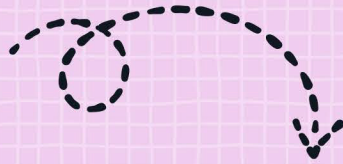
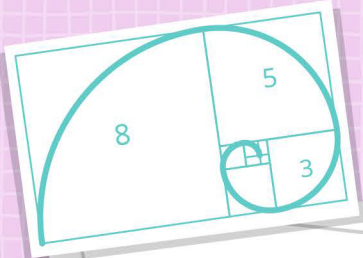


FIBONACCI PUZZLE



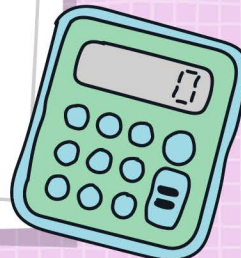
Math is everywhere—even in nature. Have you ever noticed the ‘golden spiral?’ It’s a pattern we see occur naturally in the seeds of sunflowers or pinecones and the petals of succulents. Count the seeds or petals and you’ll find they usually add up to 3, 5, 8, 13, or 21. These are all numbers from the Fibonacci Sequence. It’s a series of numbers where each number in the sequence is the sum of the two numbers before it. It goes like this: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, and so on. If you divide a Fibonacci number by the number before it, it will equal about 1.6. This number is known as ‘the golden ratio.’ In this activity, we’ll make a ‘golden rectangle’ that is the length and width of two Fibonacci numbers: 13” and 8.” Then we will divide it into small squares using the Fibonacci sequence as our guide. Finally, we’ll connect the corners of each square to form a ‘golden spiral.’



Neha Murad is a biomathematician who studies how humans can live longer and healthier lives.

FUN FACT:

Fun Fact:
November 23 is
Fibonacci Day. It’s
1-1-2-3. Get it?



123

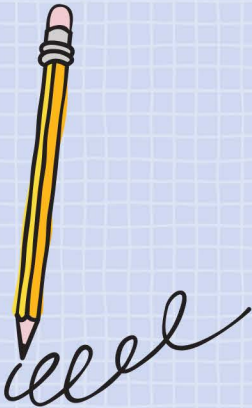
SAFETY FIRST!

Always ask
an adult
for
permission
and
help.

YOU WILL NEED:

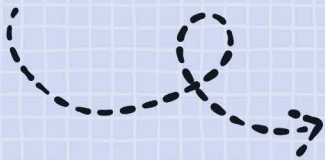


- Construction paper (2 colors)
- Ruler
- Pencil
- Scissors
- Glue



STEP 1:

Using a ruler, cut two 1" x 1" squares of construction paper from each color.



STEP 2:



Now cut four more squares from each color with these dimensions: 2"x2", 3"x3", 5"x5", and 8"x8". You should have 12 squares total: 6 of one color, and 6 of the other color.

STEP 3:

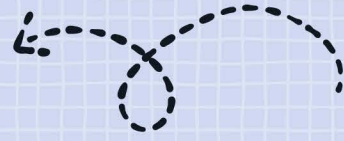
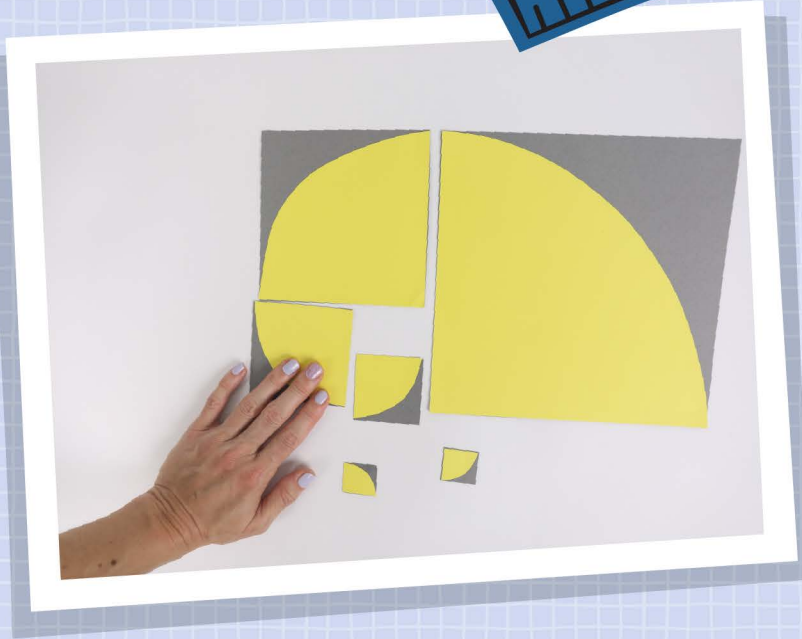
Choose one color of paper. Then cut an arc in each square from the bottom left corner to the top right corner.



STEP 4:

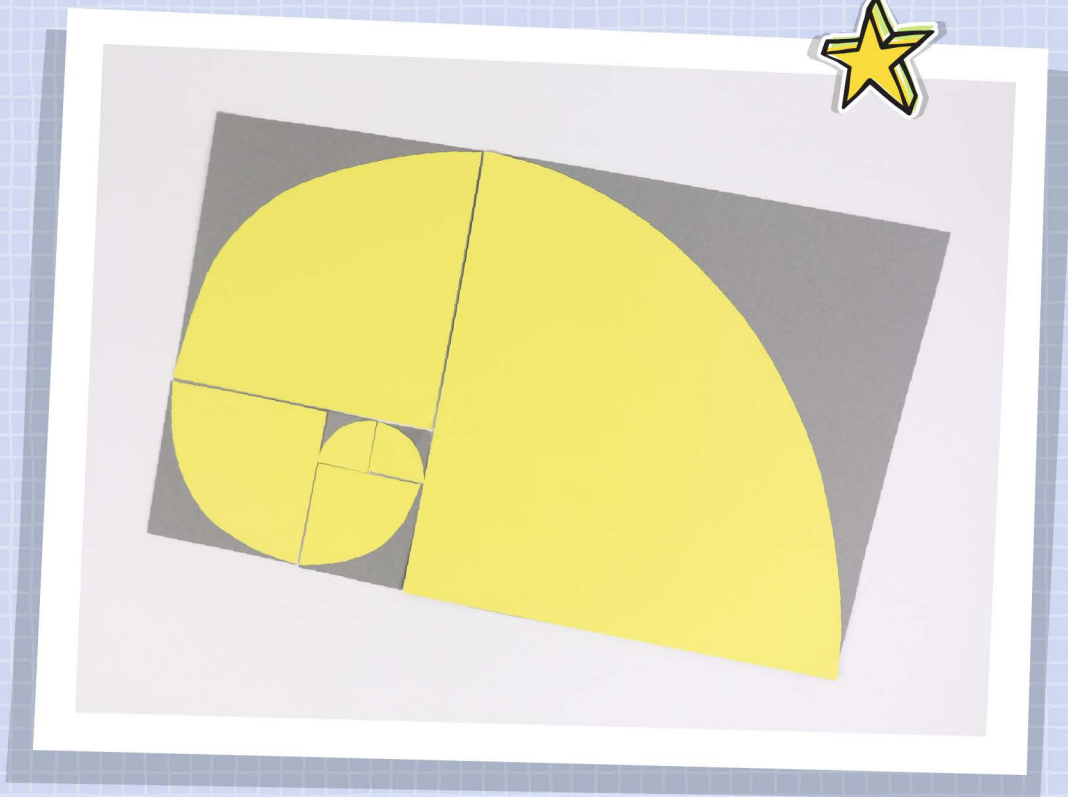
Glue arcs to paper. Let dry.





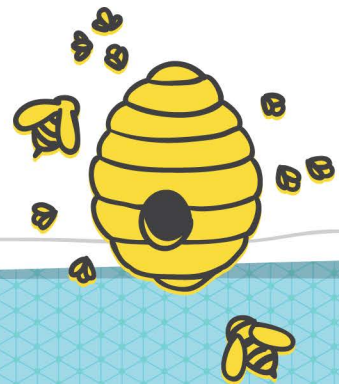
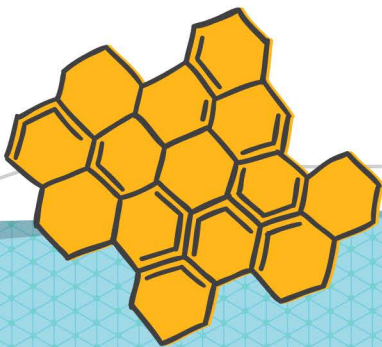
STEP 5:

Assemble the puzzle. Now challenge friends and family members to try!



THINK ABOUT IT!

Was it surprising to learn that math can be found in nature like sunflowers and pinecones? And it doesn't stop there. For example, bees build hives made of hexagons. (That's geometry!) Math really is everywhere. Including in your own life. Think about every time you look at a clock. What are some other examples of how you use math in your daily life?



LEARN MORE:

What's the Point of Math?
by DK
DK Children, 2020

The Everything Kids' Math Puzzles Book
by Meg Clemens
DK Children, 2017

Perfectly Logical!
by Jenn Larson
Zephyros Press, 2019

