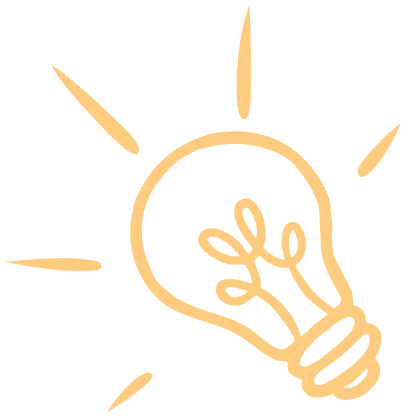


Year 5 Patterns and Sequences: A Step-by-Step Guide for Parents

This step-by-step guide to patterns and sequences can help you support your child's learning at home. The subject is broken down into manageable chunks, providing you with a simple guide to follow when exploring patterns and sequences together, either as part of homework or if you decide to give your child some extra support. Whether your child is building up confidence with patterns and sequences, or they are secure in their learning and want further practice, you will find a step that matches where your child is at now and ones that give you 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.

Year 5 patterns and sequences



Click here



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 However, please be aware that every child is different and information can quickly become out of date.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

Patterns and Sequences

What Are Patterns and Sequences?

In mathematics, patterns and sequences often refer to a set of objects – usually numbers – that follow a distinct order or rule. Patterns and sequences are important because, by studying them, they allow us to predict trends and interpret statistics.

In year 5, your child will extend their knowledge of number patterns by recognising and describing linear number sequences – a sequence of numbers that increase or decrease by the same amount each time. They will look at number sequences involving whole numbers as well as fractions and decimals and, for each, describe the rule showing how to get from one number in the sequence (known as a 'term') to the next.

At this stage of upper key stage 2, your child is expected to order and compare numbers to at least 1,000,000. They will also be expected to recognise prime numbers (numbers that can only be divided by 1 and themselves: 2, 3, 5, 7, 11...) and may investigate patterns involving these. Finally, they will be taught to count in powers of 10. A power of 10 is 10 multiplied by itself the number of times shown by the small digit next to it. For example:

$$10^2 = 10 \times 10 = 100$$

$$10^3 = 10 \times 10 \times 10 = 1000$$

You can use the resources in this category and the suggested keyword searches to help your child learn about patterns and sequences at home. Ideas for games and activities to help your child practise and become more familiar with the concept of patterns and sequences are outlined below.

Explore Geometric Sequences

Geometric sequences are ones where each number in the sequence (or 'term') is found by multiplying the previous term by the same value every time. For example, in the sequence 1, 3, 9, 27, 81, each term is being multiplied by 3 to find the next term. Try exploring other geometric sequences and challenge your child to create their own geometric sequence.

Cube Numbers

Challenge your child to come up with a number sequence of cube numbers, starting from 1. Cube numbers are numbers which are multiplied by themselves 3 times

For example:

$$1 \times 1 \times 1 = 1$$

$$2 \times 2 \times 2 = 8$$

How many more can they calculate?

Triangle Challenge

Use 3 short straws to create a triangle. Ask your child to add 6 straws to increase the pattern to 4 triangles (where the original triangle is at the top and the other 3 triangles are in a row below).



Ask them to add another row of triangles directly below. How many triangles are there now? How many straws have they used? Can they see a pattern and make predictions?

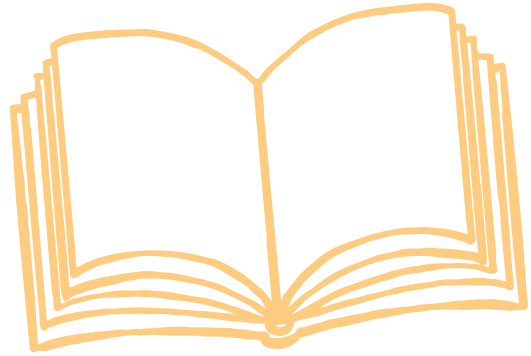
Investigate Tessellations

Look at patterns and sequences of shapes by studying tessellations – arrangements of shapes closely fitted together without gaps or overlaps in a repeated pattern. Use the same types of shapes, such as equilateral triangles (ones with sides of all the same length) or squares, to form a tessellation or try using a combination of shapes to create a pattern.

Step 1

Describing Linear Number Sequences

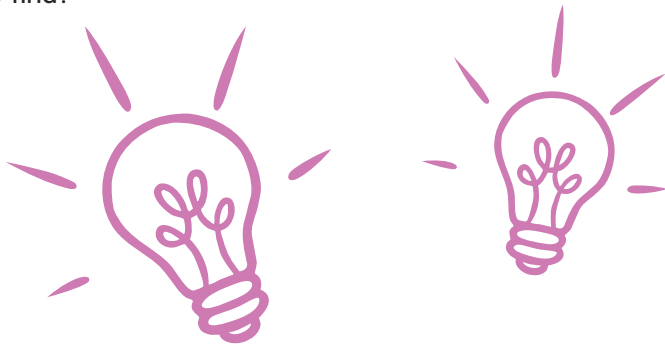
In year 5, your child will be taught how to find the rule for a linear number sequence (see explanation on previous page) and they will then use this rule to extend the number sequence or to find missing numbers. Our **activity sheets** are a fantastic way to encourage your child to practise their maths skills in this area.



Investigating Patterns with Prime Numbers

At this stage, your child will be learning about and experimenting with prime numbers. Test our series of prime number theories by downloading our **'Patterns with Prime Numbers'** maths display posters and encouraging your child to try them out. What patterns can they find?

Step 2



Step 3

Investigating Powers of 10

In year 5, children are required to be able to count forwards and backwards in powers of 10 for any given number up to 1,000,000. (See the previous page for an explanation of powers of 10). You can use our **Maths Mastery Challenge Cards** to reinforce learning in this area at home.



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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!



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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.



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imagine

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.



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KIDS' TV

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!