Look Kool – Tiling

ABC ME screening details: Tuesday 2 June 2020 at 11:20am

This episode can also be viewed on ABC iView.

Key learning areas: Mathematics

Level: Levels 4 – 6

About: It's cold today, so Hamza snuggles by the window with his quilt. Hamza likes to do crafts on "indoor" days like this, and decides to replicate the patterns in his quilt with geometric shapes.

Before the episode

Tessellation (or tiling) is when we cover a surface with a pattern of shapes that fit perfectly together with no overlaps or gaps.

1. Investigate tessellation in your environment. How many different examples can you find?

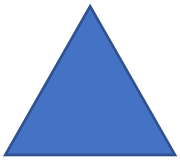
2. Use this Frayer model to draw and write what you know about tessellation. Think about shapes you know that can tessellate. What shapes can't tessellate?

What I know about tessellation	
Shapes that can tessellate	**Shapes that can't tessellate**

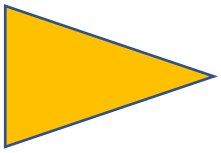
After the episode

Let’s explore tessellating triangles.

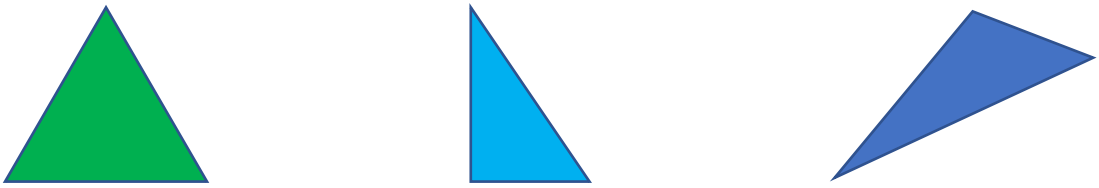
1. Equilateral triangles have three sides the same length and three angles the same. Draw equilateral triangles like this one. Can you make them fit together without any gaps between them?



2. Isosceles triangles have two equal sides. Can you tessellate this isosceles triangle?



3. Time to explore! Draw different types of triangles on blank paper and see if you can find ways to tessellate them.



4. Can all triangles tessellate? If your answer is no, can you give an example of a triangle which doesn't tessellate and explain why it doesn't?

Adapted from https://nrich.maths.org/

Follow-up activity: Go back to the Frayer model and use a different coloured pen to show what you have learned about tessellation.

Teacher notes

This resource contains self-directed learning activities that students can complete while learning at home or in the classroom. The activities align with the Victorian Curriculum F-10 and can be modified to meet the needs of your students. Teachers could collect student work for feedback and assessment.

Learning intentions

- To identify shapes that can tessellate
- To create tessellating patterns with triangles

Victorian Curriculum content description

	Level 4	Level 5	Level 6
Measurement and Geometry	Create symmetrical patterns, pictures and shapes with and without digital technologies (VCMMG173)	Explain and compare the geometric properties of two-dimensional shapes and three-dimensional objects (VCMMG171)	Investigate the effect of combinations of transformations on simple and composite shapes, including creating tessellations, with and without the use of digital technologies (VCMMG229)

Victorian Curriculum achievement standard

	Level 4	Level 5	Level 6
Mathematics	Students create symmetrical simple and composite shapes and patterns, with and without the use of digital technology.	Students describe transformations of two-dimensional shapes and identify line and rotational symmetry.	Students investigate simple combinations of transformations in the plane, with and without the use of digital technology.