

Energy

2. Energy transfers

CONCEPT 3

GRAVITATIONAL POTENTIAL AND KINETIC ENERGY STORES

NOTES

If an object is off the ground, it will have a **gravitation potential store** of energy.

If an object is moving, it will have a **kinetic store** of energy.

You can explain the movement of a falling tennis ball in terms of energy transfers. When it is held in the air the energy will start in the gravitational store of energy. As it begins to fall some of this energy will be transferred to the kinetic store of energy via the mechanical pathway. Just before the ball hits the ground, the energy will have all been transferred to the kinetic store. The tennis ball will have reached its maximum speed.

Bouncing objects can be described using energy stores and transfers. Continuing with the example above, when the ball reaches the floor, energy will be transferred to the elastic store (some will be dissipated into the thermal store via the heating pathway). When the ball begins to move upwards, energy will be transferred into the kinetic store via the mechanical pathway and then into the gravitational store when the ball has reached its maximum height.