

## Max's Symmetrical Patterns

*Learning objective: To identify line symmetry in 2D shapes and complete symmetrical patterns.*

Max the monkey is helping his friends decorate their forest clubhouse. He loves patterns that are perfectly balanced! Read the information below and answer the questions to help Max finish his designs.

A shape has symmetry if it can be folded in half so that both sides match exactly. The line where you fold the shape is called the line of symmetry. Max has been looking at the leaves in the forest. Some leaves have a vertical line of symmetry, meaning they look the same on the left and the right. Other shapes have a horizontal line of symmetry, meaning they look the same on the top and the bottom. When Max draws, he always checks if his shapes are perfectly balanced by drawing a dotted line through the middle.

*Word bank: Symmetry · Line of symmetry · Horizontal · Vertical · Reflect · Balanced*

**1. Max has a rectangular sign for the clubhouse. How many lines of symmetry does a rectangle have? Draw them on the shape. (2 marks)**

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**2. Look at the letter 'A'. Does it have a vertical or a horizontal line of symmetry? Explain how you know. (2 marks)**

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**3. If Max buys a square tile for £2.50, and he draws one diagonal line of symmetry across it, does the shape fold perfectly? Why or why not? (2 marks)**

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**4. Which of these shapes has more than two lines of symmetry: a rectangle, a square, or a parallelogram? (1 mark)**

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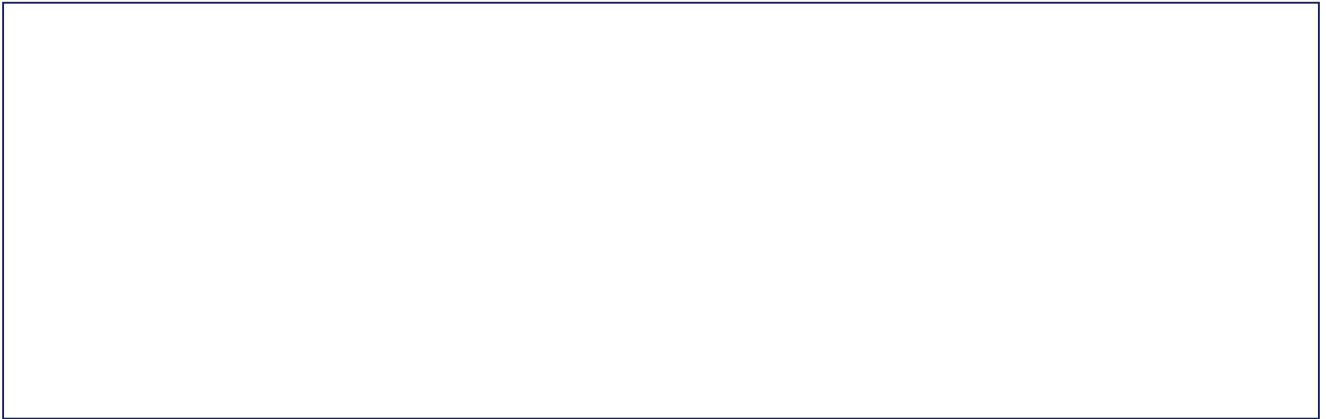
**5. Max wants to paint a symmetrical butterfly. If he paints a blue spot on the top-left wing, where must he paint the matching spot on the right wing to keep the symmetry? (2 marks)**

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**Draw:** Draw a simple heart shape and use a ruler to draw its vertical line of symmetry. Then, draw a shape of your own choosing that has no lines of symmetry.



*Extension challenge: Max has £10.00 to spend on craft supplies. He wants to buy 3 packs of glitter pens at £2.20 each and 2 rolls of patterned tape at £1.50 each. Does he have enough money? Show your working out using symmetry to organise your sums.*