

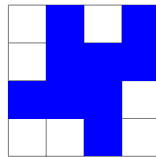
Tiling the Plane

This is a “paper and pencil” activity where you use two different colored pens or markers to fill in the squares of the grid shown on page 2 of this document. The general algorithm we will be doing is called *tiling* and you see examples of this every day. Figure 1 shows a tiled floor.



Figure 1: A tiled floor.

In general, tiling consisting of placing one or more shapes having one or more colors on a surface, such as a floor. There are lots of different shapes that we can use when tiling. In this challenge, we will be doing tiling using the following shape.



Imagine you have a bunch of *tiles* having this shape. Also imagine the tiles you have come in two different colors. You could then fit together these tiles like a jigsaw puzzle shown below. For example, you could tile the floor of your house using these tiles. Note that in the pattern shown below whenever you place a piece beside or above/below another piece, you change its color. In this way, you produce a pattern having alternating colors. In this case, we have tiled a 7×7 grid.

