

## UNIT 1: IS IT A WORLD RECORD?

Using grid paper, students rule out two lengths to scale: one length is equivalent to the world record and one length is equivalent to the mean of their own long jump.

They calculate how many times longer the world record long jump is compared with their own jump. What percentage increase does this represent?

Use *Learning resource 3.1 (beyond level)*.

### Teaching strategies

- Interesting fact: At the 1968 Olympics, Bob Beamon broke the long jump world record. A YouTube clip suited to teachers ([www.youtube.com/watch?v=DEt\\_Xgg8dzc](http://www.youtube.com/watch?v=DEt_Xgg8dzc)) explains how the measuring implement was not long enough to measure his jump and how Bob Beamon, who was unfamiliar with metric units, was unaware that he had broken the world record when it was first shown on the score board as 8.9 m (29 feet, 2  $\frac{1}{2}$  inches).
- **When do we use the term *mean* and when do we use *average*?** During everyday conversation people tend to refer to *the average*; however, when discussing this idea in a mathematical context, people generally say *the mean*.

#### Calculating the mean

- *Before- and at-level students* measure out each jump on to a separate length of streamer and tape these lengths together. They then divide the connected streamer into equal pieces – two pieces for before-level students and three pieces for at-level students (according to the number of jumps they did). They measure the length of one piece to calculate the mean.
- *Beyond-level students* calculate the sum of the three measurements and then divide the sum by the number of measurements (in this case 3).

### Wrap-up

Students write a definition of an average.