

Hello Year 4

Our overall Design and Technology this term links to our topic all about the Ancient Egyptians

We will research, learn skills, design and make a poster with moving mechanisms

The design and technology golden rule

Product, Purpose, User

Product- a poster with moving mechanisms

Purpose - to entertain and educate

User - someone interested in the topic

# Week 1

Research - Find some books with moving parts.

Apply the DT golden rule - what is the product, its purpose and who will use it?

→ How does the part move?

→ Why does the part move?

→ What happens when the parts move?

→ What different types of mechanisms can you find?



My Cinderella book has flaps, pop-ups, envelopes and slides. They all make the book interesting to read.

## Week 1

Skills - Next we will learn how to make individual moving mechanisms.  
Follow the pictures and instructions.

### Envelope



To create an envelope you will need:  
2 card rectangles one larger than the other.  
Glue 3 sides only of the smaller rectangle, stick to the top of the larger rectangle, leaving the top open.  
Make a message or card to slip inside.  
You can attach string to the message and the envelope (to keep the message safe).

## Concertina



To create a concertina you will need:  
Card folded in half for the background.  
A strip of paper folded backwards and forwards at least 4 times.

Draw a picture on the folded paper.

Cut out (keep the paper folded)

Open up the paper and you should have the same shape, in a row, 4 times, all attached together.

Draw over each shape and colour.

Glue each end of the concertina to the folded card.

Close the card and as it opens the concertina will be revealed.

## Turn/hinge



To create a hinge or turn mechanism you will need  
Card and a paper fastener

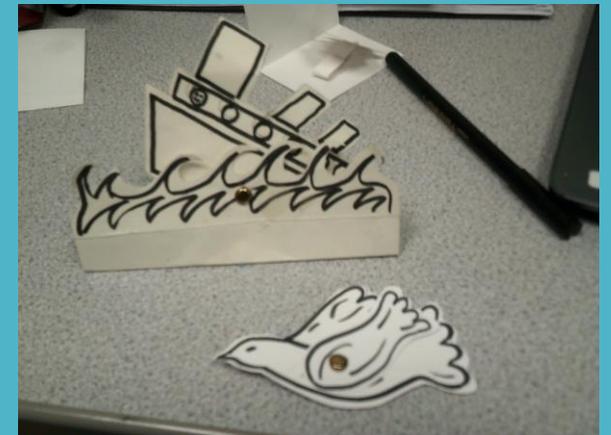
First draw a picture onto card  
Cut it out

Create a background on card

Make a hole in both the picture and the card, where  
you want the hinge to pivot (turn).

Push the paper fastener through both holes and  
the picture will move backwards and forwards.

Fasten the clip by bending back the metal prongs  
(be careful as these can be sharp).

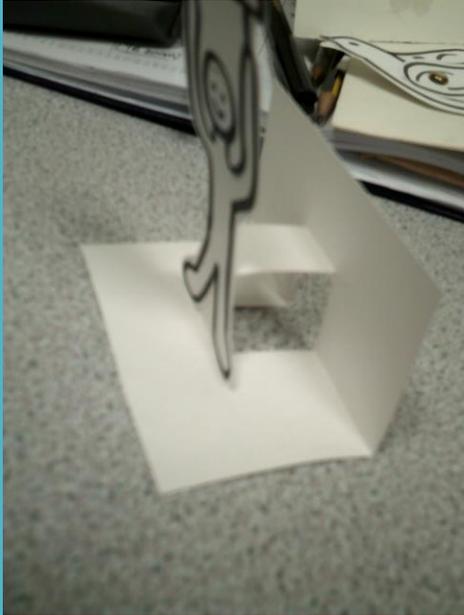


Flap To create a flap you will need:  
Card for the background - draw on a picture.  
Card for the flap - decide how you would like it to open.  
Make sure the flap is large enough to cover the picture  
on the background.  
Make a small fold on the edge of the flap to glue onto the  
background card.  
Surprise! When you open the flap you reveal the picture!



## Pop-up

As you can see there are many ways to make pop-up mechanisms!



**Wobbly tooth!**

Fold a piece of card in half  
Draw a square onto the fold

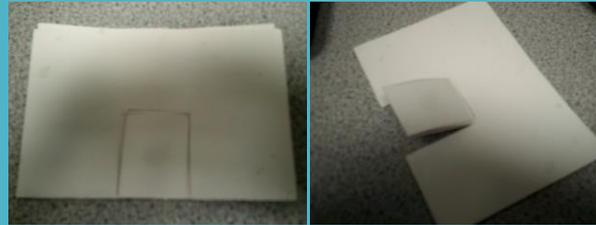
Cut up from the fold, (don't cut across the top line).

Wobble the cut piece backwards and forwards

It should hang like a wobbly tooth!

Open the card and pop the piece out.

Glue a picture, drawn on card to the pop-up.



**Zig-zag!**

Fold a strip of card backwards and forwards.

Glue one end to a folded card and glue a picture to the other end.

When you open the card the picture should pop-up!

You can also use the folded technique we used to make the bodies of our snowmen.

Take 2 strips of card, glue at right angles, then fold over each other to create a spring.

## Pop-up

To create an open mouth pop-up you will need;

Card folded in half.

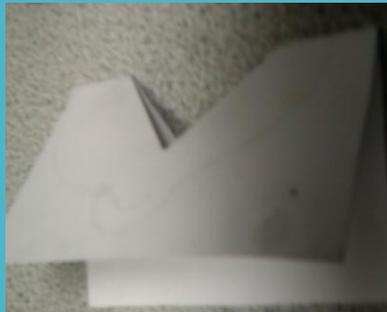
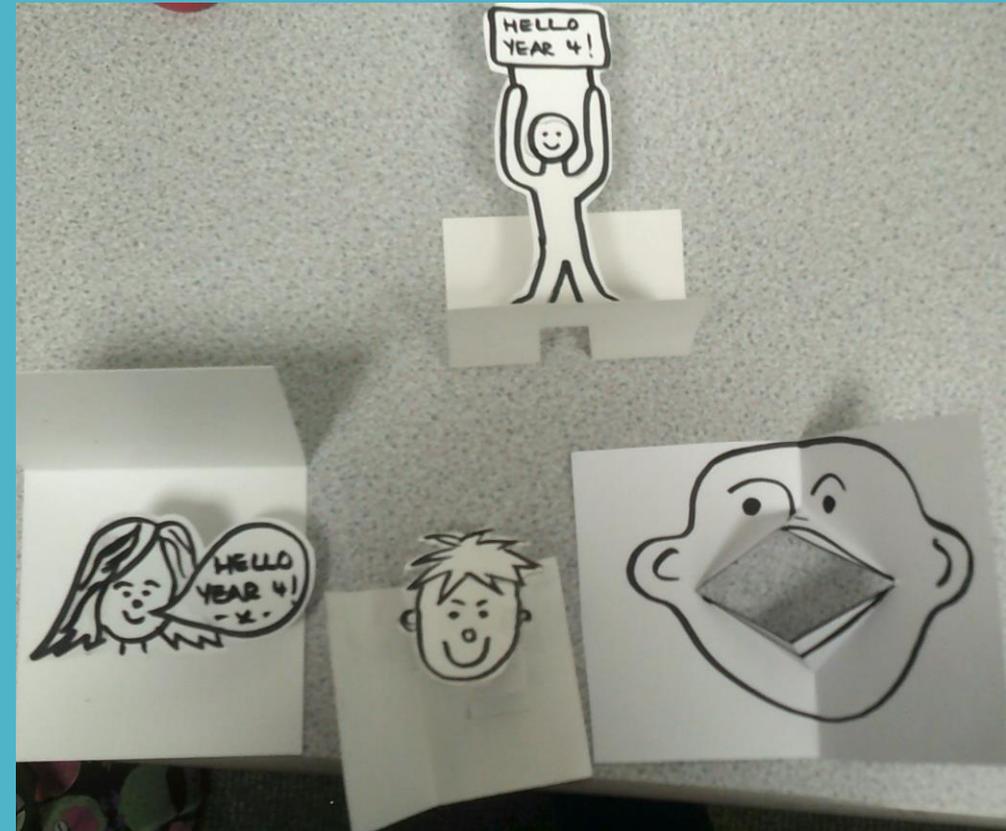
Draw a line on the fold and cut.

Fold the card back to create triangles.

Push the triangles back into the fold.

Open the card.

Draw a face around the pop-up.



I hope you've enjoyed making your mechanisms.  
Please send a photo of your mechanisms to me via Mr Brooks,  
I'm looking forward to seeing what you have made.  
Thank you - Mrs Coulston.