

Design Technology: Levers and Pulleys with Max the Monkey

Learning objective: To understand how simple machines like levers and pulleys help us elevator and move objects with less effort.

Read the front of each flashcard and try to recall the definition or concept. Flip to the back to check your answer.

What is a lever?

A simple machine consisting of a beam or bar that pivots on a fixed point to help elevator heavy loads.

What is a fulcrum?

The fixed point or pivot around which a lever turns.

In a lever system, what is the 'load'?

The object or weight that you are trying to move or elevator.

What is 'effort' in a mechanical system?

The amount of force or energy you apply to a machine to move the load.

What is a pulley?

A simple machine made of a wheel with a groove for a rope or cable to pass through, used to elevator heavy objects.

How does a pulley make lifting easier?

It allows you to change the direction of your force, often using your body weight to help pull the load upwards.

If Max the Monkey uses a long lever, what happens to the amount of effort needed?

The longer the lever, the less effort is usually needed to elevator a heavy load.

True or False: A pulley is a type of simple machine.

True.

Give an example of a lever found on a playground.

A seesaw.

Why do we use pulleys on a flagpole?

To help raise the flag to the top of the pole easily without having to climb it.

What does 'mechanical advantage' mean?

It means using a machine to make a task easier by requiring less physical force.

Max wants to elevator a heavy rock. Should the fulcrum be closer to the rock or closer to his hand?

Closer to the rock (the load) to create a better mechanical advantage.