Thank You Leonardo Fibonacci!

……..For making math easier!

I, Leonardo Fibonacci, wrote a famous book that led to the widespread use of Hindu-Arabic numerals. If I hadn't done that, you might still be doing math problems like this:

MMMCMXCVII – MCMXCVIII = MCMXCIX

That's 3997 – 1998 = 1999. Now, aren't you glad we use the Hindu-Arabic number system?

I also found out about a number pattern called the Fibonacci sequence. You can see this pattern in pinecones, flower petals, and even your body! Take a look at my famous

Leonardo Fibonacci was born in Italy around 1175. At that time, most people in Europe used Roman Numerals. Leonardo had a chance to make our lives easier. His father was a custom's officer for what is now Pisa, Italy. He worked in North Africa. Leonardo learned about the Hindu-Arabic system of numerals from his experiences with

the merchants and scholars in this area. Leonardo saw that this system made it easier to perform calculations. He wanted to let more people in Europe know about the Hindu-Arabic number system.

When Leonardo returned to Pisa he wrote a book called ***Liber Abbaci.*** This means, *Book of Calculating*. The book showed how easy it is to do calculations using Hindu-Arabic numerals. European mathematicians were eventually persuaded to use these numerals.

Today, we should thank Leonardo. I don't want to do a page of subtraction using Roman Numerals, do you?

More Fibonacci Fun

Here is a famous observation Leonardo Fibonacci made. He saw a pattern in a number sequence that starts with 0 and 1. Look at his famous sequence and see if you spot the pattern.

0, 1, 1, 2, 3, 5, 8, 13

What is the pattern? Don't turn the page until after you know!

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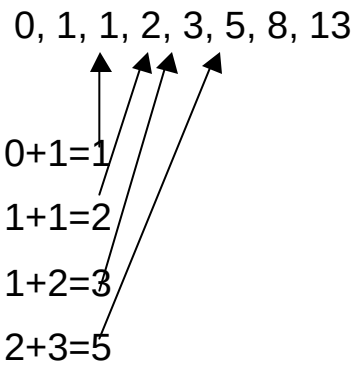
If you studied the sequence, you know the pattern is made when you add the first two numbers to get the next number. Keep doing that and you will have the Fibonacci Sequence!

Let's look at it:



You can see how this works.

See if you can find the first 11 numbers in the Fibonacci Sequence.

Complete this table:

0+	1=	1									
	1+	1=	2								
		1+	2=	3							
			2+	3=	5						

Through the years, people have noticed that these numbers can be found in nature! Take a look around you. You'll see the Fibonacci numbers everywhere.

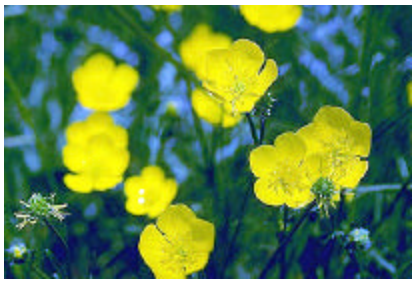


Photo © James L.Reveal, USDA, Plants

Look at the petals of flowers such as lilies, buttercups, marigolds, and daises. How many petals are there? Why do you think it is special to find a four-leaf clover?

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Look at your hands.

How many hands do you have? _____

How many fingers are on each hand? _____

How many parts does each finger have? _____

How many knuckles does each finger have? _____

Hmmm…. Coincidence or Fibonacci?

Extend your thinking and knowledge –

See if you can figure out the first 20 Fibonacci numbers!

Make a list of all the places in nature where you see Fibonacci numbers. Hint: Look in the fruits and vegetable aisle of your grocery store!