1   Fibonacci

The name "Fibonacci" means "son of a simpleton," but Leonardo Fibonacci (Fib-o-NAW-chi) was certainly not a simple man. In fact, some think of him as "the most talented western mathematician of the Middle Ages." Although he did not invent the Fibonacci sequence, this Italian mathematician wrote the *Liber Abaci* (*Book of Calculation*), which introduced the famous sequence to the West.
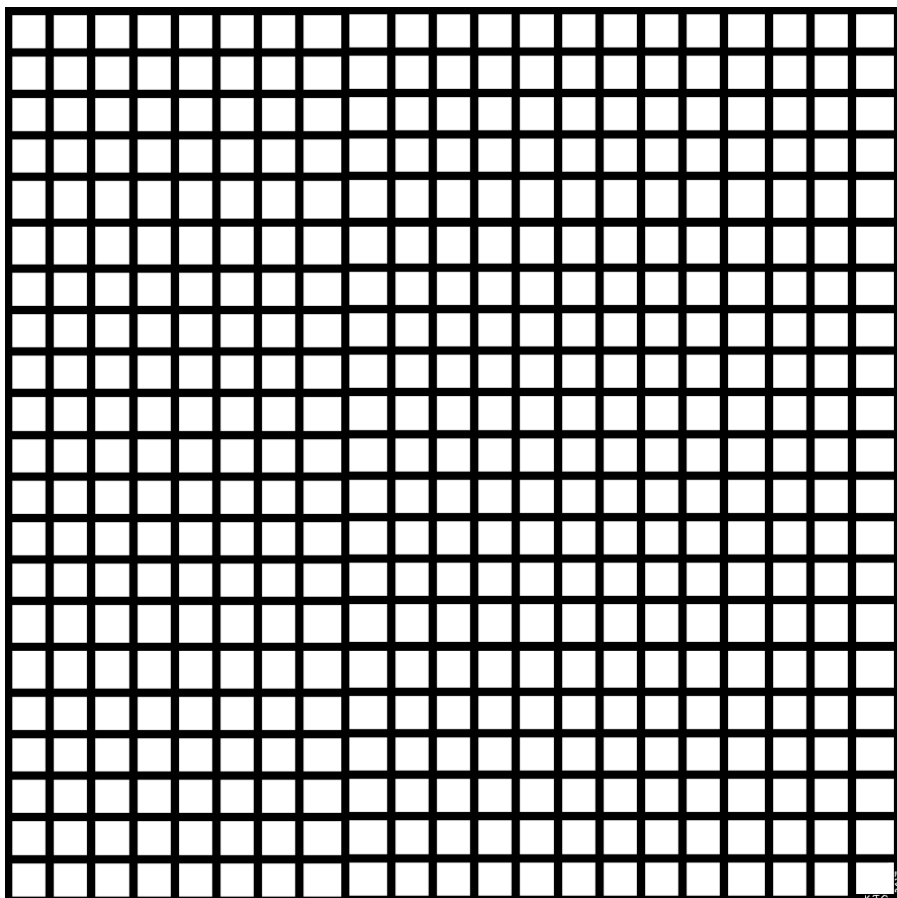
2   The Pattern

The first few terms in the Fibonacci sequence are $1, 1, 2, 3, 5, 8, 13$. What is the pattern? Find the next 9 terms in the sequence.

Once you know the first 16 terms in the sequence, try dividing the 2nd term by the 1st, the 3rd by the 2nd, the 4th by the 3rd, and so on.
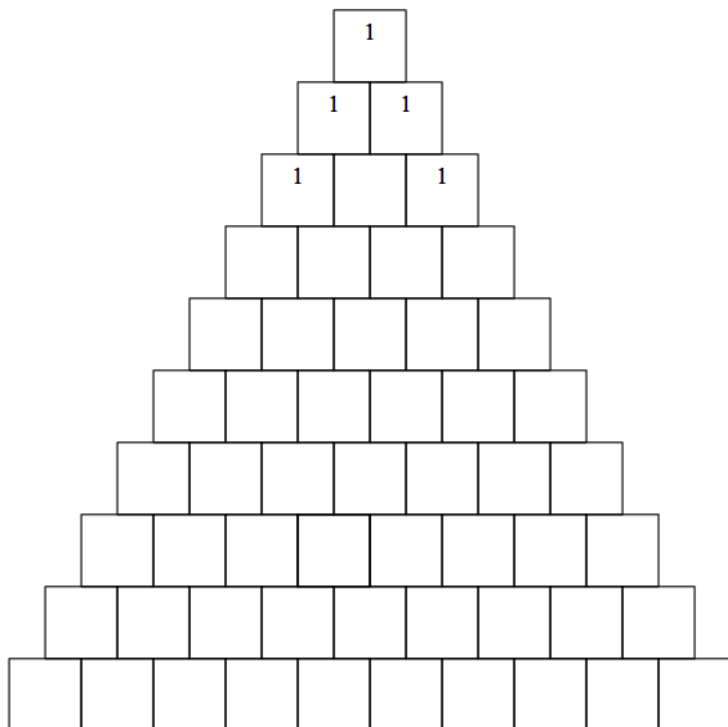
3   Squares

Color the grid below using the Fibonacci Sequence as demonstrated on the board.

4   Pascal's Triangle

Pascal's triangle is closely related to the Fibonacci sequence. Try filling in the triangle below.

How is this related to the Fibonacci Sequence?

What patterns can you find in Pascal's triangle? There are many, so keep looking!

5   Threebonacci

Instead of adding the 2 previous numbers together to get the next number in the sequence, let's try adding the 3 previous numbers. Find 6 more terms in the sequence.

0, 1, 2,

Can you also find a ratio (fraction) between each term and the previous one for this sequence?