Learning objective: we are learning to find the highest common factor of two numbers.

Context

Turtlestitch is a free, easy-to-use platform found at www.turtlestitch.org. Using block-based code similar to Scratch and Snap!, it is designed for writing programs to control embroidery machines, but you don't need an embroidery machine in school to get a lot of fun learning from it. It is particularly useful for cross-curricular learning in computing and maths. Using WMG's free maths resources, year 5 and 6 children can apply their understanding in topics such as measure, geometry, division, and position and direction to create patterns onscreen.

Preparation

This is an optional year 6 lesson using the highest common factor of two numbers. It is designed to follow the missing angles and properties of shapes lessons (see lesson plans 1 and 2). In the plans for the missing angles lesson, you will find some introductory videos for teachers.

Familiarise yourself with the maths sheets: questions and answers. The children can access these online.
For a printable version, click here and set your printer to print landscape on both sides and flip on short edge.
Select pages 11 and 12 for printing.

Timing	Teaching & learning	Resources
5-10 minutes	**Maths re-cap** Re-cap finding the highest common factor of two numbers. Using the method on the first side of the question sheet, demonstrate how highest common factors can be used to create a shape.	Whiteboard Questions
20-30 minutes	**Making shapes with Turtlestitch** Using the question sheet, children work through the questions to create different shapes on Turtlestitch. Tell them to leave the code for each shape on the screen, to use later.	Questions Answers
10-20 minutes	**Exploration** Can the children find other numbers this works well with? What makes some numbers difficult to use?	
5 minutes	**Showcase** The children show each other their patterns.	