



## St Mark's CE Primary School - Design and Technology- 2024-25

| Year Group  | 1 | Term | Spring  | Question | Design, make and evaluate a <b>moving picture</b> (product) for <b>the children in Reception</b> (user) to <b>show them what we have been learning</b> (purpose). |
|---|---|------|---|----------|---|
| Overview of Unit  |   |      |   |          |   |
| <p><i>What is the main purpose of the unit? What will children know and be able to do by the end of it? What relevant learning came before it? How does it prepare children for future learning?</i></p> <p>Children should follow the <i>Design, Make, Evaluate</i> process to produce a moving picture for the children in Reception. Children to explore a range of books and products with moving parts and develop an understanding of how mechanisms are used to make parts move. They will learn how to make simple sliders and levers to make different kinds of movements. Children will use their learning to generate their own ideas for a moving product for the intended user and purpose. They will draw on the relevant learning from Reception about how to use simple tools (scissors) and how to join materials together. This is the first unit on Mechanisms which will be developed in Year 3 when the children learn about Levers and Linkages and again in Year 6 when the children learn about pulley systems.</p> |   |      |   |          |   |
| Sticky Knowledge  |   |      | Skills  |          |   |
| By the end of this unit, children will know:  |   |      | The children will use and develop these skills during this unit:  |          |   |
| <p><i>This should be a bullet-point list of facts that children should be able to recall.</i></p> <ul style="list-style-type: none"> <li>Know that products have been designed and produced</li> <li>Know that products have mechanisms which make them work</li> <li>Know how to use sliders and levers to make parts move</li> <li>Know that different mechanisms produce different kinds of movement</li> <li>Know and use the technical vocabulary of <b>slider</b> and <b>lever</b></li> <li>Know that products need to be designed before they are made</li> <li>Know the materials, tools and equipment suitable for the task</li> <li>Know a range of finishing techniques suitable for the product</li> <li>Know that all new products are evaluated</li> </ul>  |   |      | <ul style="list-style-type: none"> <li>Explore existing products and talk about what it is and who it is for</li> <li>Explain how a product works and how it is used</li> <li>Begin to identify some of the materials used to make the product</li> <li>Talk about what they like or dislike about a product</li> <li>Measure, mark out, cut, score and assemble materials and components with more accuracy</li> <li>With support, join, assemble and combine materials and components</li> <li>Talk about the product they will be designing and making</li> <li>Choose suitable tools for making</li> <li>Choose suitable materials and components for their products based on suitability of their properties</li> <li>Begin to use simple finishing techniques</li> <li>Begin to talk about their design ideas and what they have made</li> <li>Begin to make simple judgements of how the product met their design criteria</li> <li>Begin to identify ways in which their product could be improved</li> </ul> |          |   |

| Lesson | Learning Objective  | Success Criteria   | Key Vocabulary   | Activity/Task   |
|--------|---|--|--|---|
|        | <p><i>What will the children learn? (not what they will do)</i></p> | <p><i>What will the children need to do in order to be successful, and to meet the LO? This might be a checklist, or a list of steps to follow. The list might include</i></p> | <p><i>Just the new vocab for this lesson, not the entire list for the unit</i></p> | <p><i>A brief summary. No adaptations need to be listed - the class teacher will do this part in their flipchart planning based on knowledge of the class.</i></p> <p><i>Just a brief guide, ensuring that the task enables the children to show the success criteria and meet the LO.</i></p> <p><i>If there are any useful links to useful resources, you can add those here too.</i></p> |



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|                  |  | <i>demonstrating one of the skills listed above.</i>   |  |   |
|------------------|--|--|--|---|
| <b>Lesson 1:</b> | To investigate a range of moving pictures. | <ul style="list-style-type: none"> <li>Explore a range of products which use simple mechanisms</li> <li>Understand what products are, who they are for and how they are used</li> <li>Explain how sliders and levers work</li> <li>Identify the materials used in the products</li> <li>Say what they like or dislike about the product</li> </ul> | Evaluate<br>User<br>Purpose<br>Product<br>Function<br>Materials<br>Lever<br>Pivot<br>Slider<br>Left, right<br>Push, pull<br>Up, down<br>Forwards, backwards<br>In, out | Children explore and evaluate a collection of books and everyday products that have moving parts, including those with sliders and levers. Encourage pupils to evaluate the product by asking questions <b>What is it? What is it for? How is it used? Who is it for? How does it work? What is it made from? What do you think about it?</b> Use questions to develop the children's understanding. <b>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?</b><br>Introduce and develop vocabulary e.g. lever, pivot, slider, left, right, push, pull, up, down, forwards, backwards, in, out.   |
| <b>Lesson 2:</b> | To learn how to make sliders and levers.   | <ul style="list-style-type: none"> <li>Explain how sliders and levers move</li> <li>Choose appropriate tools and materials to create models of levers and sliders</li> <li>Follow step-by-step instructions to make sliders and levers</li> </ul>  | Lever<br>Pivot<br>Slider<br>Left, right<br>Push, pull<br>Up, down<br>Straight, curve<br>Forwards, backwards<br>In, out   | Examples of simple sliders and levers should be prepared in advance to demonstrate to the children how they work and the different kinds of movement that each gives, e.g. a slider to show a snail appearing from behind a rock, a lever showing a butterfly flying to a flower.<br>Use questions to develop the children's understanding and encourage accurate use of technical vocabulary e.g. <b>How does the slider move? How does the lever move? Which part of the mechanism is the pivot? What does the movement of the lever and slider remind you of?</b><br>Model making the sliders and levers to the children, including the correct use of tools and equipment. This could be done in a step-by-step way and a flow chart or storyboard could be used to aid children. Following the demonstration, children should choose and use tools and materials to replicate the slider and lever examples. |
| <b>Lesson 3:</b> | To make a simple plan and design.          | <ul style="list-style-type: none"> <li>Talk about the products they could make</li> <li>Consider the purpose and intended user for the product</li> <li>Choose an appropriate mechanism</li> <li>Help to generate design criteria</li> <li>Communicate their ideas through discussion,</li> </ul>  | Slider<br>Lever<br>Pivot<br>Design<br>Intended user<br>Design criteria   | Discuss with the children what they will be designing, making and evaluating. Encourage them to develop ideas about their end product by asking questions, e.g. <b>Who is the product for? What is its purpose? What will move? How do you want it to move? Will you use a lever or slider?</b><br>Generate simple design criteria with pupils e.g. the mechanism should work smoothly, it should make the right kind of movement. Children could develop ideas through talking, drawing and making mock-ups of their ideas with paper and card.<br>Discuss the finishing techniques the children might use e.g. using digital text and graphics, paint, pen, pencils, collage etc.   |



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|                  |                           |   |   |  |
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|                  |                           | mock-ups and design plans   |   | Discuss the order in which the mechanisms will be made.<br>Pupils create a design plan for their intended product.   |
| <b>Lesson 4:</b> | To make a moving picture. | <ul style="list-style-type: none"> <li>Know the order of the steps to make the product</li> <li>Choose suitable materials and tools to complete the task</li> <li>Evaluate developing products and use problem solving skills when things go wrong</li> </ul>                       | Slider<br>Lever<br>Pivot<br>Design criteria<br>Evaluate<br>Problem solve<br><br>Finish/finishing<br>Appearance<br>Appealing | Give children the opportunity to revisit their design plans and recap the order in which the products will be made and the steps for making their mechanisms.<br>Let children collect the materials and tools required for their product.<br>Encourage the children to evaluate their developing products by referring to the design criteria e.g. <b>Does your lever move smoothly?</b> Encourage children to problem solve when things go wrong - <b>Why isn't it moving smoothly? What could you do to change that? Are you going to make any changes?</b><br><br>Discuss the finishing techniques the children might use e.g. using digital text and graphics, paint, felt tipped pens or collage. |
| <b>Lesson 5:</b> | To evaluate my product.   | <ul style="list-style-type: none"> <li>Talk about my product and how well it fits the intended purpose and user</li> <li>Make simple judgements about how well my product meets the design criteria</li> <li>Identify ways in which my product could be further improved</li> </ul> | Evaluate<br>Design criteria<br>User<br>Purpose<br>Function<br>Product<br>Ideas<br>Finish<br>Improve                         | Children engage in discussions about their own and other pupils' work. Develop evaluation through asking questions e.g. <b>Does the product suit the purpose? Does it suit the intended user? Does the mechanism work smoothly? Is it the right kind of movement? How well has the product been finished? Are the materials suitable for the product? How could the product be made more appealing?</b><br>Children to complete an evaluation for their own product.   |

Always plan in 6-week blocks. This will allow for settling in weeks, assessment weeks, Christmas/Easter/end of term events, etc.

Where we have a 4 week and an 8 week half term (such as in Spring) the units will still be taught as two six-week blocks.