

Simple Machines

Chapter 4: Simple Machines · Topic 1

Key Concept

A lever, like a see-saw, uses a pivot point to help lift heavy objects with less force.

A pulley uses a wheel and rope to change the direction of force, making lifting objects easier, like in a well or crane.

An inclined plane, like a ramp, reduces the force needed to move objects to a higher level by spreading the work over a longer distance.

These simple machines have been used since ancient times and remain fundamental to more complex machines today.

Quick Revision Notes

- A lever uses a pivot point to lift objects.
- A see-saw is an example of a lever.
- A pulley changes the direction of force.
- Pulleys help lift objects, like in wells or cranes.
- An inclined plane reduces the force needed.
- A ramp is an example of an inclined plane.
- These machines have ancient origins.
- They remain fundamental to complex machines today.

Practice Questions

- 1 Find an example of a lever at home.
- 2 Discuss how a pulley works.
- 3 Find an inclined plane, like a ramp.
- 4 Draw a simple machine and label its parts.
- 5 Explain why ramps make lifting easier.
- 6 Research another type of simple machine, like a wedge.