

**The speed of a train**



In order to know how fast something is going, we need to know two things – how far it has travelled and how long it took to travel that distance.

**For example, Jemima is riding her bike along the road. She travels 10 metres along and does that in 2 seconds.**

We know that distance = 10m

We know that time = 2s

We can work out the speed she was travelling at by dividing the distance by the time.

**10m/2s = 5 metres per second**

She was travelling at a speed of 5m/s. Every second she travelled another 5 metres. In 2 seconds she would have travelled 10 metres.

**For example, Horace the class snail travels 16 millimetres in 4 seconds.**

We know that distance = 16mm

We know that time = 4s

**16mm/4s = 4mm/s**

He’s travelling at 4mm every second.

**Now let’s think about the trains on Volk’s Electric Railway. The manager wants to know how fast they are going (and they don’t have speedometers).**

• What do we need to know to work out the speed?

• What measurements should be taken?

• What equipment might be useful?

**The manager gets the measurements and finds out that:**

• From one end of the line to the other is 1620m

• A train takes 12 minutes to get from one end to the other

**See if you can work out the speed:**

• In metres per minute\*

• In metres per second\*\* (think about how many seconds in a minute)

• In the wet the trains slow down – they take 15 minutes to get from one end to the other

• What will their speed be now?

\* You might want to use a calculator

\*\* This one’s a bit trickier