






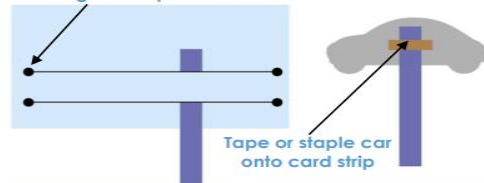
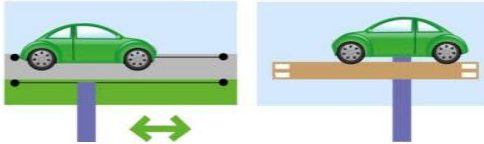

Springdale First School


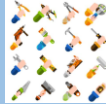
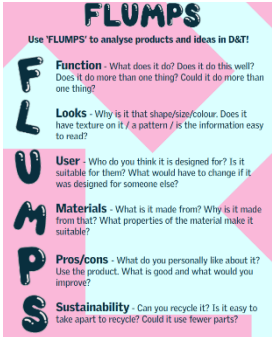



Year 1 Design and Technology Mechanisms – Levers and Sliders)

Imagine, Believe, Achieve

Children's prior learning in this area	Cultural Capital Opportunities	Key vocabulary and glossary
<p>★</p> <ul style="list-style-type: none">• Junk modelling.• Joining materials/techniques – sellotape/masking tape/hole punches/staples/squeezie scissors.• Structures – materials – purpose.• Design own product.• Group evaluation.• Sliders – moving cards in Reception.• Designing and inventing in History.	<p>★</p> <p>Learning about Robert Sayer, inventor of pop-up books.</p> 	<p>★</p> <ul style="list-style-type: none">• Mechanism – a device used to create movement in a product.• Lever – a rigid bar which moves around a pivot. Levers are used in many everyday products. In this project children will use 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 a pivot point.• Slot – the hole through which a lever or slider is placed to enable part of a picture to move.• Guide or bridge – a short card strip used to keep sliders in place and control movement. <p>Pivot - the central point, pin, or shaft on which a mechanism turns</p>

Enquiry Question – How do the parts of a book move?	Enquiry Question – How does a slider work?	Enquiry Question – How does a lever work?
<p>Concept – Enquire</p> 	<p>Concept – Design - Moving picture – slider focus.</p> 	<p>Concept Design– Moving picture – lever focus.</p> 
<p>Children will know that picture books move by pulling and pushing different parts.</p> <p><i>sticky knowledge</i></p> <p>All these objects have moving parts. Do you know what they are used for and how they work?</p>  <p>Look at different moving parts in everyday objects – use PP resources folder.</p> <p>Tell chn about Robert Sayer - Children will know that Robert Sayer was born in England in 1725 and died in 1794. He helped create moving picture books that were aimed at children.</p> <p>A Brief History of the Pop-Up Book (bookstellyouwhy.com)</p> <p>Practise – chn to explore different moving parts in pop up books.</p> <p>Look at moving parts in pop up books – How do these parts move?</p> <p>Focus on the pulling & pushing of lever/slider mechanism.</p> <p>Apply – in small groups/class create a mind map of the different ways they moved and the parts that are needed for this to happen.</p> <div data-bbox="107 1212 358 1460"> <p>Simple mechanisms move...</p> <ul style="list-style-type: none"> In a straight line In a straight line, backwards and forwards round and round In a curve </div> <div data-bbox="510 1220 716 1476"> <p>FLUMPS</p> <p>Use 'FLUMPS' to analyse products and ideas in D&T!</p> <p>F Function - What does it do? Does it do the job? Does it do more than one thing? Could it do more than one thing?</p> <p>L Looks - Why is it that shape/color? Does it look like one of its partners? Is the information easy to read?</p> <p>U User - Who do you think it is designed for? Is it suitable for them? What would have to change if it was designed for someone else?</p> <p>M Materials - What is it made from? Why is it made from that? What properties of the material make it suitable?</p> <p>P Pros/cons - What do you personally like about it? Use the present. What is good and what would you improve?</p> <p>S Sustainability - Can you recycle it? Is it easy to take apart to recycle? Could it use fewer parts?</p> </div>	<p>Children will know that a slider has a rigid bar which moves backwards and forwards/upwards and downwards along a straight line.</p> <p><i>sticky knowledge</i></p> <p>Show children different sliders in action/everyday life – vents, windows, guillotine, pop-up books etc. (use resources folder)</p> <p>Practise - Investigate how the mechanism works – what components are needed?</p> <p>Apply - Children will draw and label a slider using key vocabulary: slider, slot, pull.</p> <p>Sticky may have a picture ready for some to label & annotate.</p> <p>Deepen – Chn can annotate their slider with the use of specific component and why it is used.</p> <div data-bbox="772 989 1310 1460"> <p>Sliders move from side to side and up and down</p> <p>Use a single hole punch to make a hole then cut a slot</p>  <p>Tape or staple car onto card strip</p>  <p>Sticky fixers on back of card</p> <p>A card strip could be used instead of cutting slots to allow movement</p> </div>	<p>Children will know that a lever is a rigid bar which moves around a pivot. Levers are used in many everyday products. Unlike a slider, a lever has a pivot point.</p> <p><i>sticky knowledge</i></p> <p>Show children different levers in action/everyday life – use pop up books, pliers, scissors, hammer.</p> <p>Investigate how the mechanism works – what components are needed?</p> <p>Practise - Investigate how the mechanism works – what components are needed?</p> <p>Apply - Children will draw and label a lever using key vocabulary: lever, pivot, input, output.</p> <p>You may have a picture ready for some to label & annotate.</p> <p>Deepen – Chn can annotate their slider noting the pros and cons of different slots (length – reasons for choosing different lengths).</p> <div data-bbox="1444 1037 2049 1356"> <p>Levers can be used with or without a slot</p>  <p>Paper fastener</p> <p>A card strip is used as a lever. The fish and boat are glued to the lever which is used as a handle.</p> </div>

Enquiry Question – Who would this product be for?	Enquiry Question – Was the product fit for purpose?
<p>Concept – Design</p> 	<p>Concept – Make</p> 
<p>Children will make a product for a specific user following design criteria.</p> <p>R & R - joining techniques – what can the children remember – glue/tape/flange...</p> <p>Design criteria – as a class create a design criteria for a moving picture – what components, tools, materials will you need?</p> <p>Practise – Model designing a moving picture including a slider & lever – make mistakes.</p> <p>Apply - Children to design their moving picture using design criteria & label the components.</p> <p>Deepen – Annotate their designs with reasons and choices.</p> 	<p>Children will follow steps to make their product.</p> <p>Children to follow the steps and their design to make their product.</p> <p>Discuss choices using technical vocabulary:</p> <p>Mechanism – a device used to create movement in a product.</p> <ul style="list-style-type: none"> • Lever – a rigid bar which moves around a pivot. Levers are used in many everyday products. In this project children will use 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 a pivot point. • Slot – the hole through which a lever or slider is placed to enable part of a picture to move. • Guide or bridge – a short card strip used to keep sliders in place and control movement. <p>Pivot - the central point, pin, or shaft on which a mechanism turn.</p> <p>Take pictures and record journey – children can look at this when evaluating.</p> <p>Apply – children to follow their design & the class design criteria to make their product.</p>
<p>Concept – Evaluate</p> 	<p>Children will evaluate their ideas against design criteria.</p> <p>R&R – Give me 5! Tell me five things you know about freestanding structures.</p> <p>Talk about whether their moving picture was fit for purpose.</p> <p>Use evaluation against design criteria – model this with a product.</p> <p>Practise – test out product – is it fit for purpose? How do you know?</p> <p>Apply – Evaluate product against design criteria – look at a checklist together then children can fill it out according to their product.</p> <p>Talk about what went well and what might be improved.</p> <p>Deepen – Explain what went well and why and then what might be improved and why.</p> 