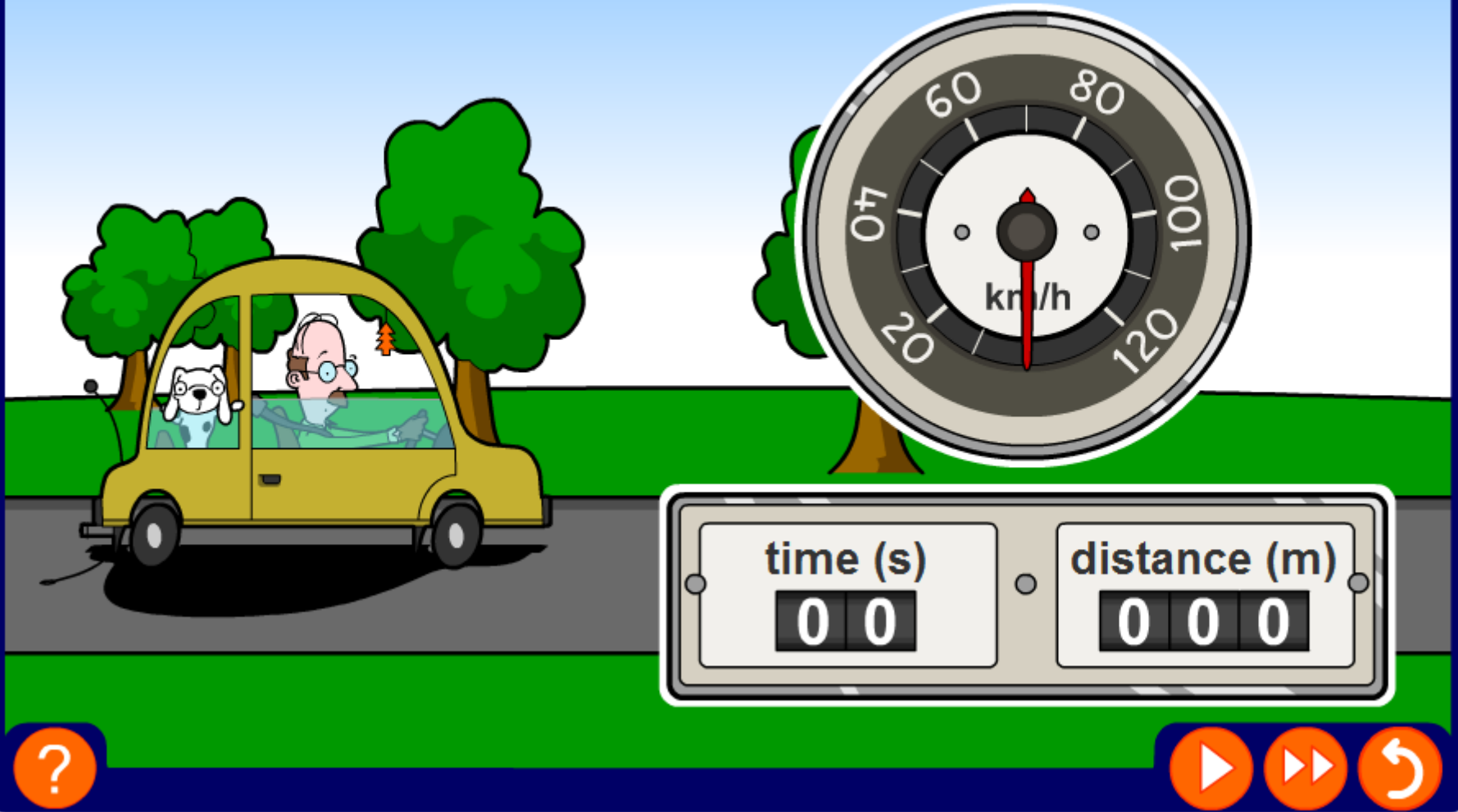


Graphing Speed

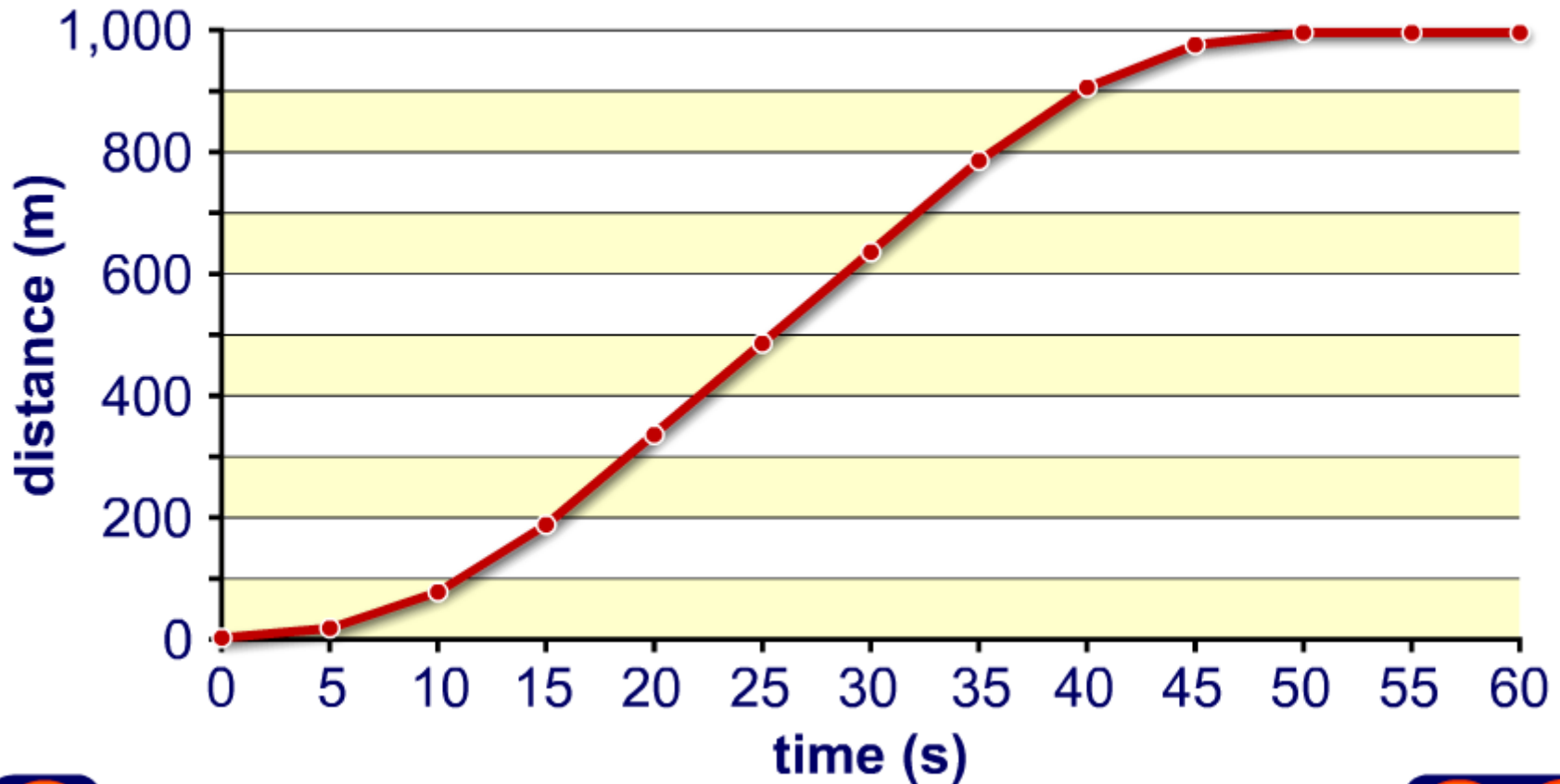


How can speed be represented?



The illustration shows a yellow car on a road with a driver and a dog. To the right is a speedometer with a red needle pointing to 0 km/h. Below the speedometer is a digital display with two sections: 'time (s)' showing '00' and 'distance (m)' showing '000'. At the bottom of the scene are three orange control buttons: a question mark, a play button, and a refresh button.

What does a distance–time graph show?

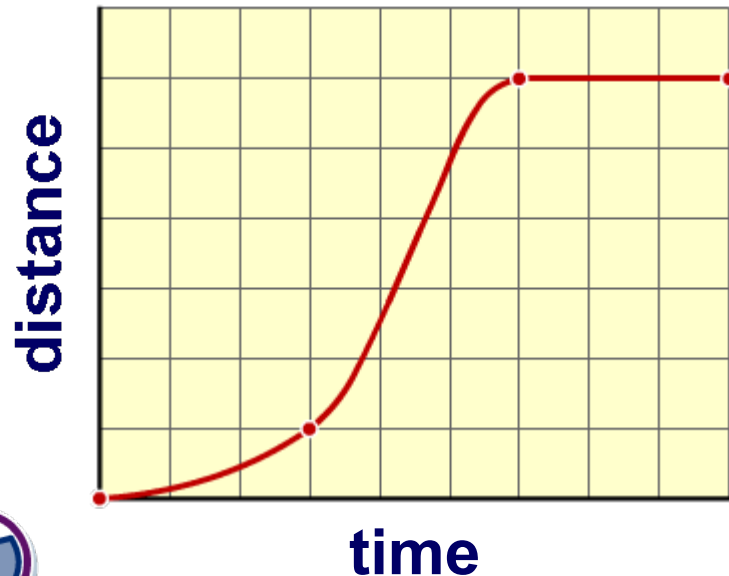


Calculating speed from the gradient

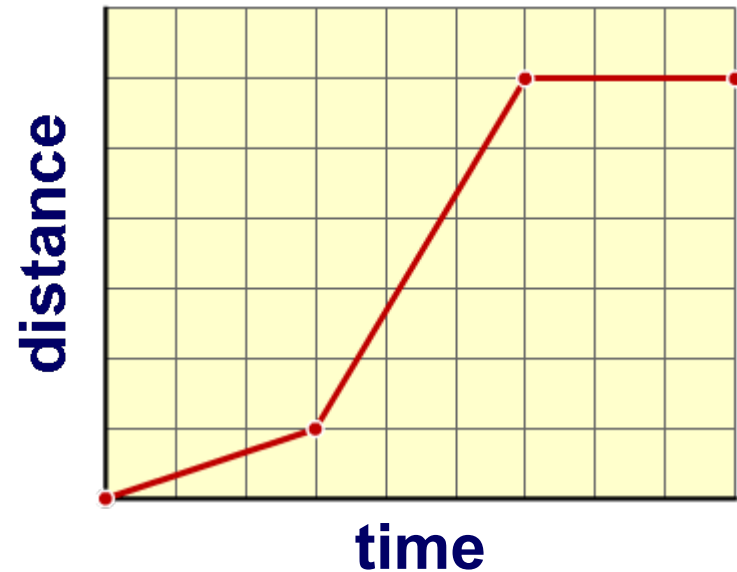
The slope of a graph is called the **gradient**.

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.

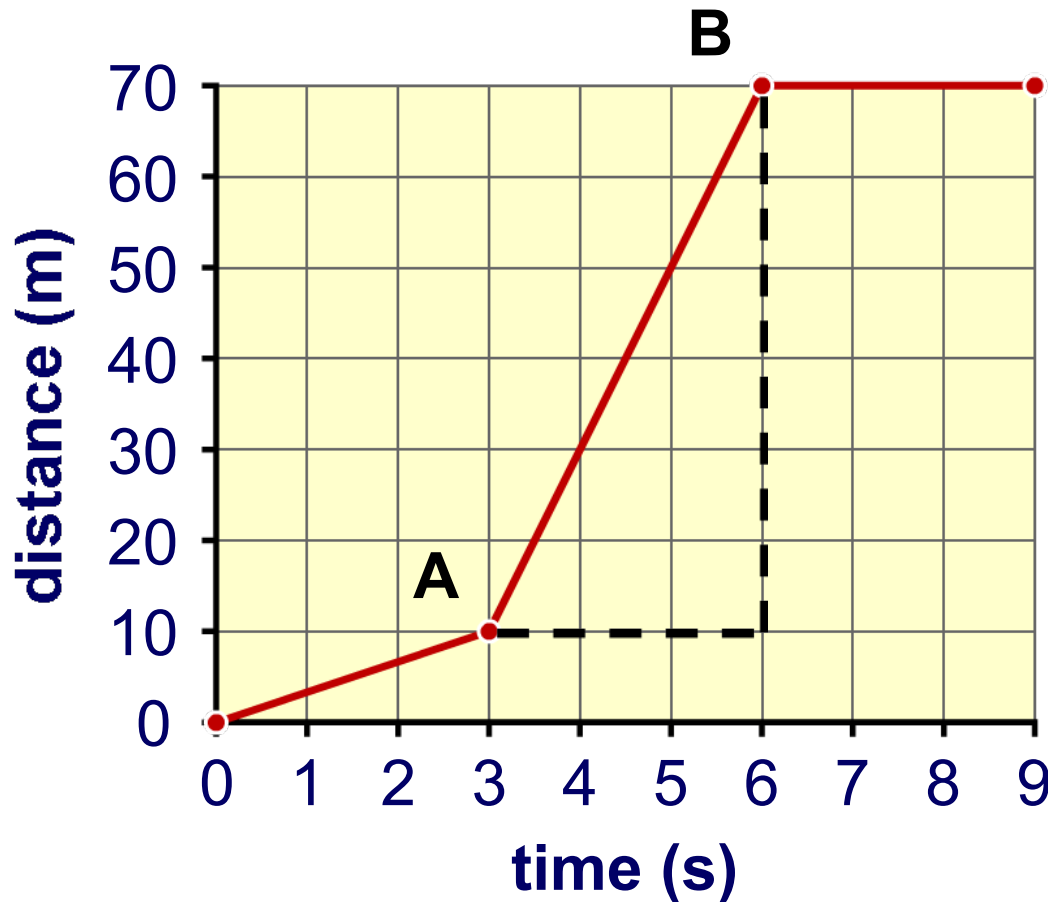


Simple graphs use straight lines only, making it easy to calculate the gradient.



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?

