

3D shapes: nets (a first look)

CURRICULUM ALIGNMENT

SHA.SHP.3a

investigate and analyse the properties of 3-D and 2-D shapes and identify classes of shapes based on these properties.

SHA.SHP.3b

represent shapes with drawings and models, and calculate dimensions of shapes.

INTERACTIVES **Net Folder** · challenge, display, explore

WHAT THIS LESSON TEACHES

A net is a flat shape made of all the faces of a solid joined edge to edge. When folded, it closes up into that solid.

- Six squares joined in a cross fold up into a cube.
- A cube has 6 square faces, so its net has 6 squares.

MODEL THIS ON THE BOARD

FOLDING A NET

- 1 Count the flat squares in the open shape.
- 2 Fold the edges together to form the solid.
- 3 Check that all faces match the solid.

DISCUSSION STARTER

REFLECT Can you picture how a flat net folds up into a solid before you try it?

ANSWER KEY

a) 6

c) cube

Q1: 6

Q2: No

Q3: 6

a) **Always** : A cube has six faces, so its net needs six squares.

b) **Never** : A long row of six squares will not fold into a closed cube.

c) **Sometimes** : True for a cross or a T-shape; false for six squares in a straight line.

d) **Always** : A box opened flat is a net of that box.

EXTENSION SHEET · STRETCH ANSWERS

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