

## Geometry: Position and Direction with Reasoning

| Year 1                                                                                                                                                                                                                                                               | Year 2                                                                                                                                                                                                                                                             | Year 3                                                                                                                                                                                                                | Year 4                                                                                                                                                            | Year 5                                                                                                                                                                                                                            | Year 6                                                                                                                                                                                                             |
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| POSITION, DIRECTION AND MOVEMENT                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                       |                                                                                                                                                                   |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                    |
| describe position, direction and movement, including half, quarter and three-quarter turns.                                                                                                                                                                          | use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) |                                                                                                                                                                                                                       | describe positions on a 2-D grid as coordinates in the first quadrant                                                                                             | identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed                                                           | describe positions on the full coordinate grid (all four quadrants)                                                                                                                                                |
|                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                       | describe movements between positions as translations of a given unit to the left/right and up/down                                                                |                                                                                                                                                                                                                                   | draw and translate simple shapes on the coordinate plane, and reflect them in the axes.                                                                                                                            |
|                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                       | plot specified points and draw sides to complete a given polygon                                                                                                  |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                    |
| <b>Working backwards</b><br><br>The shape below was turned three quarter of a full turn and ended up looking like this.<br><br>What did it look like when it started? (practical) | <b>Working backwards</b><br><br>If I face forwards and turn three quarter turns clockwise then a quarter turn anti-clockwise describe my finishing position.                                                                                                       | <b>Working backwards</b><br><br>If I make the two opposite sides of a square 5 cm longer the new lengths of those sides are 27cm. What was the size of my original square? What is the name and size of my new shape? | <b>Working backwards</b><br><br>Here are the co-ordinates of corners of a rectangle which has width of 5. (7, 3) and (27, 3) What are the other two co-ordinates? | <b>Working backwards</b><br><br>A square is translated 3 squares down and one square to the right. Three of the coordinates of the translated square are: (3, 6) (8, 11) (8, 6) What are the co-ordinates of the original square? | <b>Working backwards</b><br><br>Two triangles have the following co-ordinates: Triangle A: (3, 5) (7, 5) (4, 7) Triangle B: (3, 1) (7, 1) (4, 3) Describe the translation of triangle A to B and then from B to A. |

Objectives highlighted in green are ones covered by the year group brick walls.

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| PATTERN |                                                                                                                                    |  |  |  |  |
|---------|------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|         | order and arrange combinations of mathematical objects in patterns and sequences                                                   |  |  |  |  |
|         | <b>What comes next?</b><br><br><b>Explain why</b> |  |  |  |  |

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