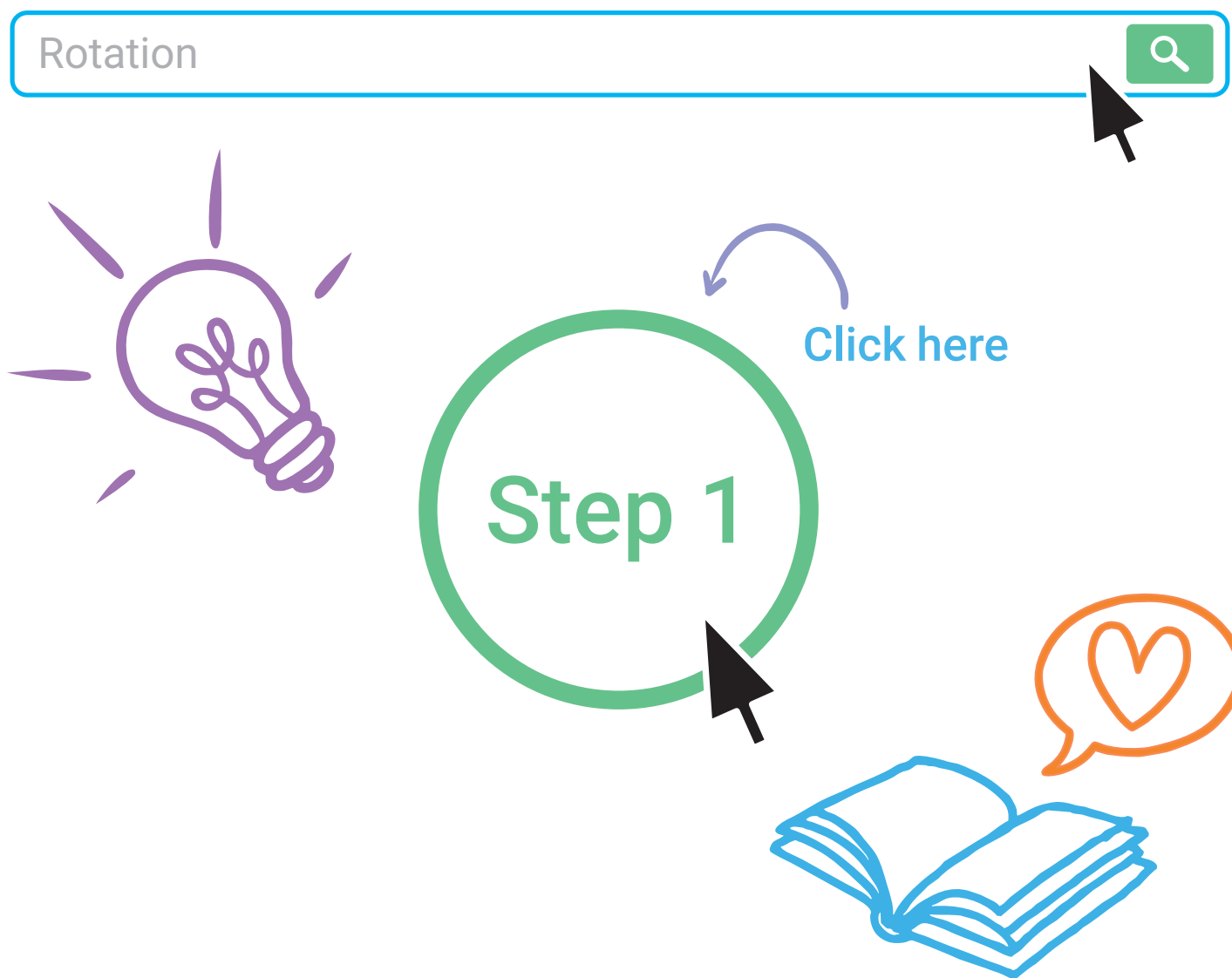


Year 3 Translation, Rotation and Reflection: A Step-by-Step Guide for Parents

This step-by-step explanation to translation, rotation and reflection 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 translation, rotation and reflection together, either as part of homework or if you decide to give your child some extra support. Whether your child is only just beginning to explore this area of maths, or they are gaining confidence and want to find out more, 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 However, please be aware that every child is different and information can quickly become out of date.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.

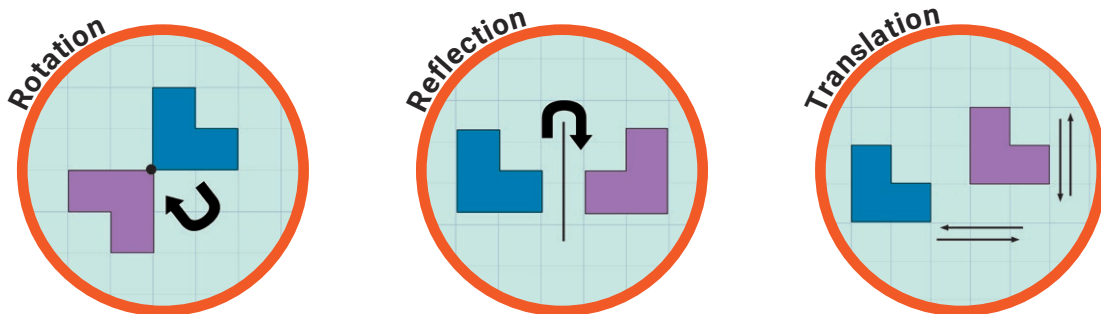
What Is Translation, Rotation and Reflection?

In key stage 2, your child will come across the terms translation, rotation and reflection when they are studying shape and direction.

Rotation means turning an object a certain number of degrees around a fixed spot. The shape itself will remain exactly the same but will be in a different position. In order to do this, it helps if your child knows that a quarter turn is the same as a right angle (90°), a half turn is the same as two right angles (180°), a three-quarter turn is the same as three right angles (270°) and a full turn is the same as four right angles (360°). They will also need to be familiar with the terms clockwise (moving in the same direction as the hands on a clock) and anticlockwise (moving in the opposite direction to the hands on a clock).

Reflection means 'flipping' a shape over a mirror line so that each point on the reflected shape is exactly the same distance from the mirror line as the corresponding point on the original shape. The shape will remain the same size but the two shapes will be facing each other on either side of the mirror line as if one has been folded on top of the other.

Translation in maths simply means moving a shape. Every point of the original shape must move in the same direction and for the same distance.



As well as using the resources in this category and the keyword searches to find activities to help with translation, rotation and reflection, below are a few further ideas you could try at home to help your child make progress in this area of maths.

Reflecting Patterns

Use our **free colouring activity** to encourage our child to reflect shapes and patterns across a mirror line. Test if they've got it right using a real mirror or see if they can fold the pattern so that the original shape lies exactly on top of the reflected shape.

Clock Talk

Look at the hands of an analogue clock together. Turn the minute hand one quarter of a turn clockwise. Discuss what rotation the hand has gone through. What is the new time? Repeat with rotations showing 180 degrees, 270 degrees and 360 degrees clockwise and anticlockwise.

It's All in the Hands

Encourage your child to put their hands face down on a piece of paper. Draw round them and cut them out. Use both cut-outs side-by-side with thumbs next to each other to show reflection in a mirror line. Use one cut-out to show rotations through quarter, half and three-quarter turns.

Reflection Art

Collect together some images of artwork where landscapes and scenery have been reflected in lakes and rivers. Discuss how the reflection forms a mirror image of the original scenery. Be inspired to create your own reflection art using chalk pastels or paint.

Step 1

Right Angles and Turns

In year 3, your child will learn how to identify right angles and recognise that one right angle makes a quarter turn (90°), two right angles make a half turn (180°), three right angles make a three-quarter turn (270°) and four right angles make a full turn (360°). Twinkl's worksheets, activity pack and posters can help your child reinforce key learning in this area.



Reflection and Symmetry

At this stage, children will learn about reflection and how to reflect shapes across a mirror line (see previous page for an explanation about reflection). Our **Parents' Hub** has a range of resources to make learning fun. For example, our Reflective Symmetry Drawing Challenge Cards encourage children to use their knowledge of reflection and symmetry to complete the pictures.

Step 2

Step 3

Non-Symmetrical Shapes

At this stage in year 3, children's knowledge of shape is extended to non-symmetrical polygons (shapes with three or more straight lines). They may use their knowledge of reflection to test whether a shape has symmetry or not by folding cut-outs of shapes onto each other to see if they fit exactly – hence finding a line of symmetry. Or they may use a mirror placed at certain points across the shape to see whether it is reflected exactly in the mirror, finding a line of symmetry that way.



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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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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!