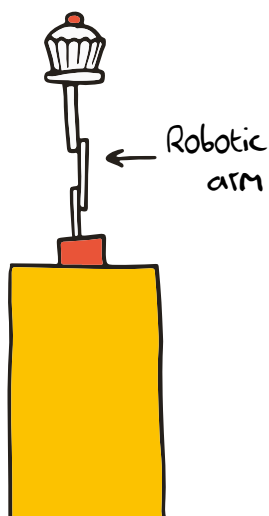
Chief Inventor Dominic invented **the snack shoe**!



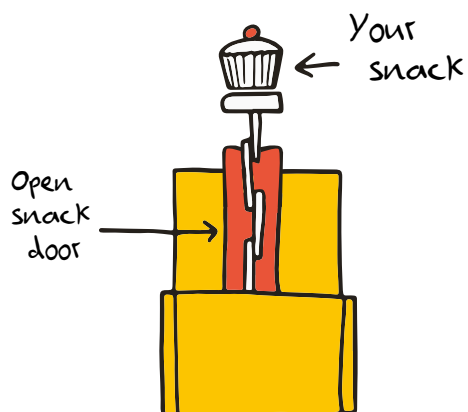
"Sometimes you get hungry but there are no shops around. This way I can always have a quick snack when I need it."



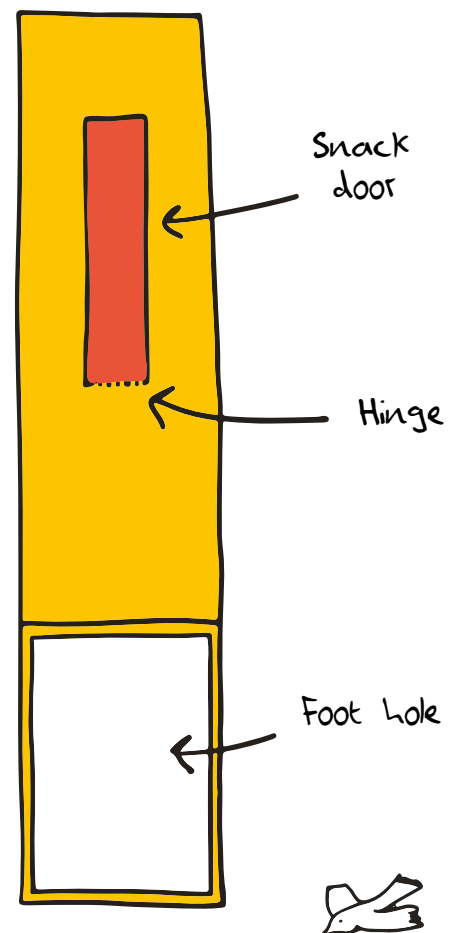
Side view



Back view



Front view

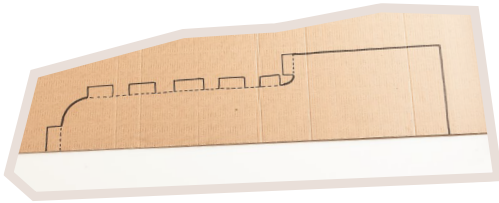


Bird's-eye view

Prototyping the snack shoe!

Before he started, Dominic had to think about how big his invention was going to be. He wanted it to be a life-size version!

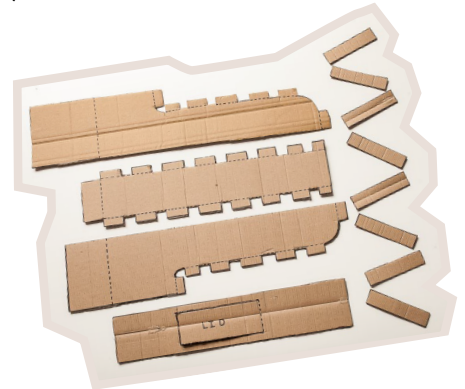
1. Draw the outline of the side of the shoes.



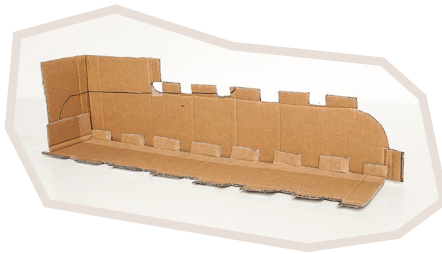
2. Cut them up!



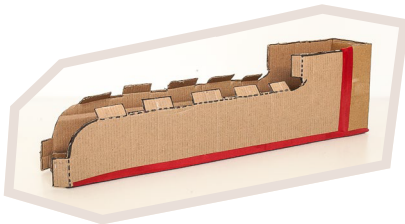
3. Use the first shape as a guide to draw and cut all the parts you need.



4. Glue the parts together.



5. Add tape to secure the parts, and for decoration!



6. Use scissors to make holes and tie all the arm pieces together with string.



7. Tape to the inside of the shoe.



~~~~~  
You're done!  
~~~~~

TOP TIP:

You can see me making the snack shoe at littleinventors.org



Now get making!

By creating a 3D model of an invention idea **we can start to make more decisions about its design.**

We can see if it should be bigger or smaller, more angular or soft. We can find out if our idea on paper works in reality, or if it needs to be altered to work better.

Think about:

- The size of your prototype
- The shapes and elements that make up your invention
- The way they connect together

Then it's really about **getting started and having fun!**

Some fun techniques you could try:

Layering



Slotting



Bending



Texturing



What have you learned about your invention?

Having a go at making your idea into a 3D object can seem daunting but it will also help you continue thinking about your idea.



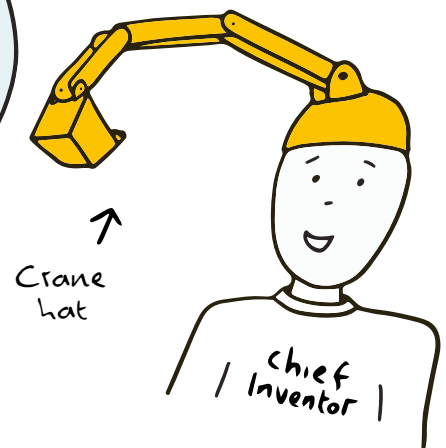
You will figure out what works best and what works less well. And that might make you think about how you can improve on your original idea!



Remember: everything you do is helping you to understand your idea better, so you can take it even further – and who knows, maybe even make it into a real working prototype too!

TOP TIP:

Some people also like to start inventing just by playing with materials!



Plan your prototype

Before you make a model of your invention, it's a good idea to think about how it will look from different sides.

Bird's-eye view

Front view

Back view

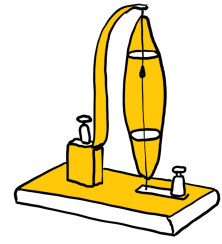
Side view

Think about;

- the materials you might use (think recyclables!)
- the size of your prototype
- the shapes and elements that make up your invention
- the way they connect together

Now you're ready to get making!

My prototype



Name of invention

Place an image of your prototype here!

What I made my model out of/what materials I used to make it:

What shapes I used:

Pitch your invention

Tell someone about your idea in 60 seconds, here is a planner to help you decide what to say.

My invention is called

What my invention does

How I came up with the idea

How it helps people

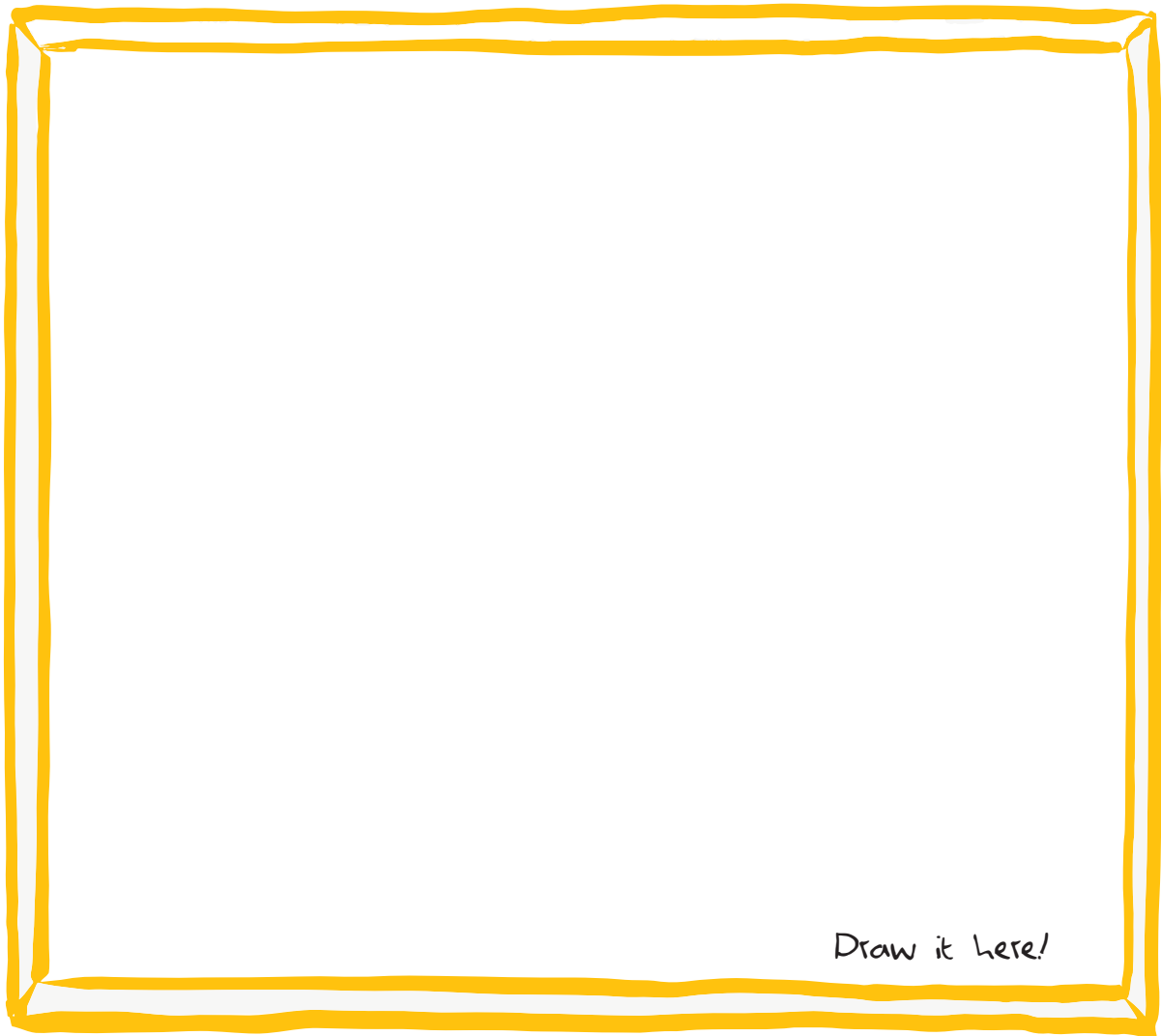
My other thoughts about how this invention could be developed



Finish with thanking your audience for listening and ask if they have any questions

Create a logo for your invention

Make it colourful, bright and eye catching!

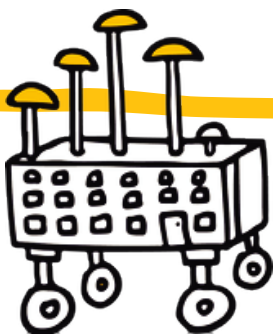


Draw it here!



Design a poster

Tell the world about your idea, make sure you include your invention's name and a bit of writing about what it does as well as some nice drawing.



Space for thought!



Use this page to jot down any ideas that come to mind.