

Energy

Chapter 3: Energy · Topic 1

Key Concept

Kinetic energy is the energy of motion, like a moving car or a rolling ball, increasing with speed and mass.

Potential energy is stored energy due to position or condition, like a book on a shelf (gravitational) or a stretched rubber band (elastic).

Energy can be transformed from one form to another, like potential energy converting to kinetic energy when an object falls.

The law of conservation of energy states that energy cannot be created or destroyed, only transformed from one form to another.

Quick Revision Notes

- Energy is the ability to do work.
- Kinetic energy is the energy of motion.
- It increases with speed and mass.
- Potential energy is stored energy.
- Examples: a book on a shelf, a stretched rubber band.
- Energy transforms between forms.
- Falling objects convert potential to kinetic energy.
- Energy conservation law: energy is never created or destroyed.

Practice Questions

- 1 Give an example of kinetic energy and potential energy.
- 2 Discuss how energy transforms when a ball falls.
- 3 Explain the law of conservation of energy.
- 4 Research another form of energy, like chemical energy.
- 5 Discuss an everyday example of energy transformation.
- 6 Explain why moving objects have kinetic energy.