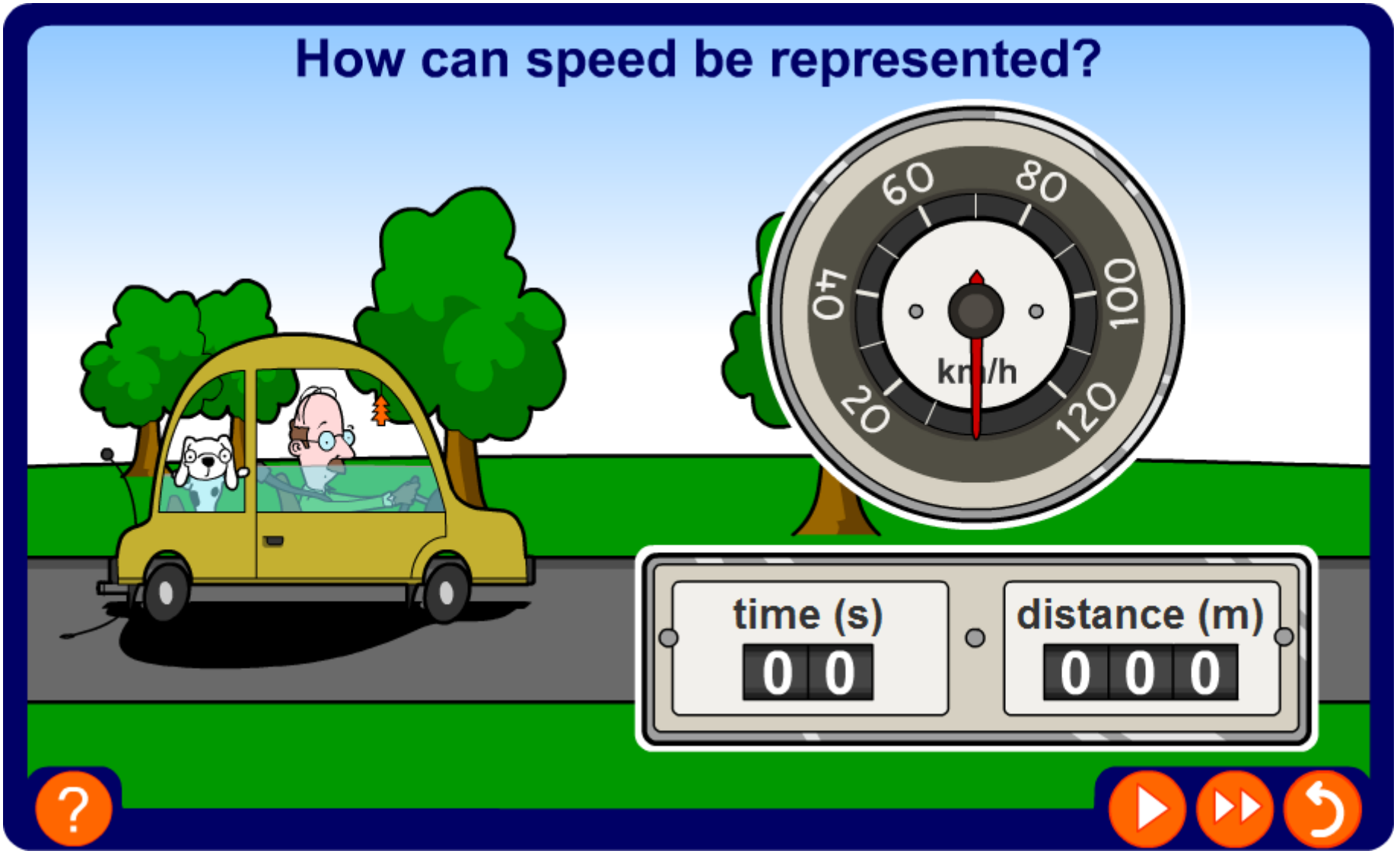
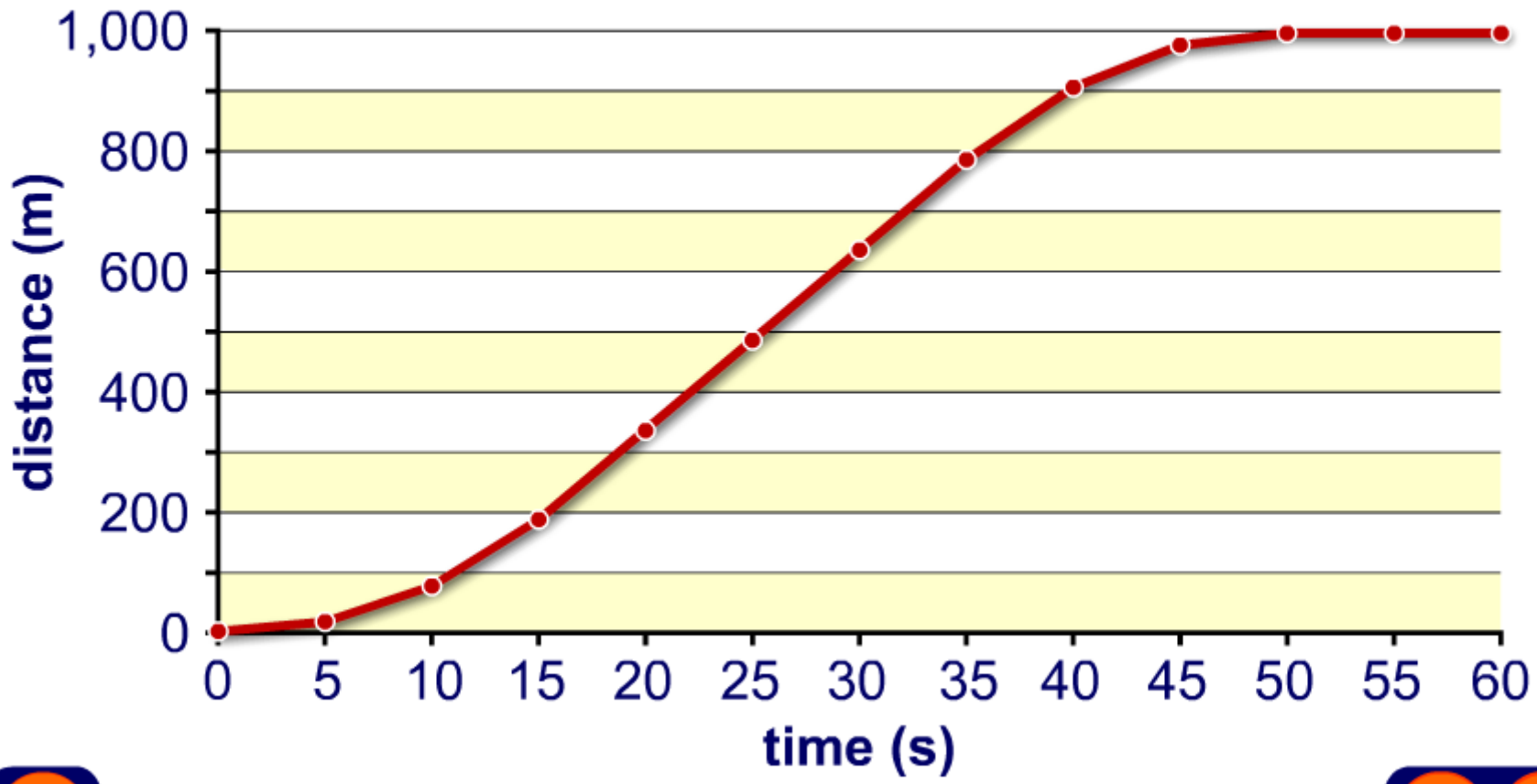
Graphing Speed

Car graphing activity – animation



Distance–time graph

What does a distance–time graph show?

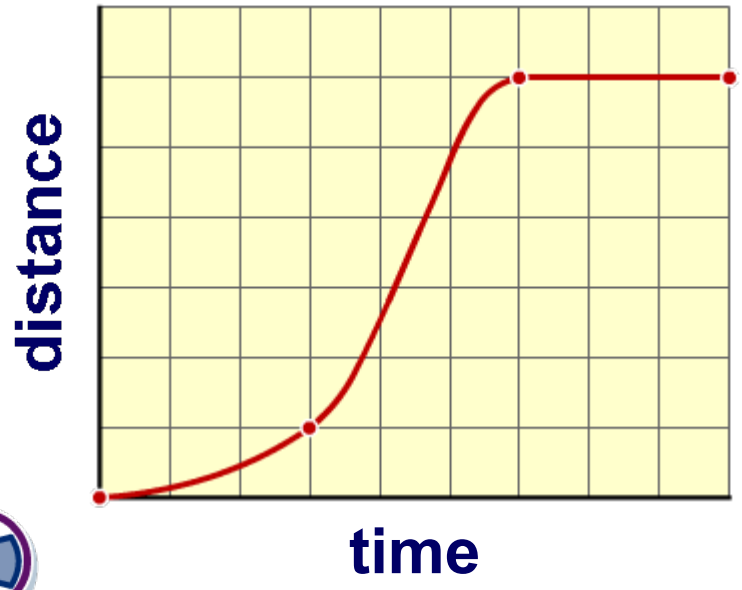


Calculating speed from the gradient

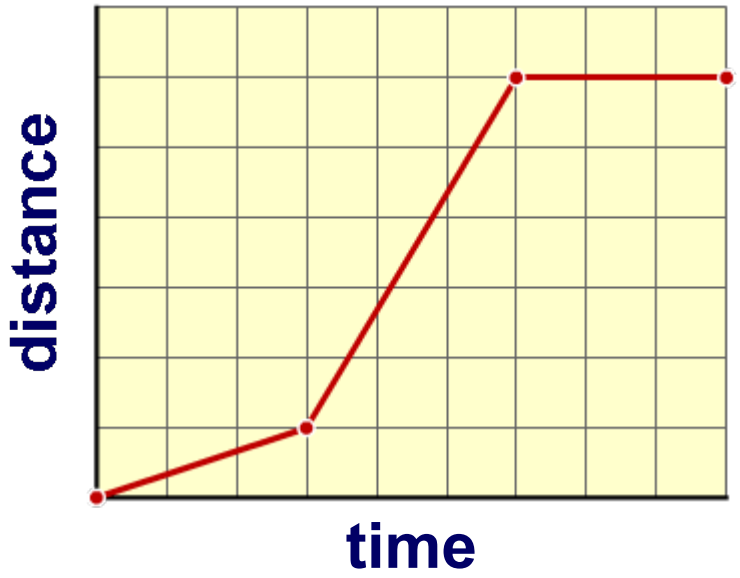
The slope of a graph is called the **gradient**.

The gradient of the line in a distance–time graph equals the speed.

It is difficult to calculate the gradient of ‘realistic’ graphs because the line is curved.

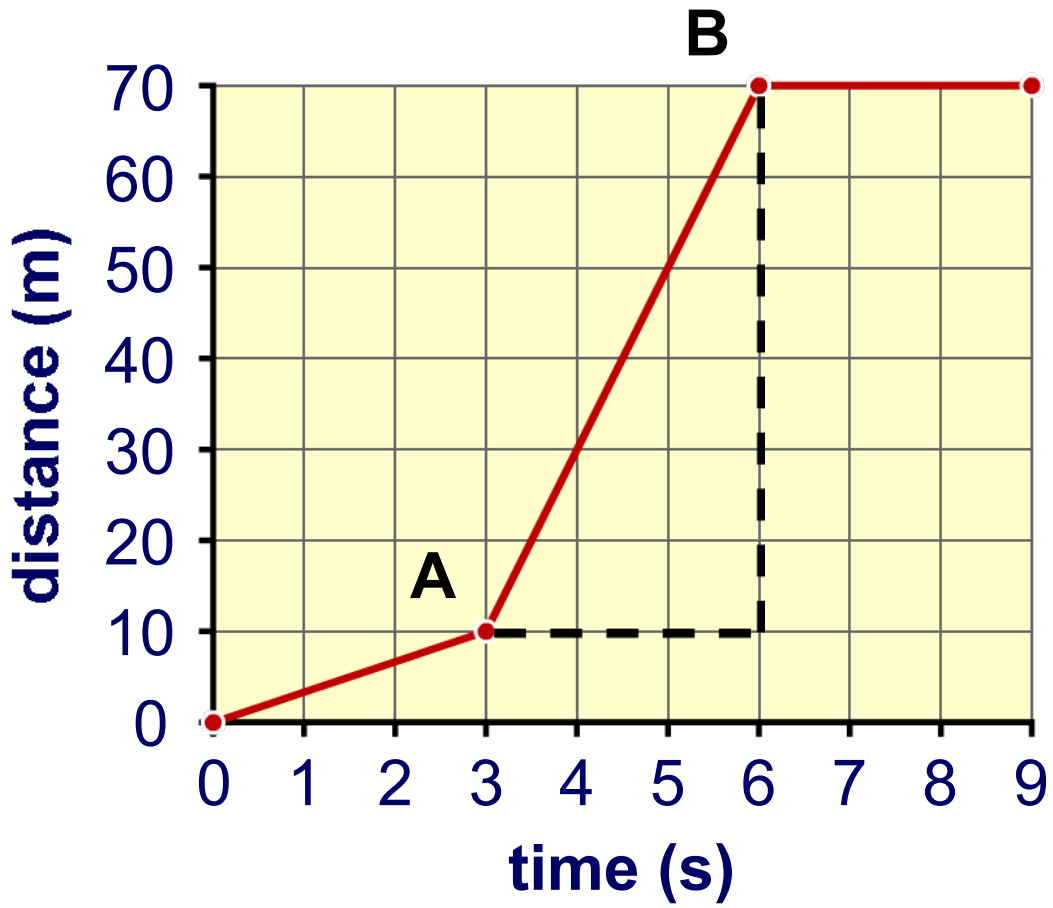


Simple graphs use straight lines only, making it easy to calculate the gradient.



What's the speed?

What is the speed of the object between points **A** and **B**?



- the object has moved 60 m (70 – 10)
- it took 3 s to move this distance (6 – 3)
- speed = distance/time
  = 60/3
  = **20 m/s**

Speed–time graph

What does the gradient of a speed–time graph show?