



St Andrew's C of E Maghull Knowledge Organiser Year 4 – Autumn 2



Design Technology – Mechanisms, Linkages and Levers

Knowledge:

A mechanism is a device used to create movement in a product

A lever is a rigid bar which moves around a pivot
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.

Loose pivot – a paper fastener that joins card strips together.

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

A system is a set of related parts or components used to create an outcome.

Systems have an input, process and an output

Skills:

Explain how particular parts of their products work

Make design decisions that take account of the availability of resources

Generate realistic ideas, focusing on the needs of the user

Select materials and components suitable for the task

Explain their choice of tools and equipment in relation to the skills and techniques they will be using

Follow procedures for safety

Use a wider range of materials and components including mechanical components

Vocabulary:

mechanism - a system of parts working together

lever - a projecting arm or handle that is moved to operate a mechanism.

linkage - a system of links.

pivot - the central point, pin, or shaft on which a mechanism turns or oscillates.

slot - slit in a machine for something to be inserted

input - the action of putting something in.

process - a series of actions or steps taken to achieve a particular end.

output - the action of taking something out.

Linear - arranged in or extending along a straight or nearly straight line.

Rotary - revolving around a centre or axis; rotational.

Oscillating - move or swing back and forth in a regular rhythm.

Purpose – reason for making

Function – how it works

Prototype - a first or preliminary version of a device from which other forms are developed.

design criteria – design standard by which something may be judged or decided.

Innovative - introducing new ideas; original and creative in thinking.

Appealing - attractive or interesting.

design brief - a set of instructions given to a person about a job or task.

Lesson Sequence:

Lesson 1 – I can evaluate existing products.

Lesson 2 – I can establish the design criteria.

Lesson 3 – I can generate ideas.

Lesson 4 – I can plan the making stage.

Lesson 5 – I can make a healthy snack.

Lesson 6 – I can evaluate my end product against the design criteria.