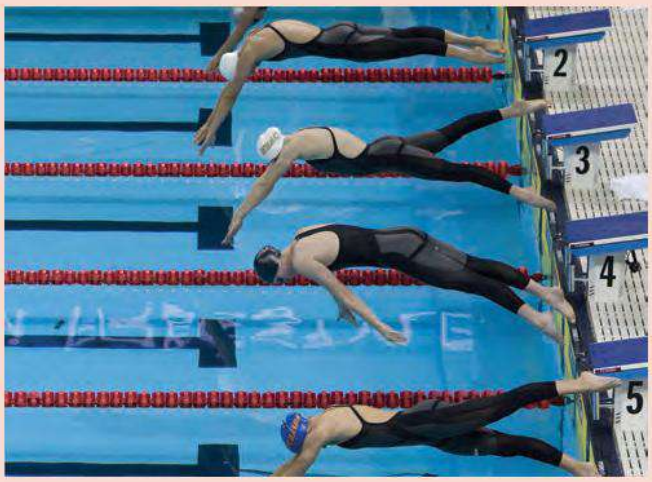
5 CLIL • Science: Average speed

I can calculate speed using distance and time.

1 **Read the text and answer questions 1–4.**



In the 200m freestyle, swimmers must swim four lengths of the pool. The pool is 50m long. The table below shows the time that it took four swimmers to complete each length.

Length number	1	2	3	4	Total number of seconds
Name					
Fields	40	41	39	41	161
Gomez	40	37	36	39	152
Jones	39	42	40	38	159
O'Hara	38	37	39	37	151

1 Who had the fastest length?
2 Who had the slowest length?
3 Who finished first?
4 Who finished last?

2 **Check the meaning of the words in the box. Then read the equations and answer questions 1–2.**

distance time average speed
calculate equation

*The winner of the race is the person who has the fastest **average speed**.*

To calculate average speed, you need the following equation:

$$\frac{\text{distance}}{\text{time}} = \text{average speed}$$

***distance**: the race was 200m.*

***time**: Fields completed the 200m in 161 seconds.*

*So, **average speed**:*

$$\frac{200}{161} = 1.24 \text{ metres a second (m/s)}$$

To calculate average speed in kilometres an hour (km/h), use this equation:

average speed in m/s × 3.6 = average speed in km/h.

1 Look again at the table in exercise 1. Calculate the average speed of Gomez, Jones and O'Hara in m/s.
2 Now calculate the average speed of all the swimmers in km/h.

3 **USE IT! Read the sentences and find each average speed in km/h.**

1 In 2014 Dennis Kimetto completed the Berlin Marathon in 2 hours, 2 minutes and 57 seconds (2.05 hours). The marathon was 42.19 kilometres.
2 In 2014 Dame Sarah Storey completed the 3 kilometre para-cycling track race in 3 hours, 32 minutes and 5 seconds (3.54 hours).
3 In 2015, Lewis Hamilton drove one lap (5.3 kilometres) in the Australian Grand Prix in 1 minute, 30 seconds.
4 In 2014 Sarah Sjöström swam the 50m butterfly in 24.43 seconds.