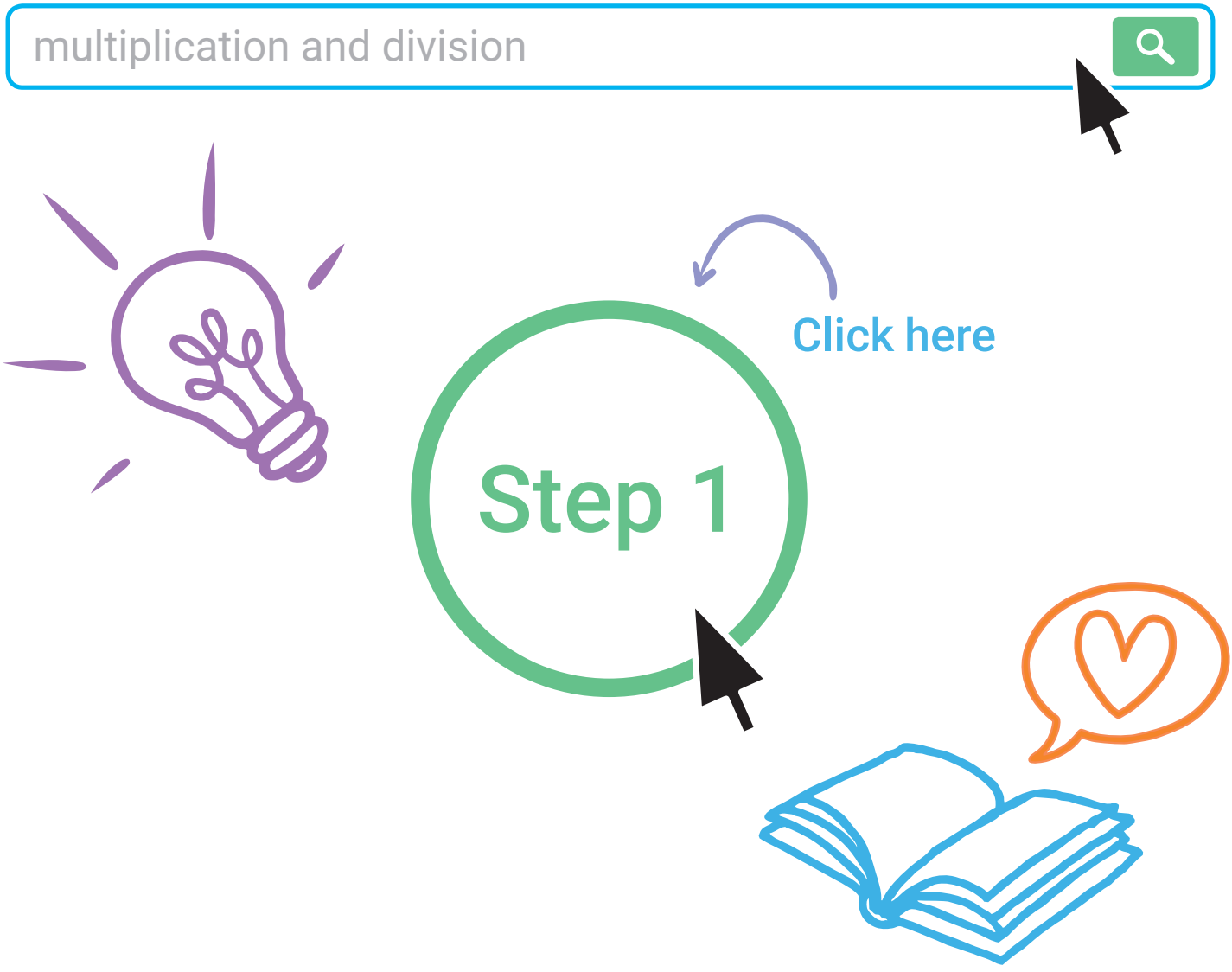
Year 5 Multiplication and Division: A Step-by-Step Guide for Parents

This step-by-step explanation to learning multiplication and division can 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. Whether your child is still working to learn their multiplication tables or they're ready to hone their skills with long multiplication and other formal methods, there'll be a right step in this guide for you.

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 However, please be aware that every child is different and information can quickly become out of date.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.

Multiplication and Division

What Do Children Learn about Multiplication and in Year 5?

As children move into their later years of primary school, the importance of regular opportunities to practise times tables cannot be underestimated. By year 5, children have usually been introduced to all times tables up to, and including 12 × 12. By this stage, children need to be reminded that 0× any number is always 'zero'. You can also focus on square numbers by practising 1 × 1 = 1, 2 × 2 = 4, 3 × 3 = 9 and so on. This helps children as algebra is introduced and children need to focus on multiples, factors, squares and square roots in the run up to SAT tests. Most children will learn how to write the notation for squared (2) and cubed (3).

The multiplication and division methods children learn earlier in primary school continue to be followed with increasingly large numbers of digits. For example, children multiply numbers with up to four digits by one number and start to multiply two digit numbers by two digit numbers using long multiplication methods. Division also extends to four-digit numbers and children are often taught how to multiply and divide whole numbers and decimal numbers by 10, 100 and 1000.

What Do Children Learn about Long Multiplication?

Long multiplication is often introduced in year 5 in English schools. As with other mathematical concepts, children tend to learn several methods for long multiplication; the most common methods are the 'grid method', which is often taught first because it relies on pupils partitioning numbers and gives children a good feel for the size of their answers as they work through the method. Children are also taught the traditional column method (sometimes known as the 'double decker' method) where pupils multiply single digits, remembering to add a zero for every factor of ten that they are multiplying by. Once mastered, the traditional method is faster and more accurate than the grid method, but the grid method is valuable for practising mental maths and understanding the scale of answers.

What Are Prime Numbers?

Prime numbers are numbers that can only be divided by themselves and by 1 to give a whole number answer. 6 is not a prime number because you can divide it by 6 (to get 1) and by 1 (to get 6) but you can also divide it by 2 (to get 3) and 3 (to get 2) so it can't be a prime number. 7 is a prime number because you can only divide it by 7 (to get 1) or by 1 (to get 7); there are no other numbers that divide into 7 and give you a whole number answer. In year 5, prime numbers are often introduced in the English national curriculum and children are expected to be able to quickly recall all the prime numbers up to and including 19 by the end of the year. This can be tested on year 6 SATs papers and in the mental arithmetic test.

Numbers Board Game

Play this **Twinkl Dice Game** to help your child to practise prime numbers, multiples and factors. Try it as a family and build up your understanding as you work to eliminate the numbers in the game. All you need is a couple of dice.

Prime around the Circle

Get the family and friends around in a circle and remind each other what prime numbers are. Agree which way you'll count around the circle. Start with four, each time you say a prime number, you go backwards carrying on counting as you go. This helps to keep everyone on their toes at spotting prime numbers.

Code Cracker

Try this fun code cracking activity to help your child practise prime numbers, multiples and factors through problem solving and code cracking. It is great as an individual task, or introduce some element of competition by seeing who can crack the code first.

Step 1

Short and Long

These handy presentations will show you the key steps involved in the short and long multiplication methods. Look at the presentation and work through the contents yourself before sharing it with your child. Some teachers get children to write down each calculation involved in the process (the expanded method) and then move children on to multiply the numbers in their heads and only record the answer (the compact method). Talk to your child about where they are in these methods and use the approach that your child is most confident in. Then you can support your child as they try the practice calculations for themselves.

Step 2

Short Division

In year 5, children must become increasingly used to the formal 'bus stop' style of dividing large numbers by single digit numbers. This simple worksheet sets out the calculations for your child and provides squared paper for the answers to be placed in exactly the right position above the digit they're dividing.

Step 3

Long Multiplication

When you worked with your child in Step 1, you mastered the long multiplication method. You may wish to revisit that presentation before your child tries this worksheet. Long multiplication method requires repeated opportunities to practise in order to perfect the method so it becomes second nature. This worksheet uses a squared background to support your child in keeping digits in their correct place. Do the first couple together, letting your child explain

Step 4

Inverse Operations

Inverse operations are calculations which undo each other. Multiplication is the opposite (inverse) of division and addition is the inverse of subtrations.
Starting with 5. If 5 + 8 = 13, then subtract 8 to revert to 5.
Starting with 6. If 6 x 10 = 60, then divide 60 by 10 to revert to 6.
These activity pages should be straightforward and provide your child with repeated practice of these

Step 5

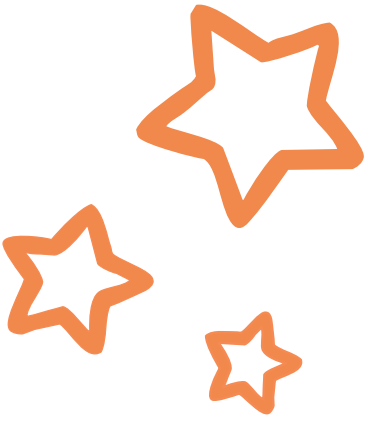
Learn at Home Workbook

This learning at home workbook is great to use as a self-selected set of activities. One of the challenges of home learning is that as children get closer to the end of primary school, they can become more reluctant to work at home as the demands of school get greater. It often helps to have a workbook where your child can choose which activity they do for a fixed period of time. Allowing your child this degree of control ensures that everything will be covered in the end, but your child can exercise judgement over what they want to do first. This also gives you an idea of the things they find trickier.

Step 6

Multiplication and Division Assessment

If you want to check your child's progress, you can try a test; this combines the skills your child has learnt in this step-by-step guide. You'll find an answer scheme to help you to give your child feedback. Work through the paper with the answers with your child present so you can talk through any tricky bits. Often it is the word problems that year 5 children struggle with. You can find more word problems for multiplication and division on our lovely Twinkl parents' area for Year 5 **Multiplication** and **Division**.



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!