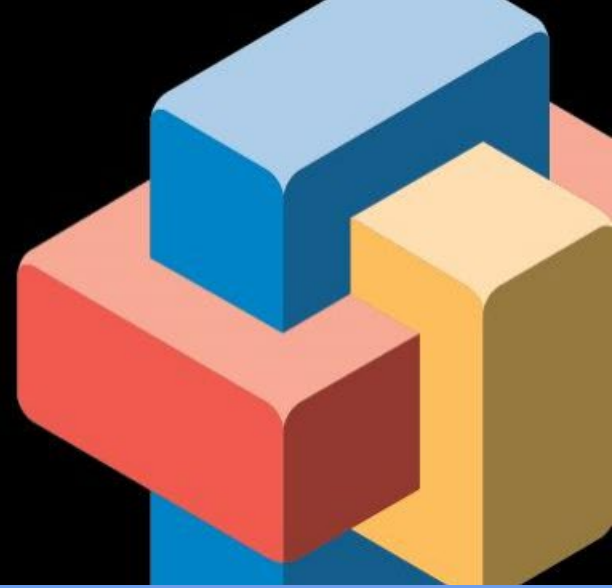


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Solve for Tomorrow 2022



Producing and trialling a
prototype

What have I completed so far?

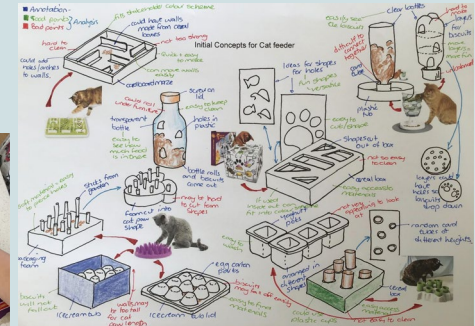
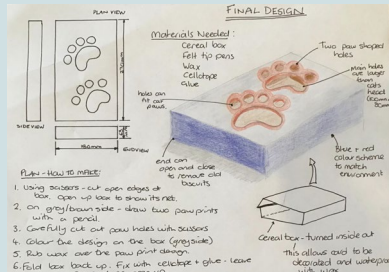
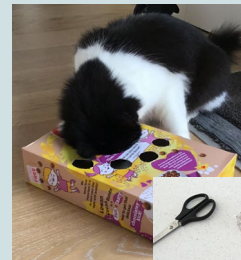
- Brainstorm and created an initial brief

e.g. I need to design and make a product to slow down my cats eating habits so it takes time for them to eat their food.

- Research into the brief
- Written attributes/specification for my outcome
- Initial concept ideas for my outcome
- Development of an idea
- Final design



Physical Attributes	Functional Attributes
It must be made from materials available at home, e.g. cardboard, plastic bottles & packaging, etc	It must be easy to wash and clean, to stay hygienic.
It must contain one scoop of cat biscuits in the bowl/feeder.	It must be strong , to withstand use by young cats with sharp claws.
It could fit in with the colour scheme of the room - brown, beige, charcoal, grey .	It must be durable , to last a longer time.
It must fit a cat paw in it (bigger than 45mm x 30mm)	It could help to exercise the cat at the same time or provide entertainment - like a toy.
It needs to fit onto the cat feeding mat (50mm x 30mm)	



Making a prototype: what do I need to do next?



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Once you have developed a final idea you are ready to **make your prototype**.

Use a diary to record the *process of making* your outcome. Remember to:

- Include the resources used (tools and consumables)
- Explain the stages of making
- Highlight any problems you had and explain how you solved them
- Explain any changes you have decided to make and why you made them

Example of a process of making diary follows on

Key stage One: Marking out (& measuring)

Resources

Tools:

- Pencil
- Ruler
- Eraser

Consumables:

- Card cereal box
- Paper

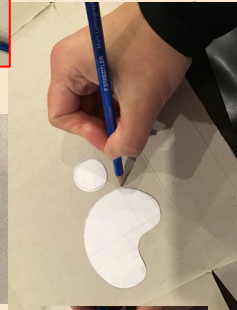
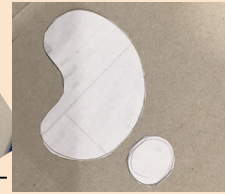
Method:

1. I found a card cereal box (that had a large surface area to stop the box moving around the floor easily)
2. I opened the card box.
3. Marked out the shape for the hole using a pencil
4. Checked the size of the hole to fit the cat paws.

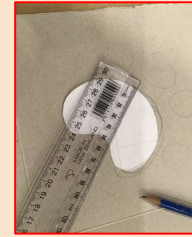
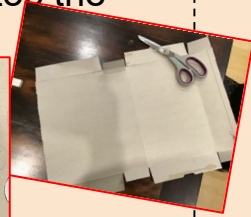
Problems and solutions:



When trying to open the box it ripped. Therefore I decided to use scissors to get a neater cut.



When marking out the cat paw holes with a pencil I found that I could not get the same shape drawn evenly twice. I decided to use a paper template to draw around for all the shapes.



Key stage Two: Cutting out

Resources

Tools:

- Scissors
- Craft knife
- Wooden board

Consumables:

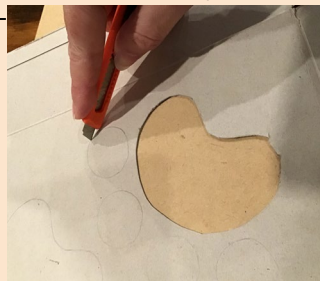
- Card cereal box

Method:

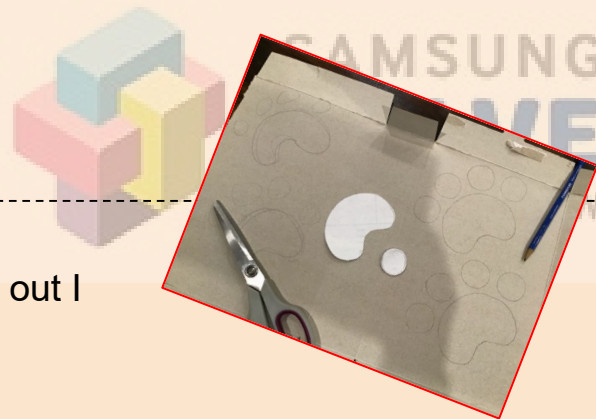
1. Once the cat paws were marked out I cut out the holes carefully.

Problems and solutions:

The scissors made it very difficult to start the cut, and the edges were not very neat. So I thought I would cut it out using a craft knife for neater edges.



When I first started to cut out the design with eh knife I realised I needed to put a wooden board under the card to stop the knife from damaging the bench.



Key stage Three: Decorating

Resources

Tools:

- Wooden board

Consumables:

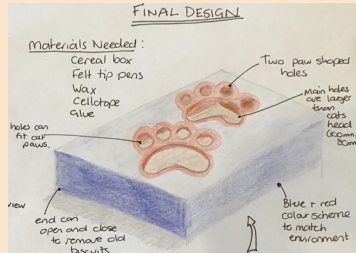
- Card cereal box
- Vivids

Method:

1. Once the cat paw holes were cut out I decided to decorate the card box using vivids.

Problems and solutions:

My original design used the colours red and blue. When I went to find the vivids at home I discovered I did not have a red vivid so I had to change the colour to green.



I decided to change the decoration from being a solid blue colour all over the box to having a paw pattern. This made it more eye catching.

Key stage Four: Adding a finish & Testing

Resources

Tools:

- Wooden board
- Damp cloth

Consumables:

- Card cereal box
- Candle

Method:

1. After the box was decorated, I needed to make the box water resistant and easy to clean by rubbing wax over the card.
2. Once the wax was on the surface I decided to test the box by folding back into a box shape.



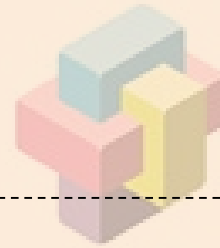
The wax left little lumps of candle wax on the surface. I wiped these off with a damp cloth.

Problems and solutions:

When I folded the design I noticed that the pattern did not look complete on the sides. So I went back to decorating and added more pattern.



Key stage Five: Assembly



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Resources

Tools:

- Scissors

Consumables:

- Card cereal box
- Paper glue
- Cellotape

Method:

1. When the box had been checked and tested I assembled the box by gluing the sides back together.

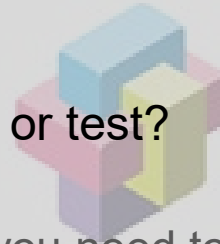
Problems and solutions:

It was very tricky to glue the sides together - the glue was not strong enough and the sides kept on popping open. I decided to use cellotape as well to hold the sides together.

My final prototype



Testing a prototype: what should I modify or test?



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While making and once you have made your prototype you need to:

- **Test** it
- Gain **stakeholder feedback**
- **Identify** any **issues/problems** and **improve**
- **Make modifications** based on feedback and linking back to the attributes & brief.

Remember to *record* any improvements and modifications you have made to the prototype as you test it.