

Unit 4B Storybooks
Adapted from QCA Design and Technology Unit 4B

ABOUT THE UNIT

This unit develops the popular activity of making greetings cards and the moving picture made in key stage 1. Children research the content of the book and design and make a book that is finished to a high standard, with pages that incorporate moving parts, including linkages and levers.

Children gain an understanding of linkage-type mechanisms through investigating a range of products *eg books or greetings cards*. Through focused practical tasks, children develop further skills and understanding relating to the construction and assembly of a range of simple mechanisms that can be incorporated into a book with moving parts. The children develop their ability to work in groups as they make decisions about the book and share out tasks.

The context for the Designing and Making Assignment will be our history topic on Tudor life.

PRIOR LEARNING

It is helpful if the children have:

- learnt about hinges and sliders
- used different joining and cutting techniques with paper and card
- used basic cutting tools suitable for a variety of paper and card

This unit builds on Units 1A 'Moving pictures', 3A 'Packaging' and 3D 'Photograph frames'.

VOCABULARY

In this unit, children will use words and phrases relating to:

- designing *eg model, mock-up, plan, fit for the purpose*
- making *eg fold, adhesive, scoring, cutting, joining, temporary fixing, permanent fixing*
- knowledge and understanding *eg linkage, lever, pivot, flexible, shape, joint, hinge, area, surface, covers*
 - types of movement *eg rotary, linear*

RESOURCES

- a collection of books which have pop-up and moving parts
- other products which include linkages *eg toys, squeezey kitchen mops*
- 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
- computer and printer with graphics or word processing program

EXPECTATIONS

at the end of this unit

most children will:

be able to use ideas gained from investigating a variety of products and will have increased their repertoire of skills and techniques; have used tools safely to design and make pages, incorporating levers and linkages, for a book finished to a high standard; have developed skills in making a range of simple mechanisms; have been able to work as part of a group; have been able to evaluate, in use, both their own and others' products

some children will not have made so much progress and will:

have suggested a way of working and produced a page of a book incorporating one type of movement

some children will have progressed further and will:

have produced step-by-step plans for the production of their chosen designs; have combined several types of mechanisms within their book pages; have evaluated their ideas systematically and made on-going modifications; have created a product that functions well and is visually effective

LEARNING OBJECTIVES CHILDREN SHOULD LEARN	POSSIBLE TEACHING ACTIVITIES	LEARNING OUTCOMES CHILDREN	POINTS TO NOTE (cont.)
FOCUSED PRACTICAL TASKS (FPTs)			
<ul style="list-style-type: none"> • to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques • to join and combine materials and components accurately in temporary and permanent ways • how simple mechanisms can be used to produce different types of movement • how to use simple graphical communication techniques 	<ul style="list-style-type: none"> ∇ Using prepared examples, explain to the children how different types of pop-up, moving and linkage-type mechanisms can be created. <i>How linkages can magnify and reduce movement; how linkages can produce rotational movement.</i> ∇ 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. ∅ Demonstrate skills <i>eg accurately measuring, marking out, cutting, folding, scoring, using a hole punch, using paper clips, using paper fasteners, using glue and tape.</i> ∅ Children could model different types of pop-up mechanisms using paper, masking tape and glue. ∅ 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. 	<ul style="list-style-type: none"> • cut and shape materials and components with some precision, to enable their mechanism examples to work • produce a range of different mechanisms and develop an understanding of how they work • have knowledge of a range of fonts and graphic techniques, which are suitable for different purposes 	<p>Content</p> <ul style="list-style-type: none"> • Other items which incorporate linkages could be investigated <i>eg toys, squeezey-type kitchen mops.</i> • A chart may be useful for children to record the results of their investigations. • The different ways of making linkage-type mechanisms can be recorded on a worksheet. • The children should save their paper models for reference and for display purposes as an important aspect of designing. • Graphics and/or text from a computer program could be incorporated into the book designs. • Ensure that children know that their books should have a good-quality finish – and allow enough time to achieve this standard. • The books should be evaluated through use and therefore evaluation of the final product may be some time after the books have been finished. <p>Class management</p> <ul style="list-style-type: none"> • Introductions, IDEAs and FPTs can be carried out as whole class sessions or as group work. • Planning of the books should be carried out as group work (between four and six children) as the children have to make decisions collectively. The making stage can be carried out individually. A ‘storyboard’ might be a useful planning tool. For slower workers, ready-made pictures cut from magazines can be used. Also the use of a photocopier to produce repeat backgrounds can save time.
<p>∇ essential activities ∅ optional activities ⊕ assignment stages (all are essential)</p>			

LEARNING OBJECTIVES CHILDREN SHOULD LEARN	POSSIBLE TEACHING ACTIVITIES	LEARNING OUTCOMES CHILDREN	POINTS TO NOTE (cont.)
<p>DESIGN AND MAKE ASSIGNMENT (DMA)</p> <p>Design and make a storybook that has moving parts for a particular purpose</p>			
<ul style="list-style-type: none"> • to explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways • to develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail • to evaluate their design ideas as these develop, indicating ways of improving their ideas and to evaluate the book against the original design criteria 	<ul style="list-style-type: none"> ⊕ Explain to the children that their task is to design and make a storybook about Tudor life with moving parts. The book will include pages about aspects of daily life in Tudor times and the execution of one of Henry VIII wives. The pages of the book are to incorporate mechanisms <i>eg pop-up, sliding parts and linkages</i>. Children will be shown how the pages and cover could be assembled. ⊕ Ask the children to think carefully about the book they will make. <i>Who will use it (children or adults)? Why will moving parts be useful in the story? What type of mechanisms may be included? How many pages might be included? How will the text be prepared? How will the text be added to the pages?</i> ⊕ 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. ⊕ Children design each page (producing an annotated drawing). ⊕ Children should model their ideas <i>eg making paper models of pop-up designs and card strips attached to corrugated card for linkage-type mechanisms.</i> ⊕ Evaluate the books in use, highlighting strengths and discussing improvements that could be made. Ask them to compare their products with commercially made ones. 	<ul style="list-style-type: none"> • apply what they have learnt through IDEAs/FPTs in their designing and making • identify the audience and purpose for their books • illustrate alternative ideas for their books using drawings and models, and make choices between them • produce an outline plan that identifies the main stages in making their books, and list the tools, materials and processes needed • identify what is and what is not working well in their books and what makes a quality finish 	<p>Encourage the children to keep their designs as simple as possible but encourage a high-quality finish.</p> <p>Health and safety When carrying out a risk assessment for this activity, teachers will need to consider the materials, tools and equipment being used.</p> <p>In addition, the following point should be noted:</p> <ul style="list-style-type: none"> • the children will not use sharp tools <i>eg craft knives</i> however they may ask an adult to use a craft knife to make cuts at their direction – the adult will expect to be told the position and length of the cut. <p>Out-of-school activities and homework Children could be encouraged to develop their making skills through making other moving books, pictures or cards. They might use time at home to work on illustrations or write parts of the text. Children could develop their understanding of mechanisms through drawing products found at home. Encourage children to go and look in their local card shop or book shop.</p>
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