



What's your distance?

When organising a walk, you must consider the comfort of all walkers. Not everyone will be able to walk at the same speed or for the same distance. What distance will your group be able to comfortably walk during their visit? Let's find out!

Task 1

Work out how far your group could walk in 1 hour at a comfortable speed.

Let's break it down!

1. Working as a group of 3-4 learners, measure 100 metres in your settings' grounds and mark every 10-metre point along the way with quoits, cones or chalk. It doesn't have to be in a straight line if you are short of space.
2. Use a stopwatch to time each group member walking for 1 minute (60 seconds) at a comfortable pace along your measured 100m. Stop the walker after 60 seconds. Measure and make a note of the distance travelled in the table below. Repeat 3 times for each person.

Table 1

Group member	How far can you walk in comfortably in 60 seconds?		
	Attempt 1	Attempt 2	Attempt 3
e.g. Seren	96 metres	104 metres	93 metres

3. Next, work out the average distance walked by each group member – add how far they walked on each attempt together and divide by 3. Follow the example in the Table 2.

Table 2

Group member	Average distance walked in 60 seconds
	(attempt 1 + attempt 2 + attempt 3) ÷ number of attempts = average distance
e.g. Seren	(96 + 104 + 93) ÷ 3 attempts = 97.7 metres to two decimal places Seren's average distance walked in 60 seconds = 97.7 metres to two decimal places



4. Now you know how far each group member can walk on average in 60 seconds, use your results to calculate how far each group member could walk on average in an hour. Follow the example in Table 3.

Table 3

Group member	Calculation Distance you can walk in 60 seconds x 60 minutes = Estimated average distance you could walk in an hour	Result
e.g. Seren	97.7 metres x 60 minutes = 5862 metres per hour	Seren's estimated average distance walked in 60 minutes = 5862 metres

5. When discussing distance, most people find it easier to picture a distance in miles or kilometres. Telling someone they are going to walk 5862 metres is hard for them to imagine! Let's convert your group's average distanced walked in 60 minutes into kilometres per hour (kph) or miles per hour (mph). This is known as someone's pace - a measurement of how fast they are moving per kilometre or mile.

How do you convert metres to kilometres?

1 kilometre is equal to 1,000 metres. This means that:

- 10 metres = 0.01km
- 100 metres = 0.1km
- 1000 metres = 1km

To convert metres to kilometres, divide the number of metres by 1,000. The easiest way to do this is to move the decimal point three places to the left.

So, let's say you want to convert Seren's 5862 metres into kilometres. We move the decimal point three places to the left to convert it to km, making Seren's total estimated average distance walked in 60 minutes, 5.862 km.



How do you convert kilometres to miles?

1km = 0.6214 miles

To convert kilometres into miles, multiply the distance in kilometres by 0.6214.

Table 4

Group member	Total average distance walked in 60 minutes in kilometres (kph)	Total average distance walked in 60 minutes in miles (mph)
Seren	5862 metres ÷ 1,000 or move the decimal point three places to the left 5862 metres ÷ 1,000 = 5.862 km Seren's pace is 5.86kph to two decimal places	5.86km x 0.6214 = 3.64 miles Seren's pace is 3.64 mph to two decimal places

6. What is the average walking speed or pace for the whole group in kph or mph?
Note this has to be completed in either kph or mph - not a mix of the two.

Table 5

Average walking speed for the whole group in kph or mph
(group member 1 kph or mph + group member 2 kph or mph + group member 3 kph or mph + group member 4 kph or mph ÷ number of group members = Average walking speed for the whole group in kph or mph
For example, (Seren 3.64 mph + Carwyn 3.89 mph + Warren 2.89 mph + Laura 3.01 mph) ÷ 4 = Average walking speed for the whole group = 3.35 mph or Seren 5.85 kph + Carwyn 6.26 kph + Warren 4.65 kph + Laura 4.84 kph ÷ 4 = Average walking speed for the whole group = 5.4 kph



7. Using the total you have calculated in Step 6 for the average walking speed for the whole group for one hour in either mph or kph, work out how far your group could walk in 2 hours? 3 hours? 5 hours?

Table 6

Average walking speed for the whole group for 1 hour	Average walking speed for the whole group for 2 hours	Average walking speed for the whole group for 3 hours	Average walking speed for the whole group for 5 hours
Average walking speed for the whole group for 1 hour = 5.4 kph	Average walking speed for the whole group for 2 hours = 5.4 kph x 2 = 10.8 kph	Average walking speed for the whole group for 3 hours = 5.4 kph x 3 = 16.2 kph	Average walking speed for the whole group for 5 hours = 5.4 kph x 5 = 27 kph

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