

# Max's Mechanical Marvels: Levers and Pulleys

Master the Mechanics: Use your brain to make the heavy work light!

- A lever is a simple machine made of a rigid bar that turns on a fixed point called a fulcrum.
- The 'load' is the heavy object you want to move, while the 'effort' is the force you apply to the lever.
- Moving the fulcrum closer to the load makes it easier to lift heavy items, though you must push the bar further.
- A pulley uses a wheel and a rope to change the direction of your pull, making it easier to lift objects vertically.
- Combining multiple pulleys creates a 'block and tackle' system, which provides a greater mechanical advantage for extremely heavy loads.

*Did you know? Did you know? In the ancient world, engineers used complex systems of multiple pulleys to move massive stone blocks for building temples. By using several pulleys together, they could lift weights that would be impossible for even one hundred elephants to move alone!*

**Key vocabulary:** Fulcrum · Load · Effort · Pivot · Mechanical advantage · Fixed pulley · Rigid bar