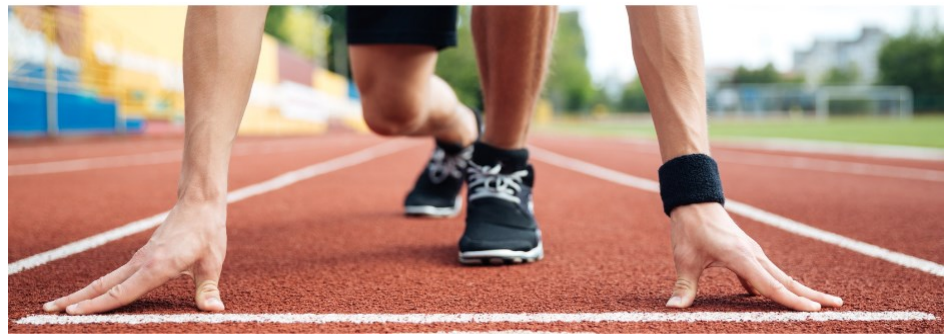## HANDLING DATA

20 m Dash

Learning focus

- Use a trundle wheel to measure distance
- Use a stopwatch to measure time
- Record results in a table
- Calculate the range and mean of a set of values

Key vocabulary

- Time
- Seconds
- Distance
- Metres
- Measure
- Range
- Mean

Resources

- Trundle wheel
- Stop watch

Activity

Introduce this activity by discussing what the children already know about sprinting.

What is a sprint?
What is the difference between a sprint and a marathon?
What three sprints are currently held at the Olympic Championships?
Who was the first man to win three consecutive 100 m finals at the Olympics?
How long do you think it would take an average person to run 100 m?

Explain that children will be asked to find the time taken to run 20 m. Invite them to suggest how they might go about this activity.

Where should it take place?
How will you determine the race track? How will you measure it? What will you use?
How will you record the race times? What will you use?
How will you ensure that the race is fair?
How might you record the results?

Assign children to small groups (about 5 pupils) and ask them to plan the activity. Each group could also choose a country to represent. Once the children have planned the activity and devised a recording sheet, distribute the required measuring tools. Each group should then mark out their 20 m race track and record the times taken. (A code could be used for anonymity.)

Name / Code	Time taken

Ask children questions about the data recorded.

What was the fastest/slowest time recorded?

What is the difference between the fastest and slowest times? What name do we give to this difference?

What is the mean time? How did you work this out?

Did anyone take the same time as the mean time?

How many children took more / fewer seconds than the mean?

Teaching point

Range is a measure of spread. It is the difference between the largest and smallest values in a set.

Mean is a type of average. To find the mean of a set of numerical data, add up all the numbers in the set and divide the total by the number in the set.

To challenge children further, they could discuss and compare the results from the different 'countries' (groups). It would be helpful to record the results in one table.

Country	Fastest time	Slowest time	Range	Mean

Which country had the fastest / slowest time?

Which country had the highest / lowest mean?

Who is the winner? Explain your response.

It is important to note that the country with the highest mean may not include the winner. Encourage children to discuss why.

To challenge children further, ask questions which encourage them to read beyond the data. For example:

How long do you think it would take you to sprint 100 m? Could you multiply your time by 5? Explain your response.

Taking ideas further

Children could explore other activities involving time and/or measure:

How far can you jump?
How far can you throw the welly?

They could measure and record their findings and then calculate the range and mean, Children could examine the results from the Olympic Championships, analyzing results in different events, records over time, and so on.

Assessment opportunities

Are the children able to:

- Accurately measure 20 m using a trundle wheel
- Use a stopwatch to measure time (in seconds)
- Present results in a table
- Understand and calculate the range and mean of a set of data