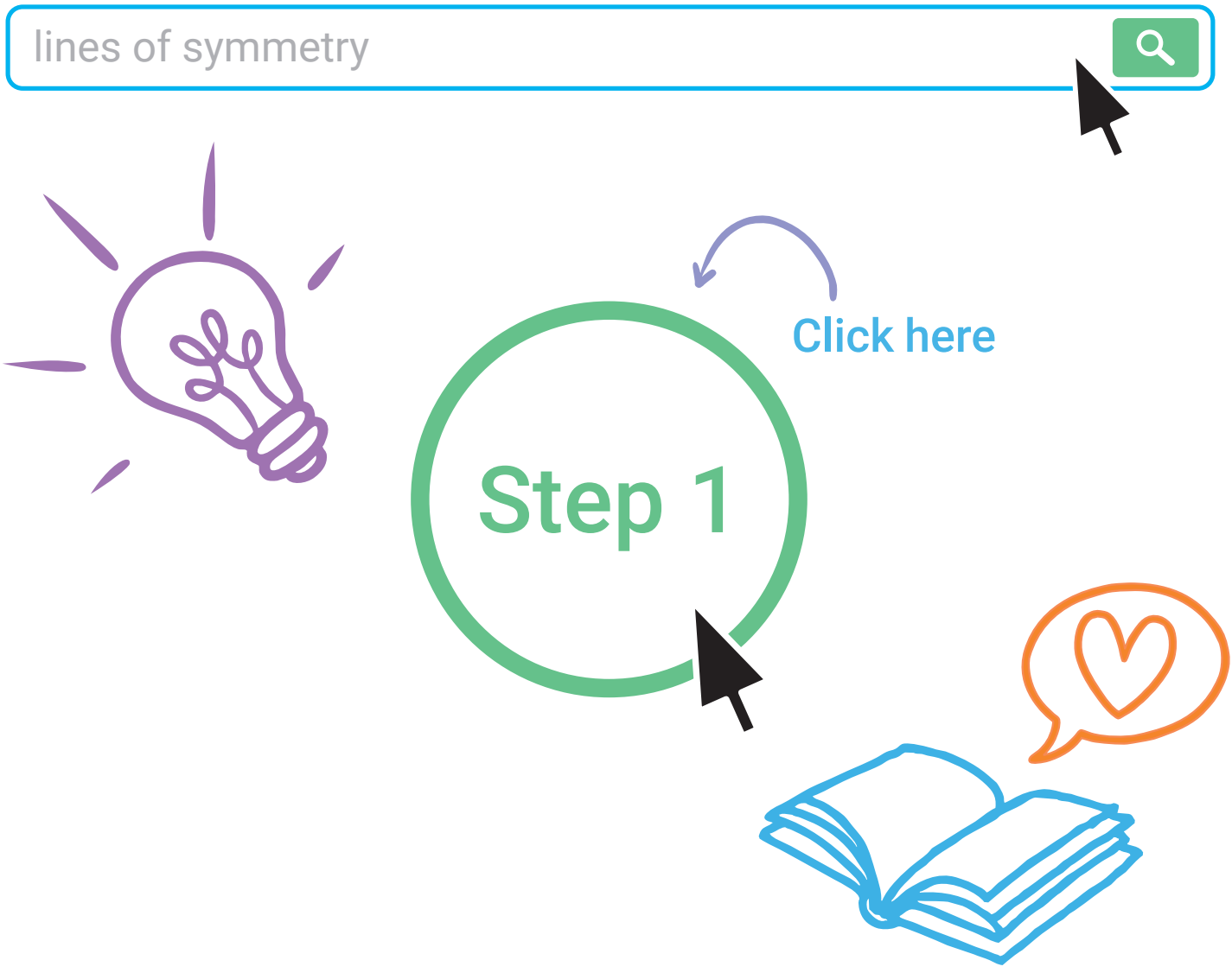
Year 5 Symmetry: A Step-by-Step Guide for Parents

This step-by-step explanation to learning about symmetry 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 beginning to understand reflective symmetry or whether they can already find multiple lines of symmetry in different shapes, there'll be a right step in this guide to support your child.

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 However, please be aware that every child is different and information can quickly become out of date.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

Symmetry

What Should My Child Already Know about Lines of Symmetry from Year 4?

In year 4, most children will focus on reflective symmetry. This is the type of symmetry where one half of an object matches another half. If a mirror is placed exactly at this halfway point, the image in the mirror should appear as if it completes the whole shape, just like the original. The simplest example of this perhaps is a butterfly's wings. At this stage of primary school, children should also begin to learn that some shapes have several lines of symmetry. In other words, there are a few positions where a mirror could be placed to complete the image. Children's work in symmetry is usually linked to their understanding of the properties of shapes as well as in increasingly accurate drawings.

What Do Year 5 Children Learn about Symmetry?

In year 5, children are expected to have a secure grasp of straight lines of symmetry within a shape which they learnt in years 3 and 4. They will also learn how to:

- reflect objects over mirror lines using a grid and axes (this is called a quadrant);
- write the coordinates of reflected shapes using the points on the axes;
- they will also learn how to translate shapes within a grid. For further information and activities on translation, you could take a look at these **Translation, Rotation and Reflection** activities.

Symmetrical or Asymmetrical?

Take a photo of your child's face and cut it down the middle so that only one eye, one ear and half of their nose and mouth are showing. Stick the photo down onto paper and see if your child can draw the rest of their face so that the image is perfectly symmetrical. They could use a small mirror and hold it along the edge of the photo to see what they need to draw.

It's an Illusion!

Some optical illusions rely on symmetry to produce an effect. Take a look at these **Optical Illusion Cards** to collect images of optical illusions that do and don't use symmetry.

Symmetry in Nature

Nature is full of line and rotational symmetry. From butterflies to dragonflies, honeycomb to starfish, there are wonderful examples of symmetry in our world. Your child could gather images and make a collage or a scrapbook to celebrate symmetry in nature.

Rose Windows

Search for images of rose windows on an Internet search engine. How do these windows use symmetry? Can your child see lines of reflective symmetry? Can they work out the number of orders of rotational symmetry for each window?

Step 1

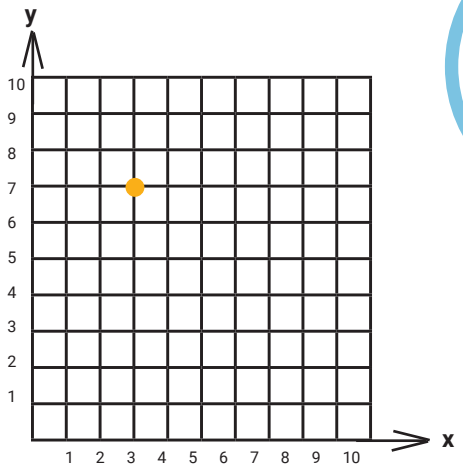
Lines of Symmetry

You may wish to revise lines of symmetry with your child to help refresh their memory on the work they did in year 4. Use this helpful **PowerPoint** to share an increasing depth of understanding about lines of symmetry with your child. Work through the slides at a pace your child finds manageable. Don't feel the need to cover all the slides in one sitting. You could try spreading the presentation over a week and mixing in activity-based work, such as this symmetry **worksheet** as a way to support your child with their understanding that different shapes have different numbers of lines of symmetry.

Step 2

Reading and Writing Coordinates in the First Quadrant

In year 5, children are expected to reflect shapes over a mirror line and write the coordinates of the reflected shape. In order to do this, children need to understand how to read, write and plot coordinates in the first quadrant. A quadrant is a graph with a labelled x and y axis, which can be used to read and plot coordinates:



At home, try using this **Coordinates PowerPoint** to help your child revise coordinates before completing these **Emoji Coordinates in the First Quadrant** activity.

Step 3

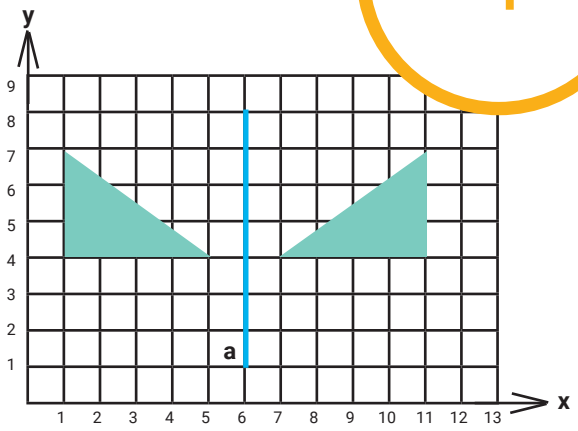
Reflecting Shapes on a Mirror Line

Children are taught to build on their knowledge of symmetry by moving on to reflection. Reflection is when a shape is reversed (much like in a mirror) on the other side of a mirror line. At home, try these **Reflecting in a Mirror Line Challenge Cards** to help your child practise reflecting shapes across a mirror line.

Step 4

Plotting Coordinates of Reflected Shapes

In year 5, children are taught to reflect shapes within the first quadrant (this is a graph with has an x and y axis and all the numbers are positive numbers). For example:



Children build on their knowledge of reflecting shapes by reflecting the shape over a mirror line in the first quadrant and writing the new coordinates of points. For example, the coordinates of point a are (5,4). Once reflected, the coordinates of a will be (7,4). Try this **Drawing Reflected Shapes In Four Quadrants Worksheet** to help your child practise this at home.

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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 pupils 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!