

All children – regardless of gender, starting point or background – will have the opportunity to engage with a high-quality design technology education. They will be equipped with the knowledge, skills and vocabulary to use creativity and imagination to design and make products that solve real and relevant problems in a variety of contexts. We intend to inspire a sense of enjoyment and curiosity about design technology.

## Mechanisms - Wheels & Axles

Spring 1

### Igniting Prior Knowledge:

Year 2 (Mechanisms - Sliders, Leavers & Pulleys)

- A mechanism is a device used to create movement in a product.
- A slider is a rigid bar that moves backwards and forwards along a straight line.
- A lever is a rigid bar that moves around a pivot.
- A slot is the hole which a lever or slide is placed to enable part of the picture to move.
- A pivot is the point at which the mechanism turns.
- A pulley is a simple machine used to change the direction of an applied force.
- Sliders and levers are types of mechanisms.
- Different mechanisms produce different types of movement.
- Technology can be used to construct and operate different mechanisms

### Key Vocabulary:

- levers,
- mechanical system
- struts,
- linkage,
- movement,
- frame,
- pneumatic,
- assemble,
- tools,
- inputs,
- outputs,
- axle,
- chassis,
- rod

### New Knowledge:

- A mechanical system contains components which act together to create a motion.
- The wheels on e.g. a car move at the same time and speed because each pair of wheels is attached to a pole called an axle.
- An axle is a rod that enables a wheel to rotate.
- A chassis is the frame upon which the rest of the vehicle is built.
- An axle needs to be attached to the chassis (said 'shah-see').
- There are fixed and freely moving axles.
- Mechanical systems use levers and linkages to move.
- Many mechanisms take one type of input motion, and output it as a different type of motion.
- Since electronics and mechanical systems were first developed, the speed at which new materials, techniques and processes have been developed has been rapid and revolutionary. Scientists, designers and engineers have worked to invent and improve systems that impact lives.



Technological Innovation

