

The King's Quest

Design a mechanical book to tell the story of his quest.

**DT Theme:
(Mechanism unit)**

Teaching focus:
Learning Lens: Mechanisms
Class: Year 6

Previous Knowledge

Pop-up books, levers, pulleys, joining materials

Project Hook or 'Wow' memory

Pop-up Channel/Best pop up books link/visual resources

Key skills

Design a pop-up book a variety of different mechanisms/structures. Use a design criteria.

Use layers and spacers to hide mechanical parts.

Name different mechanisms. Make mechanisms using slides, pivots and folds to aid movement.

Adapt, test and evaluate the final piece and suggest improvements.

Learning Steps

Key Knowledge

Design a pop-up book using a mixture of structures and mechanisms using a design criteria.

Using the video/photos plan a. Improve and edit design. Inputs – start the mechanism. Outputs – motion that happens as a result. Mechanisms control the movement. Design a front and back cover, use a number of pages and incorporate a range of mechanisms/structures.

Make a pop-up book which is neat and accurate.

Video to model task and support learning. Use paper, card and glue to make a book structure. Make mechanisms from a design brief. Use sliders, pivots and folds to produce movement

Use layers and spacers to cover the working mechanisms. Name each mechanism and how it works.

Video to model and support learning. Use layers and spacers in their design. Choose appropriate tools, techniques and materials. Use spacers and layers to cover working mechanisms. Accuracy and neatness of final product.

Create a high-quality product suitable for the target audience.

Complete surface decoration by adding pictures/captions. Know that quality products are neat, secure and accurate.

Evaluate a design plan and final product against success criteria based on peer assessment.

Use the design criteria to assess the different structures. Suggest points for improvement Record ideas. Share KS1.

Key vocabulary

Picture/caption	motion	gears
design criteria	reinforce	pulleys
Equipment	input/output	
mechanism	purpose	
cams	rigid	
Slides	pivots	
layers		

Final outcome

A pop up book with front/back cover, number of pages and mechanisms.

Modelling of each stage. Limit use of materials. Templates to support learning. Framework to support evaluation.

