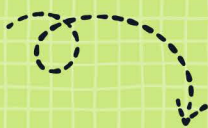
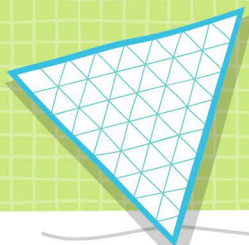


CAMP *GoldieBlox*

**FOLD
YOUR OWN**

HEXAFLEXAGON



Maddie Weinstein loves solving math puzzles, and the hexaflexagon is just one example. It's a paper folding trick that reveals a hexagon. But what's cool about this hexagon is that it can be flipped inside out, or "flexed," to reveal another side...and then another! A hexaflexagon is made by creating a strip of paper into 10 triangles, folding it into a hexagon shape, and then glueing the last triangle to the first.

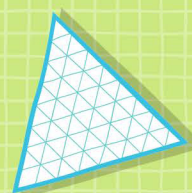
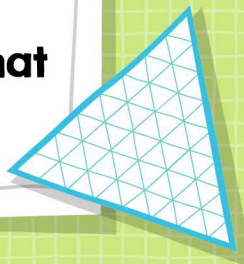
We'll help you solve this puzzle by providing a pattern and numbering the triangles. Once you get the hang of it, you can make your own hexaflexagon without a pattern. The key is to make sure all of your triangles are equilateral, which means that all sides are the same length.



Mathematician Maddie Weinstein loves to tackle hard math problems as she pursues her PhD at UC Berkeley.

FUN FACT:

The hexaflexagon was discovered in 1939 by Arthur H. Stone, a student at Princeton University. Soon, students all over campus were folding hexaflexagons during their lunch breaks!

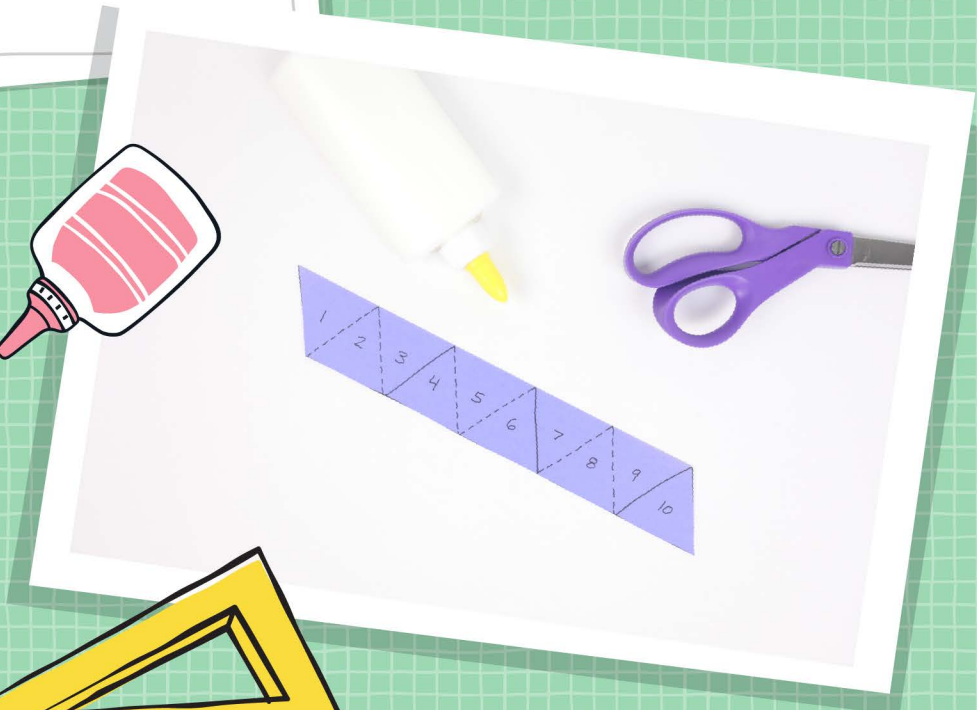
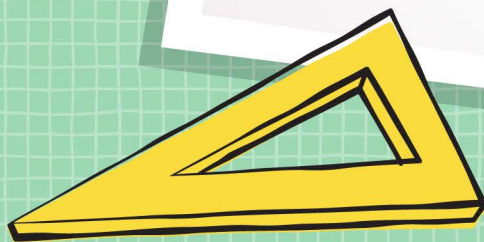
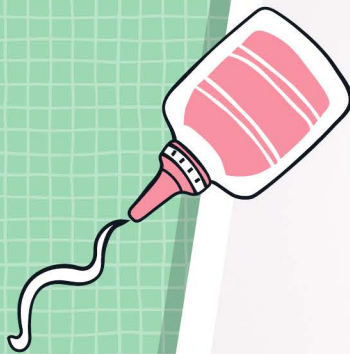


YOU WILL NEED:

- Scissors
- Glue
- Printable pattern
- Marker

SAFETY FIRST!

Always ask
an adult
for
permission
and
help.

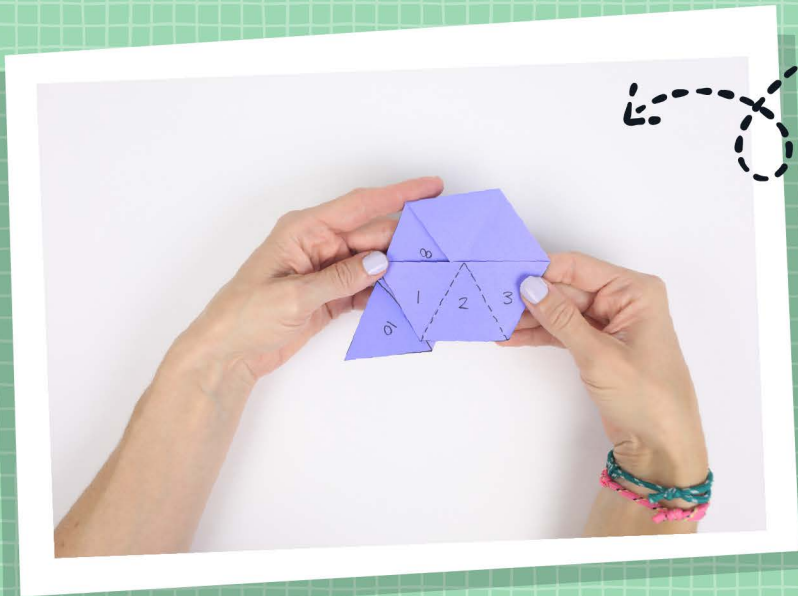
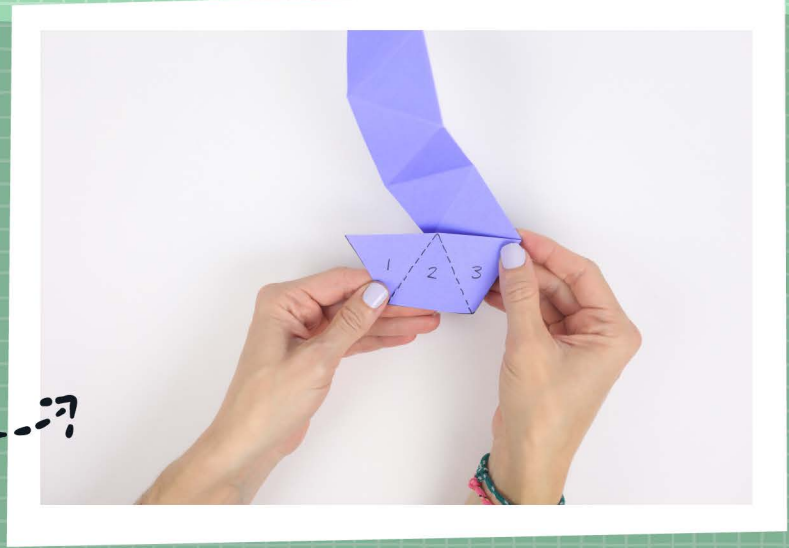
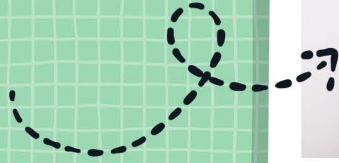


STEP 1:

Print and cut out the hexaflexagon pattern on page 6. Make a sharp crease along each dotted and solid line.

STEP 2:

Fold triangle 4 backward and up (along the solid line).

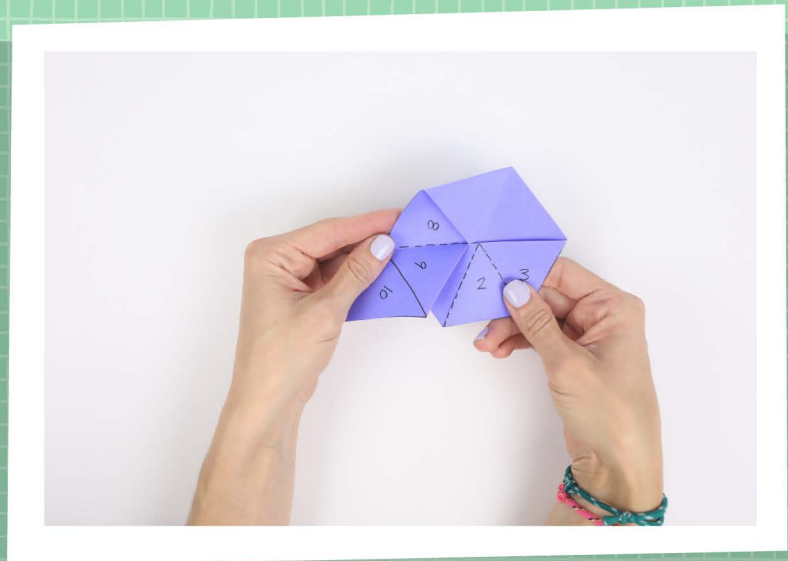


STEP 3:

Fold triangle 7 backward and down (along the solid line).

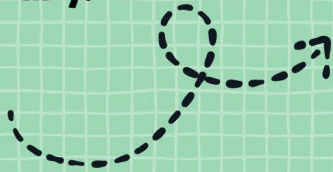
STEP 4:

Move triangle 1 behind triangle 9.



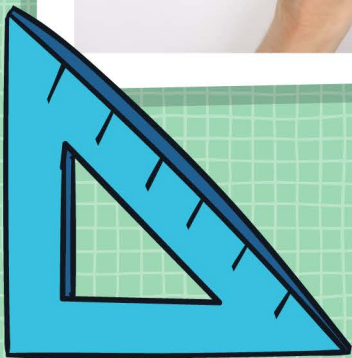
STEP 5:

Fold triangle 10 backward. Flip over the hexagon then attach it to the back side of Triangle 1 with glue. Let dry.



STEP 6:

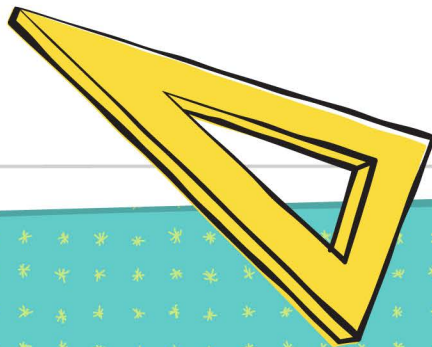
To “flex,” pinch triangle 4 and 2 together in a mountain fold. Then open the top flap to reveal triangles 7, 6, and 1. Continue this motion to flex all three sides of your hexaflexagon.



Optional: Get creative by coloring in all three sides, so each “flex” reveals something new!

THINK ABOUT IT!

The pattern we folded today is technically called a tri-hexaflexagon because it can be folded over and over to reveal three sides. A hexa-hexaflexagon could be folded over and over to reveal six sides. In order to make a hexa-hexaflexagon, print out the tri-hexaflexagon pattern twice then attach the two strips together to form a long strip of 19 triangles. Do you think you can figure it out from there? Give it a try!



LEARN MORE:

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

Hidden Figures Young Readers' Edition
by Margot Lee Shetterly
HarperCollins, 2016

How to be a Math Genius
by Mike Goldsmith
DK Children, 2012



PATTERN

You only need one strip to make a hexaflexagon. But we've included a few extras if you want to make more than one!

