Lesson 84 SHAPE & SPACE

Line symmetry – finding lines of symmetry

WHAT THIS LESSON TEACHES

A line of symmetry folds a shape into two halves that land exactly on top of each other. It is also called a mirror line.

→ A square has four lines of symmetry that all match perfectly when folded.
→ A rectangle has two lines of symmetry down and across its middle.

MODEL THIS ON THE BOARD

LINES ON A BUILDING SQUARE

1. Draw a paper square like a floor tile for a model house.
2. Fold it straight down the middle from top to bottom; both halves land exactly on top so this is one line of symmetry.
3. Fold it across from left to right; the halves match again for a second line.
4. Fold corner to corner on both diagonals; each fold matches too.
5. Count every matching fold: the square has **4** lines of symmetry.

DISCUSSION STARTER

REFLECT How do you check that both halves really match across a fold line?

ANSWER KEY

Scaffold: visual check on the page

Q1: 4

a) Always — Both midlines and both diagonals fold so the halves match exactly.

b) Never — A rectangle only has two lines of symmetry, the midlines, not the diagonals.

c) Always — The rule states that a line of symmetry is also called a mirror line.

d) Never — Some shapes such as a scalene triangle or most letter F shapes have none.

EXTENSION SHEET · STRETCH ANSWERS

S1: 1 line

S2: 6 lines

S3: 1 line

S4: reflection

S5: reflection

Investigation: Flag symmetry — open-ended; scan pupils' working for valid solution paths rather than a single answer.