

# Energy

## 2. Energy transfers

### CONCEPT 3

### TEST YOURSELF

## GRAVITATIONAL POTENTIAL AND KINETIC ENERGY STORES

### KNOW

- Q1 What is gravitational potential energy?
- Q2 What two things affect how much kinetic energy an object has?
- Q3 Draw a simple energy transfer diagram for someone walking up stairs to the first floor of a building

### APPLY

- Q4 A tennis ball is dropped from the following heights:
- (i) 10 mm                      (ii) 10 cm                      (iii) 10 m
- (a) Draw a simple energy transfer diagram for each showing the size of the stores and transfers.
- (b) Which fall will transfer the most energy?

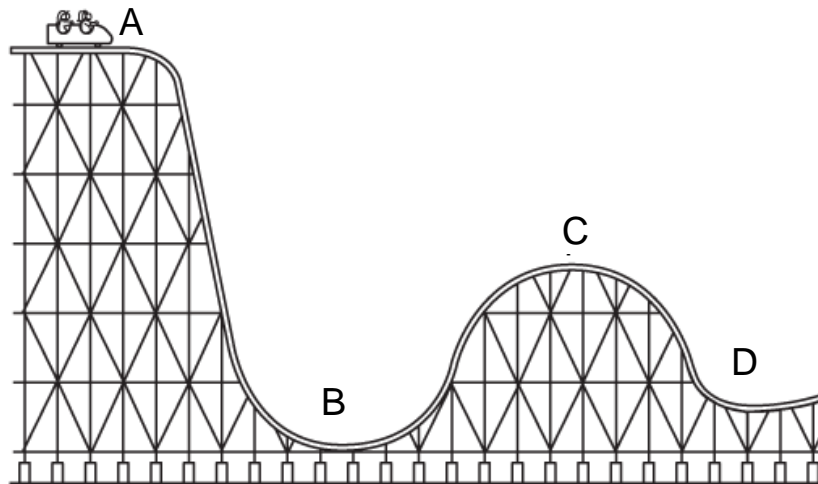
- Q5 Look at the table which shows the gravitational field strength on three different planets.

If a tennis ball was dropped from the same height, on which planet will it reach the highest speed?

Solar System Body	Gravitational field strength (N/kg)
Mars	3.8
Venus	9
Saturn	11

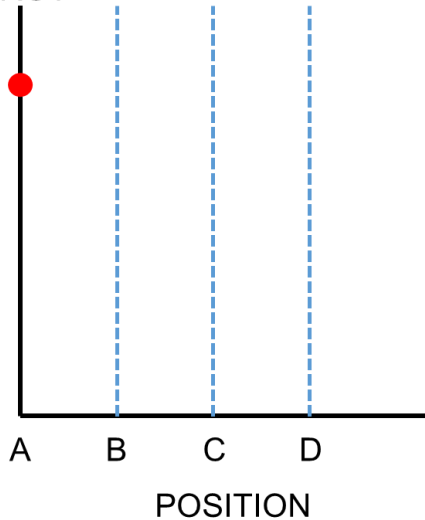
## EXTEND

Q6 Look at the diagram which represents a simple rollercoaster

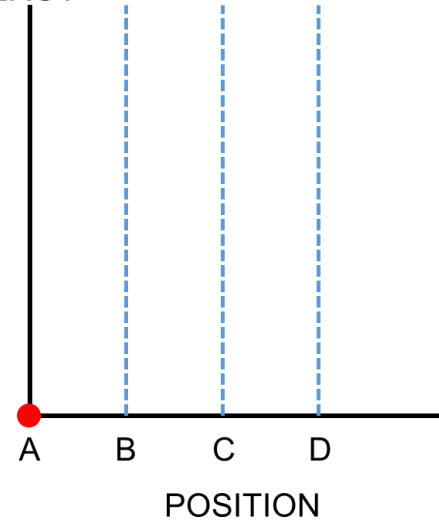


Copy the set of axes below.

GRAVITATIONAL  
POTENTIAL  
ENERGY



KINETIC  
ENERGY



Draw a line on both sets of axes to show how energy in each store changes as the rollercoaster moves from position A to B to C to D.

The starting values have been given to you as a red dot.