

Nets and construction of 3-D solids

WHAT THIS LESSON TEACHES

A net is a flat arrangement of joined shapes that folds up to make the surface of a solid.

→ Six squares joined edge-to-edge fold up into a cube.

→ A cube has six square faces, so its net has six squares.

MODEL THIS ON THE BOARD

FOLDING A VALID CUBE NET

- 1 Count the six squares arranged in a cross.
- 2 Check that opposite faces will meet when folded.
- 3 Fold along the edges to form the cube.

ANSWER KEY

Scaffold: visual check on the page

Q1: 6

Q2: cuboid

Q3: No

Q4: Any valid cube net $\neq$ cross (e.g. T)

Q5: 5

a) Always — A cube has six faces so its net must have six squares.

b) Never — Some arrangements like a straight line will not fold into a cube.

c) Always — Cuboids have rectangular faces so their nets use rectangles.

d) Always — Many cubes can be made from different net shapes.

EXTENSION SHEET · STRETCH ANSWERS

S1: a cone

S2: a square-based pyramid

S3: a square-based pyramid

S4: a tetrahedron

S5: a cuboid

Investigation: How many nets make a cube? — open-ended; scan pupils' working for valid solution paths rather than a single answer.