ASPIRE TO POWER LEARNING

Year 6 | Space

Transformations and tessellating patterns

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Show your thinking using words, working or a labelled drawing. Use the explanations and example first.

What you will practise

• Transformations and tessellating patterns

• Explain and check an answer with an appropriate representation.

Useful starting skills: Use objects, drawings or a number line to explain a simple idea.

A tessellation covers a plane with shapes that fit together without gaps or overlaps. Translations, rotations and reflections can generate repeated copies of a tile.

At a point where tiles meet, the angles must total 360°. This gives a useful test for regular tilings. Explore combinations and track how every edge meets a neighbouring edge as the pattern continues.

Worked example

Explain a regular hexagon tiling.

A regular hexagon has 120° interior angles.

Three corners meet:120+120+120=360°, and matching edges continue the pattern.

Answer: Three hexagons fit at each vertex

Try it yourself

Name: _____ Date: _____

1. How many squares meet at a vertex in the standard square tiling? Explain with angles.

2. How many equilateral triangles meet at a vertex in a regular triangular tiling?

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. 4

Four 90° angles make 360° with no gap or overlap.

2. 6

Each angle is 60°; six make 360°.

Curriculum reference: VC2M6SP03

Independent original resource. Not published or endorsed by VCAA. This focused set supports the listed skills; it is not a complete course or an official assessment.

This free preview may be shared intact with attribution. Not for sale.