



# Activity

## - Paving -



### Step 1: Introduction

Paving is a way to completely cover a surface without any holes or overlapping. Visit the following website to see impressive examples: <http://www.mcescher.com/gallery/symmetry/>.

It is the website of M.C. Escher, a Dutch artist who was born in 1898 and died in 1972. He worked and lived in Italy and Switzerland, among others. Escher used mathematics a lot to create artworks. He is well renowned for his numerous pavings and paintings representing impossible constructions and worlds.<sup>1</sup>

### Step 2: Your turn!

It is now your turn to create your own paving. Ask an adult to help you cut out the dotted shapes on the next page.

Take a blank sheet of paper. Choose one of the cut-out shapes and draw the outline on the sheet to reproduce the shape. Move the shape and start again as many times as you want. The goal is to completely cover the sheet. Careful, there should not be blank spaces in between the shapes!

Once you succeeded, try to come up with a new paving with more than one shape, or with shapes that you create yourself!

You are proud of what you just did? Ask an adult to take a picture and send it to us via our website [www.amazingmaths.ulaval.ca](http://www.amazingmaths.ulaval.ca). We are curious!

### Step 3: Pavings in my environment

Try to find pavings in your house or your school. Look closely at the ceramic tile floors or the wallpapers. There are probably more than you think!

#### ***Another way to make pavings...***

You can use envelopes to make pavings. Take a closed envelope and draw a line that links the four corners of the envelope. Next, with an adult, cut out following this line, then unfold the envelope. The shape created can be used as the base shape for a new paving.

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<sup>1</sup> Information found on the M.C. Escher's official website: [www.mcescher.com](http://www.mcescher.com)

The shapes to cut out

