Year 4 Measurement, Dimensions, Mass and Capacity: A Step-by-Step Guide for Parents

This step-by-step explanation to measures, dimensions, mass and capacity in year 4 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 converting between different units of measures (changing cm measures to m, g to kg or ml to l), calculating the differences between these measures and using the information to solve problems, or they are beginning to explore the perimeter of shapes by physically measuring the distance around the outside of a shape - you will find a step that matches where your child is at then have ideas for 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 However, please be aware that every child is different and information can quickly become out of date.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, Dimensions, Mass and Capacity?

Measures is all about height, length, width, weight, capacity, money, temperature and time.

During year 4, your child will develop a greater understanding of units of measure. They will begin to clearly understand how they can use multiplication and division to convert from one unit of measure to another (for example, 200cm ÷ 100 = 2m. In this example, you divide by 100 because there are 100cm in 1m). They will use all this information, and their growing knowledge of units of measures, to make comparisons between different measures, ordering them, adding and subtracting them and solving problems using them (for example, ordering this series of measures from smallest to largest: 150cm, 1.7m, 2000mm, 1.02m, 104cm).

It is at this stage of measures that your child may begin to explore perimeter in more detail. They will probably already have an understanding of what perimeter is (the distance around the outside of a shape) and have used squares to count the perimeter. At this stage, however, your child may begin to explore measuring perimeters using different equipment (including rulers, tape measures and metre sticks).

Time is part of the curriculum subject of measures. Your child will practise their understanding of the differences and links between 12- and 24-hour clocks. They will become more accurate when converting between the two types of clocks. Also, they will become more familiar with converting between different units of time. This includes understanding that, unlike many other conversions of measures, they won't be using dividing and multiplying by 10 and 100 - they will need to use other numbers, such as 24, 7 and 60. This is because there are 24 hours in a day, 7 days in a week, 60 seconds in a minute and 60 minutes in an hour.

As well as using the resources found in this category, and the keyword searches suggested to help your child with exploring measures, below are a few ideas for games and activities to help your child learn more about measures, dimensions, mass and capacity.

Real-Life Perimeters

One of the best ways for your child to develop an understanding of perimeter is to measure it in real life. Find different items around the house or in the garden (books, table, shed door) and get your child to use different tools to measure the perimeter of one surface of the object (the distance around the edge of the shape).

Real-Life Converting

A great way for your child to learn about measurement is to measure lots of different objects. Collect together some items from around the house and get your child to measure their length, mass and/or height. They can then convert the measurement to different units - for example, converting mm to cm.

Increasing Perimeter Investigation

To help your child increase their understanding of perimeter, you could try this investigation with your child. Get them to draw a simple shape and measure the perimeter. Once they have finished, can they draw a second shape that has a larger perimeter? Get 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 the perimeter?

24-Hour Clock Target Game

On pieces of card/paper, write the numbers 13-23. Place the numbers around the floor at random. Give your child a ring/beanbag/soft object and give them an o'clock time. They then have to throw the ring/beanbag/soft object onto the correct number that matches the 24-hour time. For example, if you say 2 o'clock, your child has to throw the ring/bag/object onto the 14 card.

Step 1

Converting Measures

In order to convert measures, your child will first need to have a confident understanding of units of measures and multiplying and dividing by 10 and 100. They will need to understand, for example, that length can be measured in mm, cm, m and km and that these are all linked together. They will also need to be secure when dividing and multiplying by 10, 100 and 1000 because most of the units of measure are related by 10s, 100s and 1000s (for example, 100cm = 1m, 1000g = 1kg, 10mm = 1cm). Once they are confident with these two skills, your child can then practise converting between different units of measure. This **Converting between Kilometres and Metres Worksheet** is one great way for your child to practise applying their measurement knowledge to problems.

Perimeter

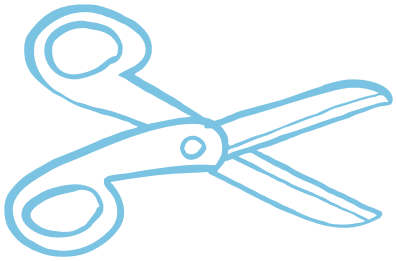
Step 2

Perimeter is the distance around the outside of a shape. At this stage, your child will begin to explore perimeter in more detail. They will probably have already used squares and squared paper to count the distance around the outside of a shape, but they will now begin to physically measure the outside of shapes. They will use different tools, like rulers, tape measures, metre sticks and trundle wheels to measure shapes. They will record the perimeter with a variety of different units that depend on the size of shape and equipment used to measure it. For example, a small shape on A4 paper will probably be more sensible to measure in centimetres with a ruler, whereas a larger surface like the top of a table may need to be measured in metres with a tape measure. Can your child use a ruler to measure the different shapes found on these **Measuring Perimeter in Centimetres Worksheets**?

Step 3

Compare Measures

After your child has become confident with converting different measures, they will then use this knowledge to make comparisons between measures containing different units; for example, ordering 150cm, 1.7m, 2000mm, 1.02m, 104cm from smallest to largest. They will also learn to work out differences between measures containing different units and solving problems using this information, for example: A boy swims 25m on Monday, then 1500cm on Tuesday. How many metres does he swim in total? This **Measures PowerPoint** is a visual and interactive way for your child to practise comparing and calculating different measures and units of measure.



Step 4

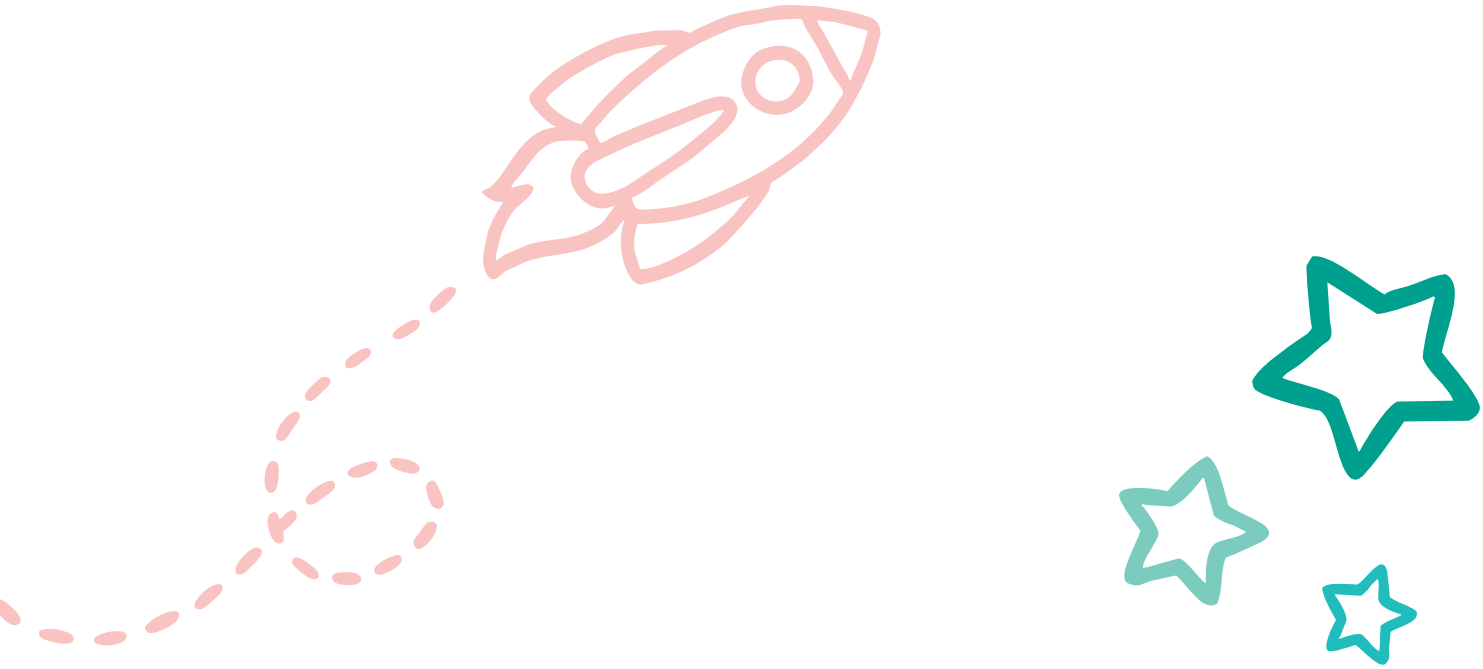
12- and 24-Hour Clocks

During this step, your child will become more accurate with reading both 12- and 24-hour clocks. They will be able to tell the time using analogue and digital clocks, recognising how a.m. and p.m. times are represented on each and accurately converting between the two. To help your child with converting between 12- and 24-hour times, you could try using interactive PowerPoint quizzes with them, such as this **12- and 24-Hour Clock Conversion** quiz. Can they identify how the time would be shown on a digital 24-hour clock?

Step 5

Converting Units of Time

In order to convert units of time, your child will need to understand that, unlike other conversions of measure, converting time often doesn't involve multiplying and dividing by 10, 100 and 1000. This is because the units of time are not related by 10s, 100s and 1000s - they are related by other numbers. For example, there are 60 seconds in a minute, 60 minutes in an hour, 24 hours in a day and 7 days in a week. So, in order to convert from minutes to seconds, your child will need to multiply the number by 60. To help your child practise converting units of time, these **Converting Time Challenge Cards** are one interesting way for them to solve problems.



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!