



## Year 3/4 DT Knowledge Organiser: Mechanisms (levers and linkages)

### Subject Specific Skills

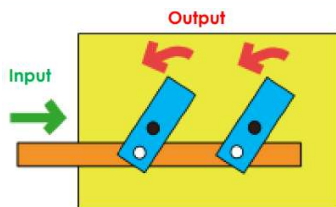
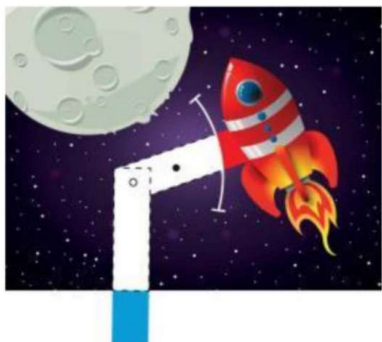
- to demonstrate a range of lever and linkage mechanisms to the children using prepared teaching aids
- to use questions to develop children's understanding
- to demonstrate the correct and accurate use of measuring, marking out, cutting, joining and finishing skills and techniques
- to develop a design brief with the children within a context which is authentic and meaningful

### Prior Learning

- Explored and used mechanisms such as flaps, sliders and levers.
- Gained experience of basic cutting, joining and finishing techniques with paper and card.

### Technical Knowledge:

- Understand and use lever and linkage mechanisms.
- Distinguish between fixed and loose pivots.
- Know and use technical vocabulary relevant to the project.



When you push the card strip (input movement), the two levers move (output movement).

### Design:

- Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.
- Use annotated sketches and prototypes to develop, model and communicate ideas.

### Make:

- Order the main stages of making.
- Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.
- Select from and use finishing techniques suitable for the product they are creating.

### Evaluate:

- Investigate and analyse books and, where available, other products with lever and linkage mechanisms.
- Evaluate their own products and ideas against criteria and user needs, as they design and make.

### Key Vocabulary

**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.

**Linkage** - the card strips joining one or more levers to produce the type of movement required. The term 'linkage' is also used to describe the lever and linkage mechanism as a whole.

**Slot** - the hole through which a lever is placed to enable part of a picture to move.

**Guide or bridge** - a short card strip used to keep lever and linkage mechanisms in place and control movement.

**Loose pivot** - a paper fastener that joins card strips together.

**Fixed pivot** - a paper fastener that joins card strips to the backing card.

**System** - a set of related parts or components used to create an outcome. Systems have an input, process and an output.