Curriculum Intent:

To use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values and to be able to evaluate past and present design technology, its uses and

Subject	Term	Unit
DT	Autumn	Mechanisms: Sliders and levers

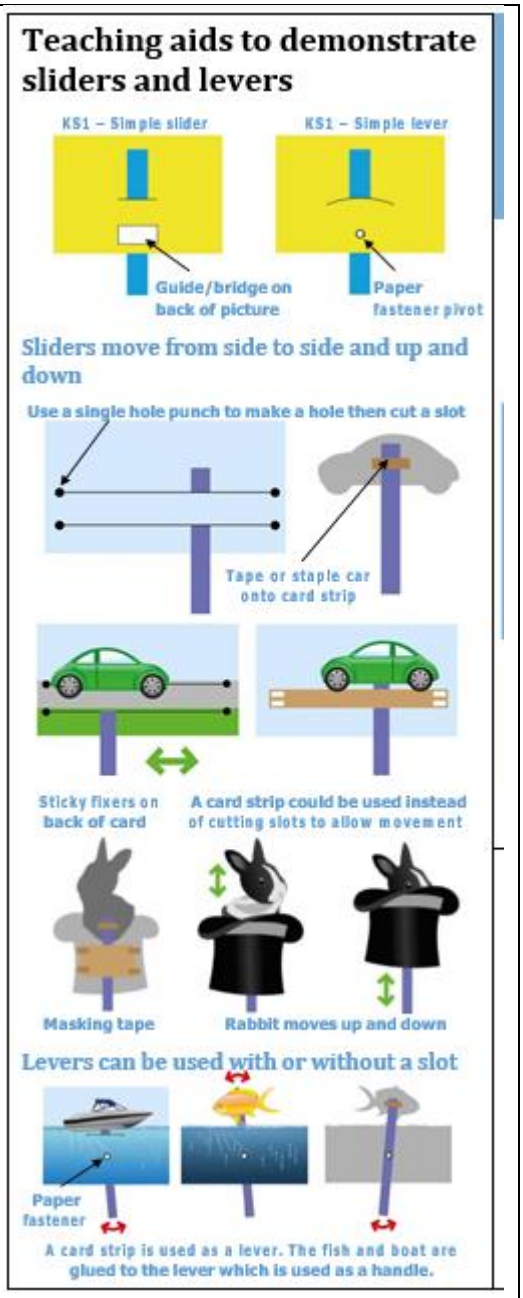
Prior knowledge Building on knowledge and skills	National Curriculum Focus
• Early experiences of working with paper and card to make simple flaps and hinges. • Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.	• Design purposeful, functional, appealing products for themselves and other users based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups • Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) • Select from and use a wide range of materials and components • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria • Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.

What?	Designing, making and evaluating a moving picture.
Why?	To begin to understand how sliding mechanisms can work to create movement.

Key vocabulary

mechanism	A device used to create movement in aproduct.	**lever**	A rigid bar which moves around a pivot. Levers are used in many everyday products. In this project children willuse card strips for levers and paper fasteners for pivots.
slider	A rigid bar which moves backwards and forwards along a straight line. Unlike a lever, a slider does not have apivot point.	**slot**	The hole through which a lever or slider is placed toenable part of a picture to move.
guide	A short card strip used to keep sliders inplace and control movement.		

Key learning		
Objective	**Learning**	
To explore and evaluate a range of existing products	• Children explore and evaluate a collection of books and everyday products that have moving parts, including those with levers and sliders. e.g. What is it? Who is it for? What is it for? • Use questions to develop children's understanding e.g. What do you think will move? How will you make it move? What part of the product moved and how did it move? How do you think the mechanism works? What else could move in the product? How well does it work? • Introduce and develop vocabulary e.g. lever, pivot,	

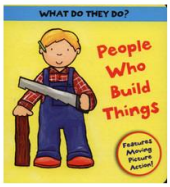
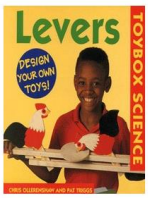
	slider, left, right, push, pull, up, down, forwards, backwards, in, out.	
To explore mechanisms and materials	• Demonstrate simple levers and sliders to the children using prepared teaching aids. It is helpful if these are also used in context e.g. the slider is used to show a snail appearing from behind a stone, the lever is used to show a butterfly flying to a flower. • Use questions to develop children's understanding e.g. How does the slider move? How does the lever move? Which part of the mechanism is the pivot? What does the movement of the slider and lever remind you of? • Following teacher demonstration of the correct use of tools and materials, children should develop their knowledge and skills by replicating the slider and lever teaching aids. Encourage children to add pictures to their mechanisms. • Understand that different mechanisms produce different types of movement.	
To design purposeful, functional, appealing products for themselves and other users based	• Discuss with the children what they will be designing, making and evaluating e.g. *Who will your product be for? What will be its purpose? How do you want it to move? Will you use a lever or a slider?*	

on a design criteria	• Generate simple design criteria with the children e.g. the mechanism should work smoothly, it should make the right type of movement. • Encourage the children to develop their ideas through talking, drawing and making mock-ups of their ideas with paper and card. • Discuss the finishing techniques the children might use e.g. using digital text and graphics, paint, felt tipped pens or collage.	
To select from and use a range of tools, equipment, materials and components to make a product	• Select and use tools, explaining their choices, to cut, shape and join paper and card. • Use simple finishing techniques suitable for the product they are creating.	
To evaluate their ideas and products against a design criteria	• Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.	

Websites

- Working with sliders and levers
- D&T Primary issue 17
- Sliders and levers – Oak academy
- Sliders and levers

Recommended Reads

 WHAT DO THEY DO? People Who Build Things Features Moving Picture Action!	 How Toys Work Levers	 Levers DESIGN YOUR OWN TOYS! TOYBOX SCIENCE