Key Knowledge - Mechanisms and Motion

## Mechanisms

Mechanisms are all around us! They are the parts that make something work. Most objects that help us in our lives are made up of mechanisms.

## Motion

Mechanisms produce motions. There are four basic types of motion:

- Linear - movement in a straight line in one direction like a train on a track.

- Reciprocating - movement in a straight-line back and forth like a paper cutter (guillotine).
- Rotary - movement in a circular motion like clock hands.

- Oscillating - movement along a part of a circle like a clock pendulum.


## Key Knowledge - Levers, Linkages and Pivots

## Levers

Levers are mechanims that help things move. A seesaw is an example of a lever mechanism. Seesaws are a narrow board supported by a fulcrum in the middle. As one end goes up, the other goes down.


## Pivots (fulcrum)

A pivot is a central point from where something can turn. It is very important as it allows the seesaw to move. They use a fulcrum to make the seesaw pivot and move.

## Linkages

Linkages use levers and pivots to create motion. Below are examples of linkages that you will explore.

| Vocabulary |  |
| :--- | :--- |
| Linkage | A linkage is a system of levers <br> that are connected by pivots. |
| Lever | A lever is something that turns <br> on a pivot. |
| Pivot | Central point from where <br> something can turn |
| Mulcrum | A pivot point around which a <br> lever rotates. |
| Mechanism | Movement or change in <br> position. There are 4 basic <br> types of motion. |
| Mechanical | Mechanisms are a collection of <br> moving parts that work <br> together in a machine. |
| Non-mechanical | Items that have moving parts <br> are mechanical like toy cars and <br> hole punchers. |
| Items that don't have moving <br> parts are non-mechanical like <br> teddy bears. |  |
| Template | A model that you can copy or <br> will give you ideas. |
| Diagram | A simplified drawing showing <br> the appearance, structure, or <br> how something words. |

