



PAGE 1

Mechanisms: Sliders and Levers 'Can I Make a Lighthouse Keeper's Scene?'

Prior Learning (EYFS)

- 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.



1. Can I understand how sliders and levers work?

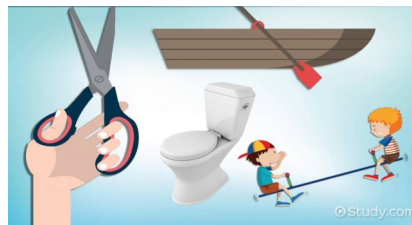
- **Vocab:** slider, lever, pivot, push, pull, up, down, forwards, backwards
- Know that a slider moves in a straight line (forwards, backwards, left, right).
- Know that a lever moves when it pivots at a fixed point (pivot), making something move up and down.
- Know that different mechanisms produce different types of movement.

Sliders:

(<https://www.bbc.co.uk/bitesize/articles/zj2dxg8>)



Levers:



Task: Provide example of items (e.g. books from Nursery with sliders, toys with levers) with moving parts and model how to explore them (identifying sliders moving in straight lines and levers pivoting at a fixed point), then demonstrate simple mechanisms (e.g. picture moving side to side or up and down); children explore and test a range of mechanisms, describing how they move (push, pull, up, down, forwards, backwards). In books, children write and draw examples of objects with sliders and levers.

Evaluating: Explore a range of existing books and everyday products that use simple sliders and levers.

Technical Knowledge:

- Explore and use sliders and levers.
- Understand that different mechanisms produce different types of movement.
- Know and use technical vocabulary relevant to the project.

2. Can I design a Lighthouse Keeper scene with a moving part?

- **Vocab:** design, ideas, user, purpose, slider, lever, movement
- Know that we can design a moving product for a user and purpose (e.g. a picture for a younger child to enjoy).
- Know that we must decide what part of our scene will move and how it will move.
- Know that we can choose between a slider or lever depending on the type of movement needed (straight or pivoting).
- Know that we can communicate our ideas through drawings and simple mock-ups.

Task: Discuss the Lighthouse Keeper context and show examples of possible moving elements (e.g. lighthouse beam moving side to side, boat moving across the water, character appearing or disappearing), then model how to choose a mechanism (slider for straight movement, lever for pivot movement) and create a labelled design; children draw their own Lighthouse Keeper scene, showing the background, moving part, type of mechanism (slider or lever) and direction of movement (push, pull, up, down, forwards, backwards).

Designing:

- Generate ideas based on simple design criteria and their own experiences, explaining what they could make.
- Develop, model and communicate their ideas through drawings and mock-ups with card and paper.



Knowledge and Skills Mind Map (DT) Year 2—Summer Term

Knowledge - 
Skill - 



PAGE 2

Mechanisms: *Sliders and Levers* 'Can I Make a Lighthouse Keeper's Scene?'



3. Can I make a moving mechanism using sliders and levers?

- **Vocab:** slot, bridge, guide, pivot, join, card, paper fastener
- Know that a slider is made by cutting a slot and moving a strip of card through it.
- Know that a lever is made using a pivot, such as a paper fastener, which allows movement up and down.
- Know that we can plan what to do next when making our mechanism.
- Know that we must use tools and materials safely when cutting and joining.
- **Task:** Model step-by-step how to make a slider (cutting a slot in card, inserting a strip and attaching a picture to move forwards and backwards) and a lever (joining two pieces of card with a paper fastener to create a pivot for up and down movement), then guide children to practise both mechanisms using card, paper fasteners, scissors and tape, testing how each movement works (push, pull, up, down) and deciding which works best for their design.

Making:

- Plan by suggesting what to do next.
- 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.

Technical Knowledge and Understanding:

- Explore and use sliders and levers.
- Understand that different mechanisms produce different types of movement.
- Know and use technical vocabulary relevant to the project.

4. Can I make and evaluate my Lighthouse Keeper scene? (over 2 sessions)

- **Vocab:** evaluate, design, improve, mechanism, movement, function
- Know that we can use our design to create a moving scene using a slider or lever.
- Know that our mechanism should move in the way we planned (e.g. sliding forwards/backwards or pivoting up/down).
- Know that we can evaluate our product by checking how well the mechanism works and if it meets our design.

- Know that we must use tools and materials safely when cutting, joining and assembling.

Task: Model how to assemble a moving Lighthouse Keeper scene (creating a background, adding a slider or lever mechanism, and attaching a moving picture such as a lighthouse beam, boat or character), then children make their own scene using card, paper fasteners, scissors and glue, before testing and evaluating how well their mechanism works (type of movement, smoothness and control) and suggesting improvements (e.g. widening the slot, strengthening joins, improving movement).

Making:

- Plan by suggesting what to do next.
- 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.

Evaluating:

- Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.

Technical Knowledge:

- Explore and use sliders and levers.
- Understand that different mechanisms produce different types of movement.
- Know and use technical vocabulary relevant to the project.