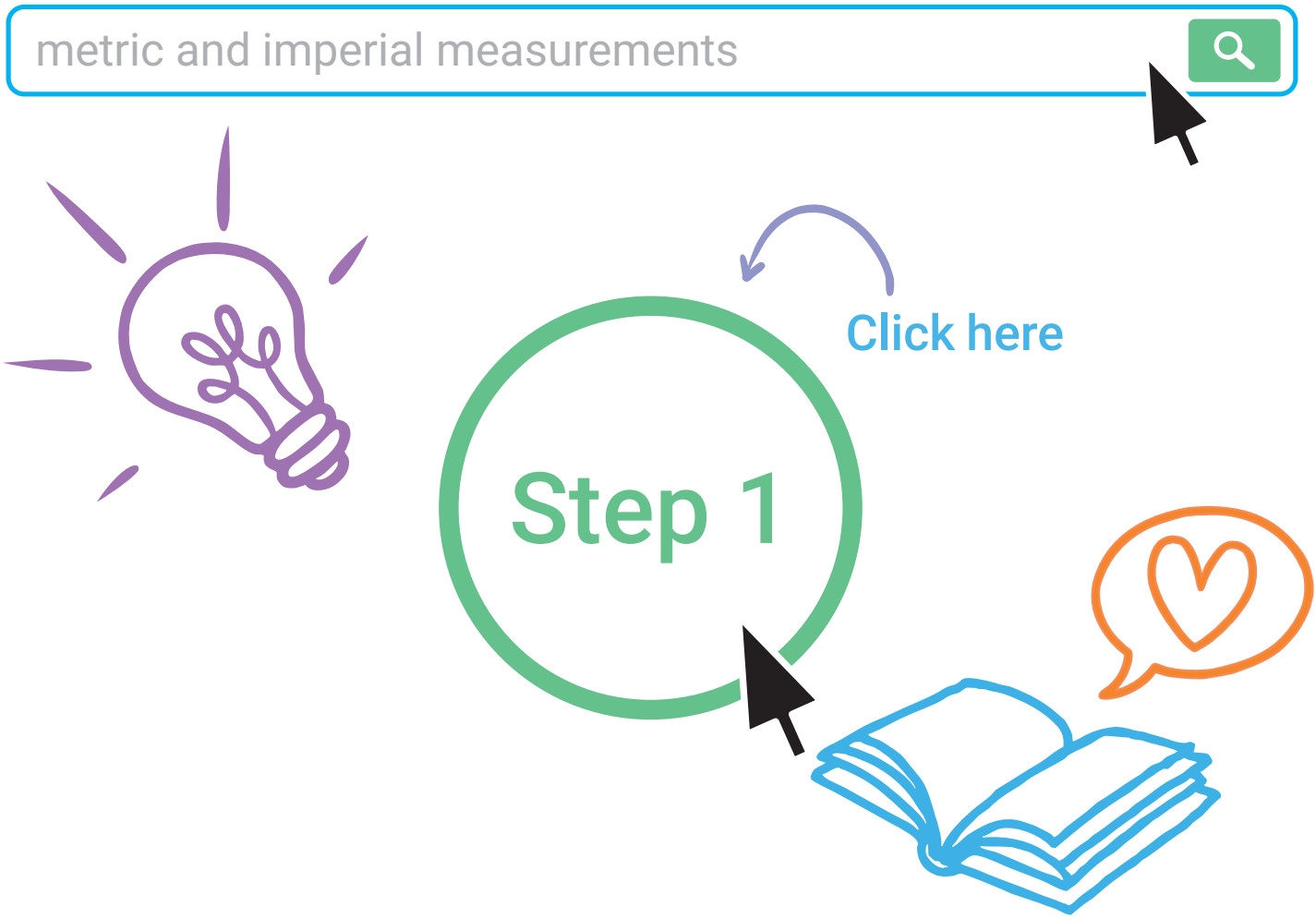
Year 5 Measurement, Dimensions, Mass and Capacity: A Step-by-Step Guide for Parents

This step-by-step explanation of measures, dimensions, mass and capacity in year 5 will help you support your child's learning at home. Each subject is broken down into manageable chunks, providing you with a simple guide to follow when exploring measures together, either as part of homework or if you decide to give your child some extra support. Whether your child is identifying the similarities and differences between metric and imperial measurements, understanding the approximate equivalents of these (for example, 2.5cm ≈ 1 inch, 1 foot = 12 inches ≈ 0.3m) or beginning to estimate capacity (how much a container can hold altogether) and volume (the amount of space a 3D object takes up), you will find a step that matches where your child is at now and ideas of where to go next.

Within **this area of the website**, you will find a selection of resources intended to help your child learn about each step of this guide. Each step also contains a keyword or phrase that you can use to search the Twinkl site for more resources and activities, designed to support your child in achieving that stage. Simply type the keyword or phrase into the search bar and press enter to explore together.

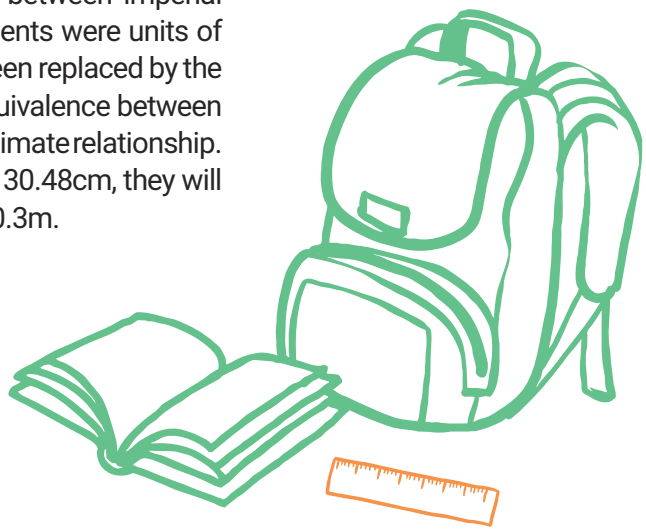


We hope you find the information on our website and resources useful. The contents of this resource are for general, informational purposes only. This guide is intended to offer parents general guidance on what subject areas tend to be covered in their child's year group and where they could support their children at home. However, please be aware that every child is different and information can quickly become out of date. There are some subject areas that we have intentionally not covered due to the nature of how they are taught or because a trained professional needs to teach these areas. We try to ensure that the information in our resources is correct but every school teaches the national curriculum in its own way. If you would like further guidance or are unsure in any way, we recommend that you speak to your child's teacher or another suitably qualified professional.

What Is Measurement?

Measurement involves height, length, width, mass (which we often call weight in everyday life), volume, capacity, money, temperature and time.

During year 5, your child will begin to explore the relationship between imperial and metric measures. They will identify that imperial measurements were units of measurement that were used in the past (but have now mostly been replaced by the metric system). Although they do not need to know the exact equivalence between imperial and metric measures, your child will learn about the approximate relationship. For example, although 1 foot is actually the same as 0.3048m or 30.48cm, they will only need to know that it is approximately the same as 30cm or 0.3m.



As well as continuing to practise measuring length, height and mass accurately, your child will start to investigate and learn more about capacity and volume. Volume refers to the amount of space taken up by a 3D object. Capacity describes the maximum amount that a object can hold. In measurement, it will be used to describe how much liquid a container can hold.

At this stage, your child will probably take part in a lot of problem-solving activities about measures. They will begin to apply their knowledge of measures to a wider variety of puzzles, problems and activities, finding new ways to solve problems by combining everything they already know about measures.

You can use the resources in this category and the suggested keyword searches to help your child learn more about measures. Ideas for games and activities which will give your child further practice with measurement, dimensions, volume and capacity are also outlined below.

Real-Life Measuring

Give your child opportunities to practise measuring. Collect together some items from around the house and ask your child to estimate the length, height or mass of each one. Then ask them to measure the object and calculate the difference between their estimate and the actual measurement.

Once they have measured the objects, can they convert the measurements to different units? For example, if they have measured the length of a book in cm, how long is it in mm?)

Increasing Perimeter Investigation

To help your child increase their understanding of perimeter (the distance around the outside of a shape), you could try this investigation. Ask them to draw a simple shape and measure its perimeter. Once they have finished, can they draw a second shape that has a larger perimeter? Ask them to measure it and check. Can they then draw a third shape with an even larger perimeter?

Can your child spot any patterns and notice any ways in which to change the shapes in order to increase their perimeter?

Building Brick Volume Game

Give your children a certain number of building bricks (for example, 12 bricks). Explore the fact that any shape that they make using all those bricks will have a volume of 12 bricks. How many different-shaped objects can they build that have a volume of 12 bricks?

Can they build a scaled-up version (the same shape but twice the size) of their shapes using 24 bricks?

Estimating the Capacity of Containers

This activity will help your children realise that different-shaped objects can have the same capacity and that, sometimes, containers which look smaller can hold more than they expect. Help your child to gather together a variety of different containers from around the house - mixing bowls, pans, empty bottles, cups, etc. Ask them to estimate how much liquid each container can hold and then use measuring jugs to see how close their estimate was.

Step 1

Metric and Imperial

As your child becomes more confident and secure in their knowledge of different measures, they will begin to learn about the similarities and differences between **metric and imperial** units of measure. Your child will recognise imperial units as part of a system that was used in the past (although some are still used today). Imperial units of measurement include feet, inches, pints, stones and pounds. Your child will learn the approximate relationships between metric and imperial measures (for example, 1 mile ≈ 1.6km, 1 inch ≈ 2.5cm and 1 stone ≈ 6.4kg). This **Metric and Imperial Equivalences Maths Mastery PowerPoint** is a good way for your child to explore the **metric and imperial** topic in more detail, using and applying what they know and have learned.

Step 2

Measure Perimeter

Perimeter is the distance around the outside of a shape. Your child may have already learnt about measuring the perimeter of simple 2D shapes by this stage but will now move on to measure the perimeter of irregular rectilinear shapes (compound shapes that are made up of two or more shapes - for example, two rectangles joined together). Our **Measure the Perimeter of Composite Rectilinear Shapes Worksheets** are a great way for your child to practise using this skill at home.

Step 3

Volume and Capacity

At this step, your child will begin to explore and investigate **volume and capacity** in more detail. They will already have experience of measuring liquids and now, at this stage, they will begin to look at the link between capacity and volume and carry out practical investigations into these two topics. Our brain-teasing **Capacity Challenge Cards** are a perfect way for your child to apply their growing knowledge of capacity and volume.

Step 4

Converting Units of Time Problems

Time can be measured in a variety of different units. For example, we can measure time in seconds, minutes, hours, days, weeks, months or years. Your child will continue to develop their knowledge and understanding of these units of time over the course of year 5, applying their skills to a greater range of problems, puzzles and investigations. These **Converting Time Challenge Cards** are a great way for your child to apply their knowledge of units of time and of multiplying and dividing in order to solve the problems. For example, 'How many seconds are there in 5 minutes and 37 seconds?'

Step 5

Measures Problems

In order to develop a greater understanding of measures, your child will begin carrying out problem-solving activities and investigations using additional areas of maths (for example, using addition, subtraction, multiplication or division). This will also involve your child working with decimals to take, record and use more accurate measurements. To give your child a wide selection of problems, including all the different areas of measure that they have covered (length, height, mass, capacity, volume, perimeter), try using these **Measure Problems Challenge Cards** at home together.

Explore and Discover More

Twinkl Go! is a digital platform, hosting interactive content such as videos, games, audiobooks and more. Twinkl Go! enables digital content to be streamed to your computer or mobile device.

Twinkl Book Club is our book subscription service. Enjoy our original works of fiction in beautiful printed form, delivered to you each half-term and yours to keep!

Twinkl Boost is a range of intervention resources, created to support and lift learning with children at every level. These include our easy-to-use SATs and Phonics Screening resources.

Imagine resources are designed to help your children to think creatively, question and imagine. Every week, a new topic consisting of five photos, each with related activities, is created.

Twinkl Originals are engaging stories written to inspire children from EYFS to KS2. Designed to encourage a love of reading and help curriculum-wide learning through accompanying resources.

Twinkl Kids' TV is our wonderful YouTube channel dedicated to fun and informative video-style resources full of new and creative activities you can try at home!