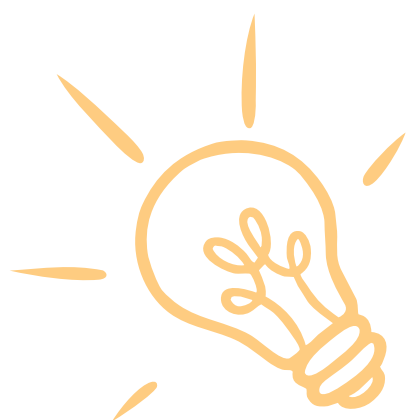


# Year 6 Translation, Rotation and Reflection: A Step-by-Step Guide for Parents

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.

year 6 translation



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 However, please be aware that every child is different and information can quickly become out of date.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

# Translation, Rotation and Reflection

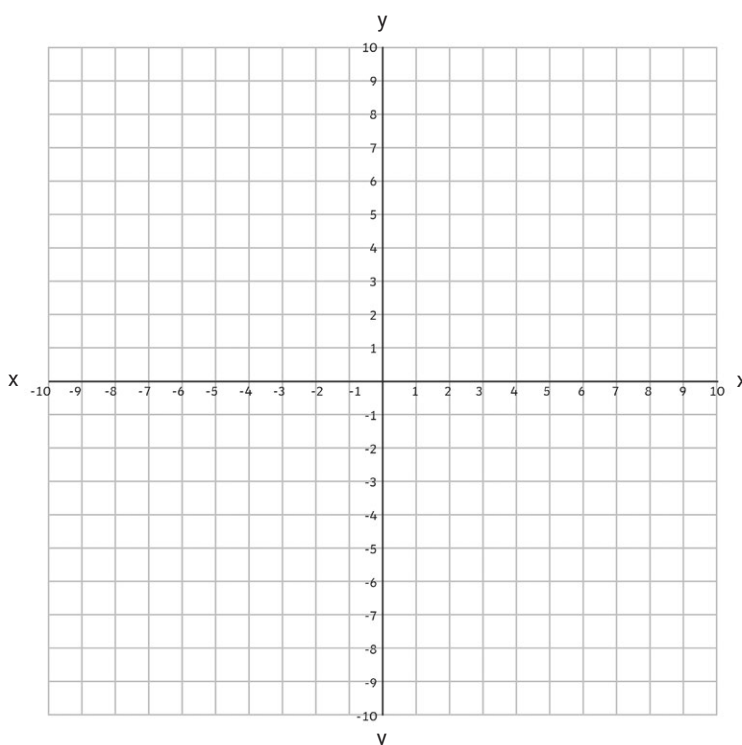
## What Is Translation, Rotation and Reflection?

In key stage 2, your child will come across the terms 'translation', 'rotation' and 'reflection' when they are studying shape and direction in maths. See our year 5 parent guide to translation, rotation and reflection for a full explanation of these mathematical terms.

In order to translate and reflect shapes on a grid, in year 6, children are taught how to plot coordinates in all four quadrants. This means extending the x and y axes on a simple graph so that you have an axis that looks like a cross, with the x axis extending horizontally to include negative numbers and the y axis extending vertically to also include negative numbers (see grid to the right).

Your child may be asked to draw and label a pair of axes showing all four quadrants as well as being asked to plot and describe positions in any quadrant. They should also be asked to draw simple shapes on the grid and reflect them in the axes as well as to translate (or move) them. Note that translations are described as so many positions to the left or right, up or down, for example left 8, down 5.

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.



### Mirror Maths

Use numbers that are symmetrical when reflected bottom half to top half, such as 0, 1, 3, 8. Write some sums involving these numbers on a piece of paper then cover the top half of each sum so that only the bottom half is showing. Can your child work out what the numbers are and solve the sums?

### Reflection Practise

Download our **free squared paper** and draw axes showing all four quadrants. Draw a simple shape such as a rectangle in the first quadrant. Can your child reflect the shape in the x axis and the y axis? What are the new coordinates each time?

### Design a Poster

Challenge your child to design a poster suitable to show a younger child. The poster needs to contain illustrations and explanations about what translations, rotations and reflections are, clearly showing the differences between them and how each concept can change the position, but not the size, of a shape.

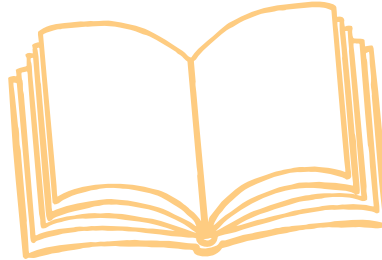
### Translation Challenge

Encourage your child to draw four quadrants on **squared paper** and practise drawing a shape such as a square or rectangle in the first quadrant. Can they translate the shape into another quadrant? What translation did the shape go through (e.g. left 10, down 4). What are the original coordinates and the new coordinates?

## Step 1

### Coordinates in Four Quadrants

In year 6, your child will extend their knowledge of coordinates to plotting and reading coordinates in all four quadrants (see the explanation on the previous page for an explanation of coordinates in four quadrants). Your child may be given coordinates to plot to draw shapes in any given quadrant, remembering that the x axis coordinate is given first and the y axis coordinate is given second. Use our **challenge cards** and **activity sheet** to help your child practise plotting and reading coordinates involving negative numbers.



## Step 2

### Translations in Four Quadrants

At this stage, children will use their knowledge of coordinates in all four quadrants to translate (or move) shapes between them. They may be asked to use positional language to describe a translation or to follow instructions to draw translated shapes. Use our **PowerPoint**, activity sheets and mastery tasks to help your child consolidate their learning in this area.



## Step 3

### Reflections in Four Quadrants

In year 6, children extend their knowledge of reflection by reflecting shapes across the x and y axis into all four quadrants. They may also be asked to translate a shape and reflect it, giving the new coordinates of the reflected shape. Use our **activity sheets** and PowerPoints to practise this skill.

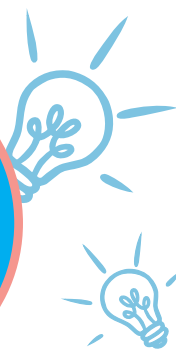


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Twinkl Book Club is our book subscription service. Enjoy our original works of fiction in beautiful printed form, delivered to you each half-term and yours to keep!



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 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.



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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!

