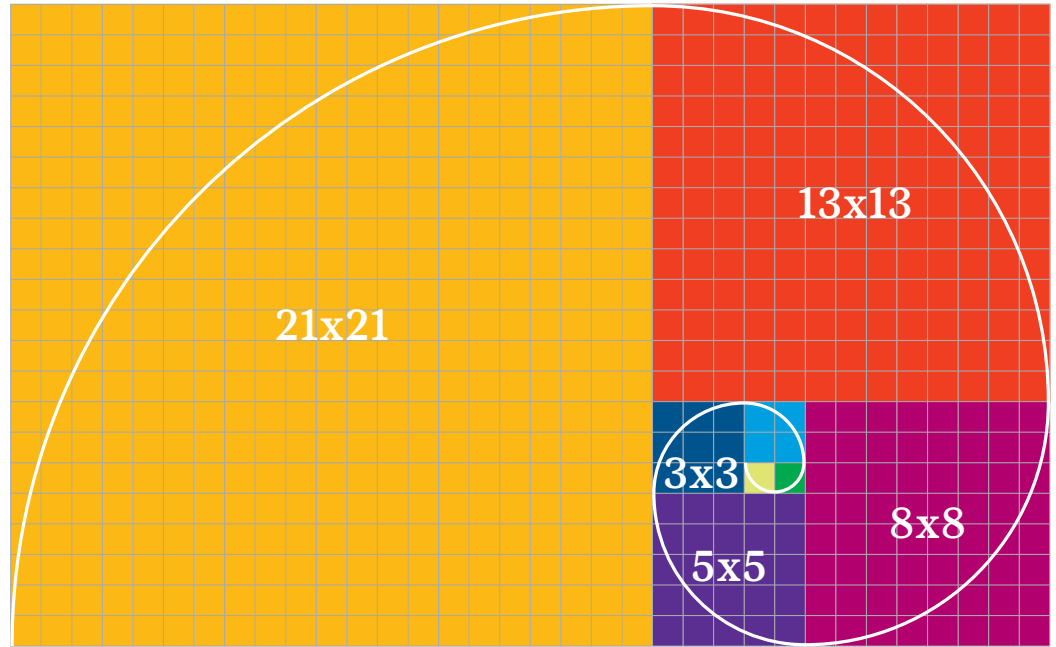# Make a Golden Rectangle

The Fibonacci sequence can be used to create a **golden rectangle**. The rectangle can be cut up into a square and rectangle **similar** to the original one. The original rectangle and the smaller rectangle will always have sides with the same **ratio**.

Here's how you can create the golden rectangle on a sheet of graph paper:

1. Color in 1 square in the center of a sheet of graph paper.

2. Color in the square to the right with another color.

3. Color in a 2 x 2 block (4 squares) directly above the two squares with a third color.

4. Color in a 3 x 3 block (9 squares) directly to the left of the 2 x 2 and 1 x 1 blocks in a different color.

5. Continue adding boxes, using the pattern of the Fibonacci sequence to tell you the size of the block, and placing them counterclockwise around your design.

6. To make a spiral, use a compass. Put your compass pivot point on the bottom right corner of the right 1x1 square. Set the pencil to touch the top right corner of the 2x2 square.

7. Draw a 1/4 circle (90 degrees) from the top left of 2x2 to the bottom left corner of the 3x3 square (through the 3x3 square).

8. Move your pivot point to the top right corner of the 2x2 square and set your pencil to the top left of the 3x3 square.

9. Draw a 1/4 circle from the top left corner of the 5x5 square (starting where the pencil stopped at the bottom left of the 3x3 square) to the bottom right of the 5x5 square.

10. Repeat and draw your spiral through all the squares of your golden rectangle.