

Year 3 / 4	Types of mechanical systems
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Key Vocabulary		Types of Motion in Mechanical Systems	
mechanism/ mechanical systems	Something that uses related components which act together to create a movement.	rotary motion	Turning round in a circle, e.g. a wheel.
motion	Movement from one place to another.	linear motion	Moving in a straight line, e.g. paper trimmer.
pivot	To turn on a central point.	reciprocating motion	Moving forwards and backwards in a straight line, e.g. cutting with a saw.
		oscillating motion	Swinging from side to side in an arc, e.g. a pendulum in a clock.

The Design Process					
Design Brief	Design Criteria	Generating Ideas	Prototype	Make the Product	Evaluation
<p>A planning document that explains what the project is, how it will be achieved and the time frame that it needs to be made in.</p>	<p>Tells you what a product must do to be successful.</p>	<p>Exploring different products and thinking about how they could be adapted. Creating an annotated sketch of your idea.</p>	<p>The first example of what the real thing will look like. It is used for testing, development and evaluation.</p>	<p>Using the annotated sketches and prototypes to help create your product.</p>	<p>Checking that the product meets the design criteria and has achieved its purpose.</p>

DT Knowledge Organiser

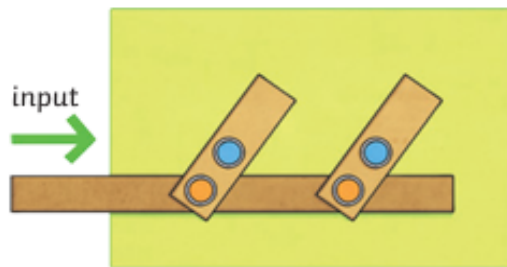
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Types of mechanical systems

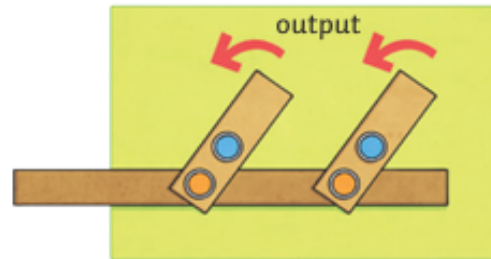
Exploring Mechanical Systems

Many **mechanisms** take one type of **input motion**, and **output** it as a different type of **motion**.
In lever and linkage **mechanisms**:

Input - The movement of the main lever by the user.

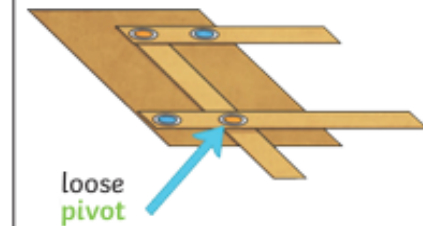


Output - The movement that is made by the smaller levers.



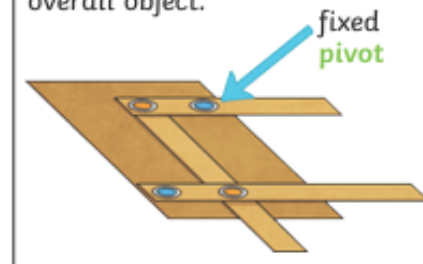
Loose Pivot

Joins the levers together.



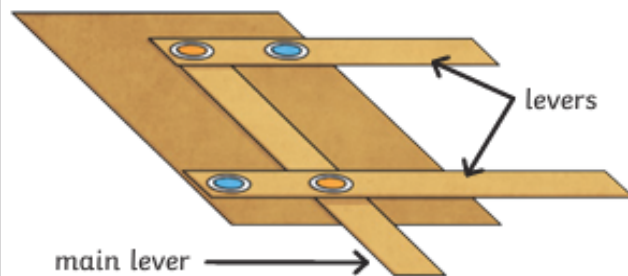
Fixed Pivot

Joins the levers to the overall object.



Lever

The simplest type of **mechanism**. A lever is a stiff bar which moves around a **pivot**.



Linkage

The part of the **mechanism** used to join one or more levers to produce the type of movement required.

