# Look Kool – Tiling

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

This episode can also be viewed on [ABC iView](https://iview.abc.net.au/show/look-kool).

**Key learning areas:** mathematics

**Level:** upper primary

**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.

|  |  |  |
| --- | --- | --- |

1. 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.

# NSW Teacher notes

This is an optional standalone resource that could supplement student learning. The activities align with syllabus outcomes across stages and can be modified to meet the needs of your students. Students can complete the activities while learning at home and in the classroom. All activities can be completed without access to the internet or a device. Teachers could collect student work to offer feedback and as evidence of learning.

## Learning intentions

* To identify shapes that can tessellate.
* To create tessellating patterns with triangles.

## NSW Mathematics K-10 Syllabus outcomes

|  |  |  |
| --- | --- | --- |
| Strands | Stage 2 | Stage 3 |
| Measurement and Geometry | Manipulates, identifies and sketches two-dimensional shapes, including special quadrilaterals, and describes their features (MA2-15MG) | Manipulates, classifies and draws two-dimensional shapes, including equilateral, isosceles and scalene triangles, and describes their properties (MA3-15MG) |
| Working mathematically | checks the accuracy of a statement and explains the reasoning used (MA2-3WM) | describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM) |

[NSW Mathematics K-10 Syllabus](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/mathematics/mathematics-k-10) © 2012 NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales. See the [NESA website](https://educationstandards.nsw.edu.au/wps/portal/nesa/mini-footer/copyright) for additional copyright information.