Enriching lives every day; enabling our school community to learn, achieve and flourish through living 'life in all its fullness'

Sustainability

Subject: DT

Year group: 3

Term: Autumn

Unit name: Mechanical Systems – Levers and Linkages

Prior Knowledge -

- Children can design a product with a slider or lever and can explain the user and purpose. For example: a Christmas card with a moving character
- Children can draw an annotated sketch of their slider or lever product and can label it with materials and key parts (slider/lever, slit, split pin)
- Children can select from PVA glue, glue sticks and scissors to cut and join materials (card and paper).
- Children can name a variety of real-life items that use sliders and levers such as books, games (hungry hippos), seesaws at a park, brakes on a bike etc and can explain how the slider or lever creates movement.
- They understand the difference between sliders and levers.

Key Vocabulary

Mechanism, lever, linkage, slot, guide, bridge, loose pivot, fixed pivot, input, output, oscillating, reciprocating, prototype, evaluation

Assessment for learning

Recapping prior knowledge- beginning of unit- what do children already know?
Beginning of each lesson- focus on recall of previous learning (quick quizzes)

National curriculum:

- To use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- To investigate and analyse a range of existing products
- To generate, develop, model and communicate their ideas through discussion, annotated sketches and prototypes
- To select from and use a wider range of tools and equipment to perform practical tasks accurately
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Design Process

Investigative and Evaluative Activities (IEAs)

Focused Tasks (FTs)

Design, Make and Evaluate Assignment (DMEA)

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Key Learning (what pupils MUST know and remember)	Possible Outcomes
To explore and name real items that use levers or linkages (windshield wiper, the bicycle suspension and hydraulic actuators for heavy equipment). To design and draw an annotated sketch of a mechanical system using more than one lever or linkage that is appealing and can explain the user and purpose. (For example: a book with labels and materials identified To make a prototype of levers and linkages using paper/card and can identify the input, output, fixed and moving parts. To select from PVA glue, glue sticks, paper clips, split pins and scissors to cut and join materials (card and cardboard). To evaluate if their moving product is appealing and suitable for the intended user and purpose. They can listen to other' views and can offer a way to improve their product.	• story book • poster • class display • greetings card • information book • storyboard