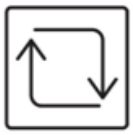
Design Technology Unit Plan – Year 1

Mechanisms- sliders and levers Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose)		
Links to previous learning	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	
Links to future learning	Making wheels and axels move in Y2, joining levers using linkages in Y4	
Be mindful of/ misconceptions		
Key vocabulary	**slider**- a rigid bar which moves backwards and forwards along a straight line **lever**- a rigid bar which moves around a pivot **pivot**- the central point that a mechanism turns around **slot**- the hole through which a lever or slider is placed to enable part of a picture to move	
Possible resources	books and everyday products with levers and slider mechanisms, card strips, card rectangles, paper, masking tape, paper fasteners, stick glue, PVA glue, finishing materials and media, scissors	
Key knowledge	Mechanisms can move objects up, down, forwards, backwards, left, right and round Sliders and levers are mechanisms Sliders move in a straight line Levers move around a pivot in a curve	
Investigate and evaluate  	<u>Key knowledge</u> Mechanisms can move objects up, down, forwards, backwards, left, right and round Sliders and levers are mechanisms <u>Retrieval activity</u> What could be used to stick two pieces of paper together? (glue, masking tape, cellotape, stapler, paper fasteners) <u>Main lesson</u> Share different moving parts books with the class. Introduce and develop new vocabulary **lever**, **slider**, **pivot** and **slot**. Discuss the direction of the levers and sliders (left, right, push, pull, up, down, forwards, backwards, in, out) Children explore and evaluate a collection of books and everyday products that have moving parts, including those with levers and sliders and pivots. 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?*	
<u>Teacher assessment</u>	**<u>Still need more depth of learning</u>**	**<u>Shows strong understanding</u>**
Technique practice 	<u>Key knowledge</u> Sliders move in a straight line Levers move around a pivot in a curve <u>Retrieval activity</u> Show children a book from last session or pictures of mechanisms. Can they name the moving mechanisms? (lever and sliders) Which direction do they move in? (Sliders move in a straight line and levers move in a curve) <u>Main lesson</u> Demonstrate simple levers, sliders and pivots to the children using WAGOLLs. 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, lever and pivot. Encourage children to add pictures to their mechanisms to put them into a context. Keep these for next session.	
Teacher assessment	**Still need more depth of learning**	**Shows strong understanding**
Design, make and evaluate 	Key knowledge Sliders move in a straight line Levers move around a pivot in a curve Retrieval activity Ask children to explain to a peer how their mechanisms from the last session work (using vocabulary of slider, lever, slot, pivot) Main lesson 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?* 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. As a whole class, talk about the order in which the mechanisms will be made. Children to make their mock up. Give children chance to evaluate, with either a peer or an adult, and decide what works and what they might need to alter to make their product work better using the design criteria. Children should have chance to re-create their mock up and then make their final design. Children to evaluate their final products against the design criteria.	
Teacher assessment	**Still need more depth of learning**	**Shows strong understanding**

Common strengths	Common weaknesses	Notes for subject leader	Pupils who still need more depth of learning	Shows strong understanding