

Y4 Bringing Books to Life	
Links made with other subjects	<p>Science: Year 3 unit on Forces</p> <p>Maths: consecutive/ alternate numbers, measure accurately</p> <p>English: Link this unit to work on texts where children identify an audience for a particular genre of writing or their own work, considering the effect this has on the use and organisation of language</p> <p>Oracy: pupils encouraged to review their progress orally eg recalling the original idea, summarising what has been done, giving opinions on progress, explaining, discussing</p> <p>Art: Drawing unit in Year 3: eg colour, shape, texture</p> <p>Dependent on purpose/theme of book: Rivers/ water cycle (Geography unit). Previous learning year 3 History - (moving parts to a book on the Egyptians.</p>
The BIG Question	Can books come to life?
The BIG Outcome	To create a book with at least one moving feature using a lever, slider, paper spring, lift up flap or rotator.
DT objectives (link to NC)	<p><u>Design</u></p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p><u>Make</u></p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world <p><u>Technical knowledge</u></p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • apply their understanding of computing to program, monitor and control their products.
Prior knowledge	This unit develops the popular activity of making cards and the moving picture made in year 1.

DT Scheme of Work

What prior knowledge is needed for children to be successful in this unit?	<p>Pupils will have learned about hinges and sliders in Key stage 1 and within their Packaging Unit in Year 3</p> <p>They will have had experience and practice of using different joining and cutting techniques with paper and card</p> <p>Pupils will have used basic cutting tools suitable for a variety of paper and card</p> <p>.</p>
Future learning Consider the conceptual knowledge within a subject that pupils need for future learning not just the recall of facts but the importance of concepts	<p>This unit gives prior knowledge to:</p> <p>Y5 – Design and make a moving vehicle using a battery</p> <p>Y6 – Design and make a fairground using electronic systems</p>
Resources	<ul style="list-style-type: none"> ▪ a collection of books which have pop-up and moving parts ▪ other products which include linkages <i>eg toys, squeezey kitchen mops</i> ▪ examples of pop-up and moving mechanisms made beforehand ▪ squared paper, coloured paper and card, paper fasteners or binders, paper straws ▪ PVA glue, glue sticks, masking tape ▪ thick corrugated card and drawing pins for modelling ideas ▪ scissors, craft knives, cutting mats, safety rulers, hole punch, wavy line cutters, perforation cutters
Vocabulary/ Glossary	<p><u>General</u>: Design, evaluate, refine, explore, improvement, tools equipment</p> <p><u>Designing</u> eg model, plan, fit for the purpose, product</p> <p><u>Making</u> eg fold, adhesive, scoring, cutting, joining, temporary fixing, permanent fixing</p> <p>cutting, shaping, joining, finishing,</p> <p><u>Knowledge and understanding</u> eg linkage, lever, pivot, flexible, shape, joint, hinge, area, surface, covers</p> <p><u>Types of movement</u> eg rotary, linear mechanism, slider, wheels, pop-up</p>
Knowledge	<p>The knowledge that children will learn and remember:</p> <ul style="list-style-type: none"> • know how lever and linkages systems work and explain how they function • Understand the difference between different mechanisms: <i>a box fold, mouth fold, slider, lift up flap, rotator and paper spring in an existing product.</i> • understand how to use to use appropriate technical vocabulary to describe materials and mechanisms • know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques • know how to join and combine materials and components accurately in temporary and permanent ways • understand how simple mechanisms can be used to produce different types of movement • know how to develop and communicate aspects of their design • understand the importance of planning as a process and discuss this • know how to use materials, equipment and processes to arrive at an end product • know how to identify aspects of their design that they could have improved upon <p>demonstrate an understanding of the process of evaluation</p>
SEND expectations	<ol style="list-style-type: none"> 1. Explore an existing product. 2. Draw a simple design. 3. <i>Make a story book with a box, mouth, slider and paper spring.</i> 4. <i>Evaluate</i> what they did well on their product. 5.

DT Scheme of Work

<p>Questioning</p> <p>Questions you can pose to deepen, consolidate and challenge pupil's understanding</p>	<ol style="list-style-type: none"> 1. <i>Who is your book for? (audience)</i> 2. <i>What is the purpose of your book? (persuade, inform, entertain)</i> 3. <i>What is your book about? (theme/ topic area)</i> 4. <i>How will illustrations and text be used to (persuade/ inform/entertain) your reader?</i> 5. <i>Which parts of your book will move? Why have you chosen these?</i> 6. <i>Which mechanisms (box fold, mouth, slider, lift up flap, rotator and the paper spring) will you use?.</i> 7. <i>Which mechanisms will you choose to create your moving parts?</i> 8. <i>Does your product do what you intended it to do? (fulfil its purpose)</i>
<p>Suggested activities</p>	<p>Provide a collection of products <i>eg books and greetings cards with pop-up and moving parts</i> for children to investigate. Discuss the designs with the children. <i>Why do you like/dislike them? What is moving? In what way does it move? Why are moving parts used? How are the mechanisms made? How do they work? How many different parts does it have? What movement is produced? Why has that mechanism been used? How are the moving parts joined together?</i></p> <p>Discuss the processes used to decorate the cover and pages of the books, identifying the simplicity or complexity of the designs.</p> <p>Discuss the wording, layout and style of the text used on the cover and throughout the books.</p> <p>Using prepared examples, explain to the children how different types of pop-up, moving and linkage-type mechanisms can be created.</p> <p>Demonstrate and allow the children to try out different fonts, some simple graphics and/or collage ideas which might be suitable for decorating the cover and pages of their books.</p> <p>Demonstrate skills <i>eg accurately measuring, marking out, cutting, folding, scoring, using a hole punch, using paper clips, using glue and tape.</i></p> <p>Children could model different types of pop-up mechanisms using paper, masking tape and glue.</p> <p>Children could model different types of moving and linkage-type mechanisms using strips of card, pieces of corrugated card, paper fasteners and drawing pins or map pins.</p> <p>Explain to the children that their task is to design and make a storybook with moving parts. The pages of the book are to incorporate mechanisms <i>eg pop-up, sliding parts and linkages.</i></p> <p>Ask the children to think carefully about the type of book they might make. <i>Who will use it? What will be the storyline? Why will moving parts be useful in the story? What type of mechanisms may be included?</i></p> <p>The children will need to decide how many pages their book will have, and how the pages and cover are to be assembled.</p> <p>The children should make an outline plan with drawing or writing to show who will do each task and the order in which they intend to make the book.</p>

DT Scheme of Work

	<p>Encourage the children to keep their designs as simple as possible but encourage a high-quality finish.</p> <p>Encourage them to model their ideas <i>eg making paper models of pop-up designs and card strips attached to corrugated card for linkage-type mechanisms.</i></p> <p>Evaluate the books in use, highlighting strengths and discussing improvements that could be made. Ask them to compare their products with commercially made ones.</p>
--	---