

Mathematics

Understanding rate

Lesson 1 of 8

Downloadable resource

Miss Kidd-Rossiter



Try this

Write an example of when each 'rate' could be applied, as Xavier has.

Miles per hour

Litres per kilometre

Pounds per night

Products per day

Minutes per mile

Pence per minute

Metres per second

Pounds per Euro

When athletes train they measure how fast they are by seeing how many **minutes** it takes them to run **each mile**.

Xavier

What other examples of 'rates' can you think of? What **non-examples**?



Connect

Rate is the relationship between two measurable quantities.

Yasmin is going on holiday to Italy.

She goes to exchange her money.

For every £10 she exchanges, she gets €13.



Connect

Rate is the relationship between two measurable quantities.

The average car uses 10.8 litres of petrol per 100km it travels.



Connect

Rate is the relationship between two measurable quantities.

Antoni is painting the walls of his bedroom.

So far he has used 5 litres of paint and covered 24 m² of wall.



Independent task

1. Binh is buying ice creams.

All the ice creams are the same price.

5 ice creams cost £7.50.

a. How much will 10 ice creams cost.

b. The charge for the ice creams is £18. How many ice creams were bought?



Independent task

2. Mr and Mrs Smith work for the same company. They receive the same hourly wage.

Mr Smith works 17 hours and is paid £212.50, per week.

- a. Mrs Smith works 34 hours per week. How much is she paid, per week?
- b. One week, Mr Smith does some overtime and earns £362.50. How many hours did he work this week?



Independent task

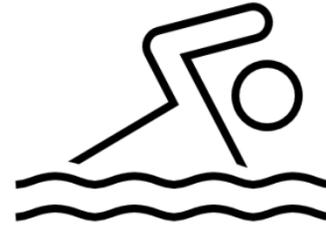
3. The world record for the women's 100m is 10.49 seconds.
 - a. How long would it take this athlete to run 1 km, assuming the same speed was maintained?
 - b. Why is your answer to part a not a realistic answer?



Explore

A swimming pool can be filled at a rate of n litres per second.

The capacity of the pool is 90 000 litres.



Put the statements in ascending order of how fast they describe the pool being filled.

$$n = 5 \text{ l/s}$$

The pool is filled in
3 hours

The first 20 000
litres were filled in
50 minutes

