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| **Title of unit:** | Transformations |
| **Overview of unit:** | Reflection SymmetryRotational SymmetryEnlargementReflections in a LineRotations About a PointTranslationVectors |
| **Cross-curricular/ extra-curricular links:** | Art/Design – tessellations, reflection, rotation, translation, symmetry |
| **Literacy/ numeracy links:** | Worded problems/exam questions Keywords displayed on all PPts - transform, tessellate, translate, rotate, enlarge, reflect, symmetry, centre, linear graph, vector, degrees, direction, (anti-) clockwise, scale factorWritten plenaries |

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| **Grade:** | **Learning objective:** | **Resources:** |
| **1** | Draw the reflection of a shape in a mirror line.Draw a line of symmetry on a 2D shape. | [Introduction to reflection](https://www.piximaths.co.uk/reflection) |
| **2** | Draw all the lines of symmetry on a 2D shape.Draw the line of reflection for two shapes.[Give the order of rotational symmetry of a 2D shape.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Rotation%20and%20rotational%20symmetry)[Give a scale factor for an enlarged shape.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Enlargement) | [Introduction to reflection](https://www.piximaths.co.uk/reflection)[Introduction to rotation](https://www.piximaths.co.uk/rotation-and-rotational-symmetry)[Introduction to enlargement](https://www.piximaths.co.uk/enlargement) |
| **3** | [Reflect shapes in the axes of a graph.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Reflection%20and%20symmetry)[Enlarge a shape by a positive scale factor.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Enlargement) | [Reflection](https://www.piximaths.co.uk/reflection)[Introduction to enlargement](https://www.piximaths.co.uk/enlargement) |
| **4** | [Reflect shapes in lines such as x = 2 and y = -1.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Reflection%20and%20symmetry)[Rotate shapes about the origin.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Rotation%20and%20rotational%20symmetry)[Enlarge a shape by a positive integer scale factor from a given centre.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Enlargement) | [Reflection](https://www.piximaths.co.uk/reflection)[Introduction to rotation](https://www.piximaths.co.uk/rotation-and-rotational-symmetry)[Enlargement](https://www.piximaths.co.uk/enlargement) |
| **5** | [Reflect shapes in the lines y = x and y = -x.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Reflection%20and%20symmetry)[Rotate shapes about any point.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Rotation%20and%20rotational%20symmetry)[Translate a shape by a vector.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Translation%20and%20column%20vectors)[Enlarge a shape by a positive fractional scale factor.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Enlargement) | [Reflection](https://www.piximaths.co.uk/reflection)[Rotation](https://www.piximaths.co.uk/rotation-and-rotational-symmetry)[Translation](https://www.piximaths.co.uk/translation)[Enlargement](https://www.piximaths.co.uk/enlargement) |
| **6** | [Enlarge a shape by a negative scale factor.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Enlargement) | [Enlargement](https://www.piximaths.co.uk/enlargement) |
| **7** | [Describe the changes and invariance achieved by combinations of rotations, reflections and transformations.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Describing%20transformations)[Add, subtract and multiply vectors.](file:///O%3A/_2015-2016/SUBJECTS/MATHS/Pixi%20MATHS/Shape%2C%20space%20and%20measure/Transformations/Vectors) | [Describing Transformations](https://www.piximaths.co.uk/describing-transformations)[Vectors](https://www.piximaths.co.uk/vectors) |
| **8** | Understand the relationship between parallel vectors. | [Vectors](https://www.piximaths.co.uk/vectors) |
| **9** |  |  |