

# Forces

## 1. Speed

### CONCEPT 1

### TEST YOURSELF

#### WHAT IS SPEED?

##### KNOW

- Q1 Which two quantities are needed to work out the speed of an object?
- Q2 If car A travels at 2 metres per second and car B travels at 2.5 metres per second, which has the higher speed?
- Q3 Motorbikes C and D both travel 100 metres. C takes 4 seconds and D takes 5 seconds. Which motorbike is travelling at a higher speed?

##### APPLY

- Q4 A person walking covers a distance of 800 metres in 500 seconds. What is the average speed of the person whilst walking?
- Q5 An athlete runs 100 metres in 10.49 seconds (current women's world record). What is the average speed of the athlete during the race?
- Q6 A pupil is running in a 5 km race. Their time to finish is 15 minutes. Calculate the average speed of the pupil in  
(a) metres per second (m/s)                      (b) kilometres per hour (km/h)

##### EXTEND

Usain Bolt holds the world record for the 100 metres sprint with a time of 9.58 seconds (Berlin, 2009, World Championship). His average speed for this race was 10.44 m/s.

- Q7 EXPLAIN why Usain Bolt's average speed for the race and his maximum speed during the race are difference values.