Willerby Carr Lane Primary School – Design and Technology

Topic: Will this story surprise you? (create a pop-up book)	Year: 4	Strand: Mechanisms

What should I already know?

- That books will look different depending on who they are for.
- That books can have different mechanisms in them to create 3d effects.
- That pop up books are fun to read and look at.
- How to use scissors and how to fold paper.
- How to make a slider.

What will I know / be able to do by the end of the unit?

How can different card mechanisms create different sorts of movement?	6 different mechanisms will be taught explicitly: • Box fold • Mouth fold • Slider • Lift-up flap • Rotator • Paper spring
How can I make sure I create reliable card mechanisms?	Children will be shown effective ways to carry out the following skills accurately in order to produce reliable pages for their book: • Cutting • Scoring • Folding • Joining
How can I develop graphic styles to match the needs of my audience?	Children will need to make decisions about the types of illustrations they want to include in their book to have the best effect. These could range from: • Magazine pictures • Clip-art • Own drawings
How do I decide which mechanisms to use in my final product?	Children will need to look at what effect each mechanism has and match this with their idea for the page content. Using their knowledge of the mechanism they can design a page which creates their desired effect.

Vocabulary

Design

audience	The people you are making your product for
graphics	The visual elements used to supplement text to give it a clearer understanding
prototype	The first one of something you make for future reference

Making

compass	An instrument for drawing a circle or an arc
hole punch	A device for punching accurate holes in pieces of paper or card
joining	Putting two or more pieces together
scoring	Making a better crease in paper so that it folds more cleanly
set square	A right-angled triangular implement used for drawing accurate drawings
split pin	A metal pin with two arm which can be passed through pieces of paper/card to join them, then each arm is bent backwards to secure the pieces in place

Knowledge and understanding

box fold	A fold which creates a 3d box on the page which a picture can be stuck on to.
lift-up flap	A separate piece of paper or card which can lifted to reveal something beneath
mechanism	A system of parts which work together to create a specific effect
mouth fold	A fold which creates an opening in the page to look like a mouth
paper spring	A series of folds which can be attached to a picture which will then spring off the page
rotator	A card lever system which can be moved to make the picture rotate on the page
slider	A card mechanism which allows for a piece of card to be pulled away from the page to change the picture

Famous Inventors

Matthew Reinhart – look at his range of pop-up books on the internet. He is a specialist in making pop-up books for all ages.

Key Design Decisions & Skills

- Children will be taught 6 different mechanisms for making pop-ups, creating prototypes of each mechanism for future reference.
- They will develop their cutting, scoring, folding and joining skills in order to make reliable and effective cards and will understand the importance of doing this well to create an acceptable finished product.
- They will develop their graphic styles to match the needs of the audience, using a variety of resources to create appealing end products.
- They will work in groups to create a specification for their book, which will need to consider the following design criteria:
1. Who is the book for?
2. What will it be about?
3. How many pages will it need?
4. What mechanisms will it have?
5. Where will they be positioned on the page?
6. What illustrations will be required? (for the pop-up pages but also for the front and back cover)
7. Who in the group will make which page, using which mechanism? (This will then be shown on their own page specification.)
- Children will then make their individual pages to their own specification, joining these together to make their book.
- Finally, they will evaluate their finished product against their own design criteria and consider the views of others on how to improve their work.

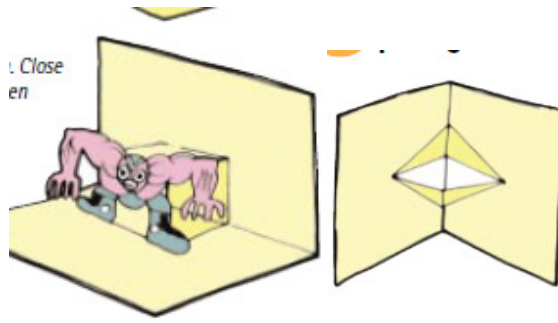| Tools and Resources |
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- Selection of pop-up books/cards and pictures on the internet for initial investigation
- Magazine pages
- Coloured and white paper and card
- Glue sticks
- Sellotape
- Other resources for illustrations e.g. pens/crayons/wool/fabric etc as required for designs
- Split pins
- Paper clips
- Scissors
- Rulers
- Hole punch
- Compasses
- Set squares
- Old ball point pen for scoring
- Craft knife – Health and safety – for use by teacher when creating sliders to make clear cut. Not for use by children.
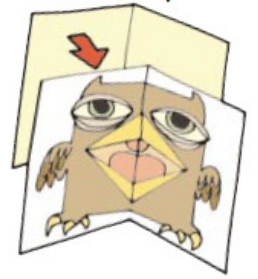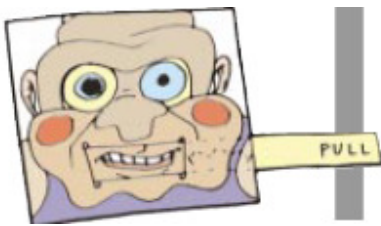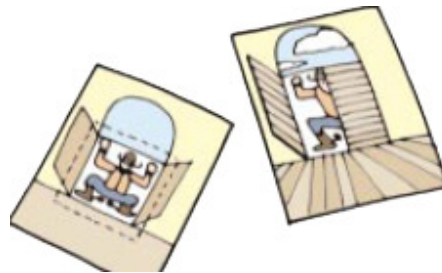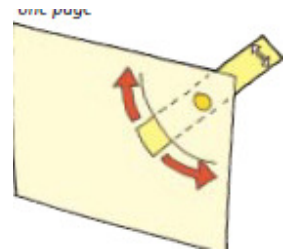
Pictures

finished product

box fold

mouth fold

slider

lift up lap

rotator

paper spring