

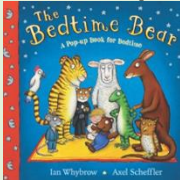
Design and Technology Medium Term Plan

Year 1 Autumn Term 2

How can we create a picture with moving parts?

Research

Explore a variety of pop up toys, stories, books with moving parts
e.g. 'Bedtime Bear' by Ian Whybrow



Research / practise

Practise skills using researched ideas
– making a simple mock up using pivot and/or slider

Design

Design an initial idea, which has at least one moving part

Make it

Begin to assemble, join and combine materials and components together

Make it

Use simple finishing techniques to improve the appearance

Evaluate

Evaluate the vehicle against the original design and explain how it can be made stronger, stiffer and more stable.

Substantive Knowledge

- Know that mechanisms are the parts that make something work.
- Most objects that help us in our lives are made up of different mechanisms.
- Sliders and Levers are mechanisms that make things move.
- Sliders help to move things from side to side and up and down.
- Know that a slot is a long, narrow cut in the material that enables something slide / move
- Levers use a pivot (a fixed point around which the lever can pivot) to make things move in arc / curve.
- Effective sliders and levers should move smoothly

| Disciplinary Knowledge | | |
|--|--|---|
| Designing | Making | Evaluating |
| <ul style="list-style-type: none"> Begin to research existing products before designing their own. When researching, find out how products work and which materials have been used. Design a product which moves. Explain to someone else how they want to make their product. Make a simple plan before making. Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups. | <ul style="list-style-type: none"> Begin to build structures, exploring how they can be made stronger, stiffer and more stable. Explore the use of different mechanisms (for example sliders, levers, pivots) in their products. With help, measure, mark out and cut a range of materials. Use tools safely (e.g. scissors and a hole punch). Begin to assemble, join and combine materials and components together using a variety of temporary methods. Begin to use simple finishing techniques to improve the appearance of their products. | <ul style="list-style-type: none"> Explain what works well and not so well in the model they have made. Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make. |
| | | Technical Knowledge <ul style="list-style-type: none"> Make their own model stronger. Make a product that has at least one moving part e.g. lever, slider, pivot |

| Need to know knowledge: | Vocabulary: (including definitions) | |
|--|--|--|
| <ul style="list-style-type: none"> Mechanisms are the parts that make something work. | Mechanism | A device used to create movement in a product |

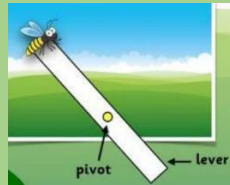
- Sliders and are mechanisms that make things move side to side / up and down
- Levers are mechanisms that move in a circle on a pivot
- That a finishing technique improves the appearance of the picture

Useful teaching website / website to share parts with children:

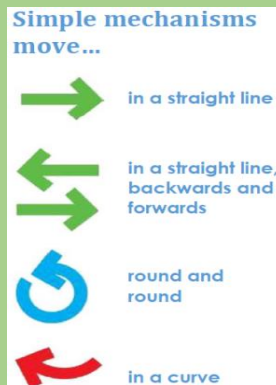
https://www.youtube.com/watch?v=iA_AtIFKUnE



A Slot with slider



A lever on a pivot



Prior Knowledge:

Reception

Communication and Language - Speaking

- Offer explanations for why things may happen, making use of recently introduced vocabulary

Physical Development – Fine Motor Skills

| | |
|---------------|---|
| Rigid | Something that is strong and will not bend |
| Slider | A rigid bar that moves backwards and forwards |
| Slot | A wide thin line that allows a slider to move |
| Lever | A fixed bar that is used to create a movement that is curved. |
| Pivot | A fixed part that holds a lever in place as it turns (Split pin) |

- Use a range of tools, including scissors
- Begin to show accuracy and care when drawing

Expressive Arts and Design – Creating with Materials

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function
- Share their creations, explaining the process they have used