



# ACCELERATION



1. Copy the sentences below and fill in the missing words using the list provided.

**Increases    acceleration     $m/s^2$     slows    rate    changes    speed    direction**

- a) Velocity is a posh word for the \_\_\_\_\_ of an object in a certain \_\_\_\_\_.
- b) When an object decelerates it \_\_\_\_\_ down.
- c) When an object accelerates, its speed \_\_\_\_\_.
- d) Acceleration is measured in \_\_\_\_\_.
- e) Acceleration is the \_\_\_\_\_ at which an object's velocity \_\_\_\_\_.

2. A cheese roll increases its speed from 0 to 60 m/s in 0.5 seconds. Calculate its **acceleration**.

3. A rodent, Sandra, increases her velocity from 2 m/s to 5 m/s in 2 seconds. What is Sandra's **acceleration**?

4. A car is travelling at 80 m/s. Suddenly, a cute, fluffy, little kitten runs out into the road and he screeches to a halt in 2 seconds. What was the car's **deceleration**?

5. When a man falls off a building he **accelerates** at  $10 m/s^2$ . How **fast** would he be travelling after he had been falling for 3 seconds?

6.a) Freddy the dolphin swims along at 10 m/s, nasty mister shark scares him and his speed increases to 30 m/s. If it takes 4 seconds to reach this speed, what was Freddy's **acceleration**?

b) Unfortunately for Freddy, nasty mister shark increases his speed from 10m/s to 40 m/s in 3 seconds. Calculate his **acceleration**.

7. Sir Jeremy Clarkson accelerates from 0 to 60 m/s. He's in a car by the way. His acceleration is  $15 m/s^2$ . How **long** will it take the curly haired presenter to reach this speed?

8. A man, Mavis, accelerates at  $200 m/s^2$  for 5s. What is his **velocity** after this time? More importantly, what on Earth has happened to him?

9. A car travelling at 80 m/s decelerates at  $100 m/s^2$ . How **long** does it take the car to stop?