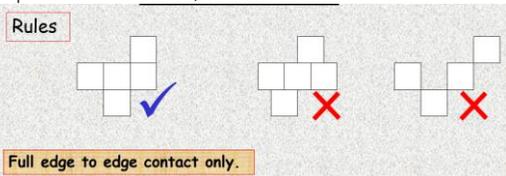## What are pentominoes?

Watch the video for a short history of pentominoes
https://www.youtube.com/watch?v=wZ1E_CM7MqA
On a piece of square paper, draw out the 12 different pentominoes (You will find a template for square paper in the folder)
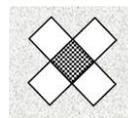
Rules

Full edge to edge contact only.

When you have found them all, colour them in and cut them out. You will use these for the other activities.

Open Top boxes.

Some of the pentominoes can be folded to make open top boxes. Can you find them all and shade in their bases?

You may want to use the pentominoes you made in Activity 1 and fold them up to help!

Here is one to start....
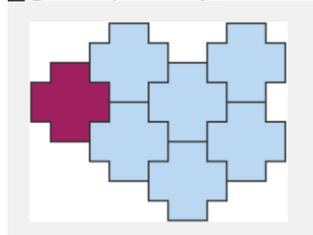
Perimeter and area?

As the pentominoes are all made of five squares, they all have the same area. But do they have the same perimeter?

Work out the perimeter of each pentominoes and write down what you find.

Tessellations

All of the pentominoes will form a tessellating pattern (To **tessellate** is to form a pattern of shapes that fit together perfectly, without any gaps)

Make a drawing to show how one of the pentominoes will tessellate You will need to make the drawing big enough so it is easy to see how the pattern repeats - that probably means drawing 20 or more copies of the shape you are using. The proper use of colour also helps to show how the pattern repeats itself.

Rectangle puzzles

Click on the link below and arrange the pentominoes to make different sized rectangles. There are three puzzles for you to try. Take a screen shot of your answer to show your teacher.
https://www.transum.org/Maths/Activity/Jigsaw/Pentominoes.asp

If you would prefer to try the puzzles on paper download the worksheet from the folder – called pentominoes puzzles.

The Enclosure Problem.

The 12 pentominoes can be arranged to enclose a field.
Click on the link below to see and example. Can you make a bigger field?

https://www.cimt.org.uk/resources/puzzles/pentoes/pentenc.htm

There is a template of square grid paper in the folder for you to use.