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| **Measuring time** |
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| Teach the measurement of time by racing to be the slowest |
| **Subject(s):** Mathematics**Approx time:** 40 - 60 minutes |  | **Key words / Topics:** * Time
* Minutes
* Seconds
* Faster / quicker
* Slower
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| **Suggested Learning Outcomes**  |  |  |
| * To be able to measure the time it takes to finish a race.
* To be able to sort and compare time data
* To be able to use the terms faster/slower to describe the time results in the races.
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| **Introduction** |  |  |
| This is one of a set of resources developed to support the teaching of the primary national curriculum. They are designed to support the delivery of key topics within maths and science. This resource focusses on measuring time, by recording the time it takes to complete a walking race where the winner is the last person to cross the line, not the first! |
| **Purpose of this activity**In this activity learners will measure the time it takes to complete a very slow walking race. In small teams, they will time each other with a stopwatch and record the data. The results will then be sorted and discussed as a class using terms such as, faster, slower, quicker etc.This activity could be used as a main lesson activity, to teach learners how to collect data through measurement and to use number skills in a practical context. It could also be used as one of several activities within a wider scheme of learning focussing on the use of maths and science to understand the measurement of time. |
| **Activity** |  | **Teacher notes** |
| **Introduction (5-10 minutes)**Teacher to explain that learners are going to have a slow walking race. Use the presentation to show the rules: * Walk very slowly from the start to the finish
* You must keep moving and only go forward
* Winner is the last person over the finish line.

  |  | This activity could be carried out in groups of 4 or more. It could be carried out in the classroom, hall or outside.The distance for the slow walk race can suit the available space - 5 meters length is adequate. The start and finish line should ideally be marked with tape or other suitable material as space allows. |
| Use the presentation to explain how to carry out the activity:* Competing in groups
* One person holds stopwatch
* One person records times
* Everyone else races
* Swap roles after each race
* Overall individual winner, slowest time
* Overall team winner, slowest time

**Slow Walking Race Activity (30-40 minutes)**Learners to collect clipboards, stopwatches and carry out races. **Discussing the results of the activity (5-10 minutes)**Class to compare results: which groups/individuals were the fastest and slowest.  |  | Ensure the learners know how to use the stopwatches to start, stop and reset. The teacher should demonstrate how to do this correctly in advance.With the class use descriptive terms, faster/slower etc. to discuss the times of each event.  |
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| **Differentiation** |  |  |
| **Basic** |  | **Extension** |
| Use digital stopwatches. Reduce the distance of the race to reduce the measurements.  |  | Convert the time values measured in minutes into seconds.Calculate totals for different groups, to find a ‘winning team’. |
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| **Resources** |  | **Required files** icon-docicon-pdficon-ppt |
| * Access to an area for the races.
* Clipboards
* Pencils
* Stopwatches
 |  |  Measuring time presentationicon-pdf Measuring time worksheets |
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| **Additional websites** |  |  |
| BBC Bitesize - Maths KS1: Titch and Ted Learn to Measure Time: <https://www.bbc.co.uk/teach/class-clips-video/maths-ks1-titch-and-ted-learn-to-measure-time-pt-26/z7kygwx> |
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| **Related activities (to build a full lesson)** |  |  |
| **Starters** (Options) * Ask the class if they know how athletics races are measured. Videos of winning performances in sprint races could be shown.
* Watch video: BBC Bitesize - Maths KS1: Titch and Ted Learn to Measure Time: https://www.bbc.co.uk/teach/class-clips-video/maths-ks1-titch-and-ted-learn-to-measure-time-pt-26/z7kygwx
 | **Extension** (Options)* Convert the time values measured in minutes into seconds.
* Calculate totals for different groups, to find a team winner.

**Plenary*** Class to compare results: which groups/individuals were the fastest and slowest.
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| **The Engineering Context** film |
| * Timing is very important for robotics engineers. They need to be able to work out how fast and slow two-legged robots can walk without falling over. Robots are being designed to support astronauts in space and carry out heavy lifting in factories.
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| **Curriculum links**  |
| **England: National Curriculum**MathematicsKS1 Year 1 - Measurement:* compare, describe and solve practical problems for: time [for example, quicker, slower, earlier, later]
* measure and begin to record the following: time (hours, minutes, seconds)
 | **Northern Ireland Curriculum**KS1 Mathematics and Numeracy. - Measures:* understand and use the language associated with length, weight, capacity, area and time.
* choose and use simple measuring instruments, reading and interpreting them with reasonable accuracy.
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| **Scotland: Curriculum for Excellence**Numeracy and MathematicsNumber, money and measure – Time* MNU 1-10c
 | **Wales: National Curriculum** Mathematical DevelopmentUsing measuring skills- Time:* use the concept of time in terms of their daily and weekly activities and the seasons of the year

Knowledge and Understanding of the WorldTime and People:* measure time, using simple measuring devices, clocks, watches and calendars
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| **Assessment opportunities** |
| * Informal assessment through observation during the races and questions during the plenary.
* Formal teacher assessment by marking the time recording tables.
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