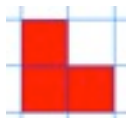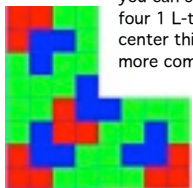# L-triominoes

Here is a size 2 L-triomino

A triomino is a shape made from three squares.
Here is an L-triomino

Can you work out how to use the tiling of a size 2 L-triomino to help you to tile a size 4 L-triomino?
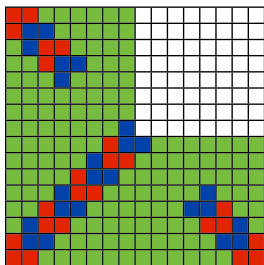
We can do this by realizing we can create any number of L-triomino by placing a 1 L-triomino triangle in the middle and working out the rest, as show in this diagram on the right. By using this method we can build the 4 L-triomino with ease.

Devise a convincing argument that you will be able to tile a size 8, 16, 32... 2n L-triomino using size 1 L-triominoes.

By using the method we used for the 4 L-triomino we can make another larger one for instance an 8 L-triomino as shown on the left. This can be used for any number, the priceable is the same along with the horizontal length being double the number of the L-triomino and the vertical being the same. For instance if it was a 8 L-triomino the horizontal length would be 16 and the vertical would be 8.

we can also see a pattern occurring by highlighting the L-triominos as you can see the 4 L-triomino has four 1 L-triomino running dow its center this is the key to build other more complex L-triominos.
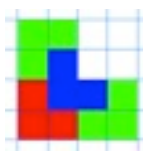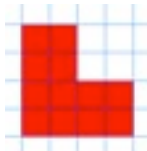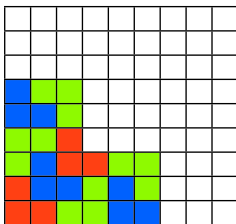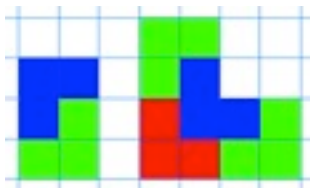

4 boxs

8 boxs

8 boxs

Isaac Blackbourne

16 boxs

How many size 1 L-triominoes would you need to tile a size 8... 16... 32... 2n L-triomino?

2 L-triomino	4
4 L-triomino	16
8 L-triomino	64
16 L-triomino	256
32 L-triomino	1024

L-triominoes

What about odd sized L-triominoes?Can you turn a size 1 L-triomino into a size 3 L-triomino using combinations of the 'building blocks' below?

In the same way, can you find a way of adding to your size 3 tiling to tile a size 5? Then a size 7, 9, 11...?
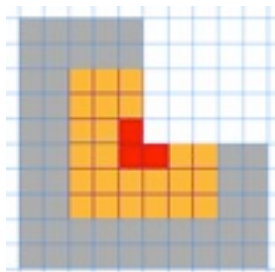
This can be easily done by simply building on what you have at the start. For instance you start with a 1 L-triomino at the start and build to that a 3 L-triomino and so on to what ever number of L-trimino you want.

By using both of these methods for the even and odd number L-triominos it is possible to build any number of L-triomino as the methods are the same for every number of L-triomino and its just a case of drawing the bases like the corners and the center piece.

Isaac Blackbourne