

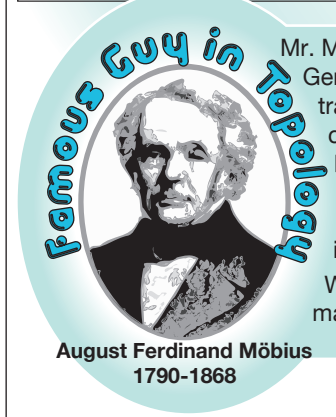
by jok church

Dear Jax,

Who invented the Möbius strip?

Walt Mooves
Plano, Texas

Beakman or Ja.
1130 Walnut St.
Kansas City, MO 64106
Question & your city/state



Mr. Möbius was an astronomer who lived in what is now Germany. He looked at what happens to lines as they travel and cross each other in space – pretty complicated mathematics. This led him to study the basic structure of shapes – what we call *topology* (tuh-POL-o-gee). Mr. Möbius wrote about a one-sided object, and that's how Möbius strip got its name.

We now know it was first described by another mathematician named Johann Benedict Listing, who is the *Not-So-Famous Guy In Topology*.

Dear Walt,

Where we are and where *things* are is pretty important stuff. We can keep track of that by looking at comparisons between things and by comparing different parts of the same thing. We call that **orientation** (or-e-un-TA-shun).

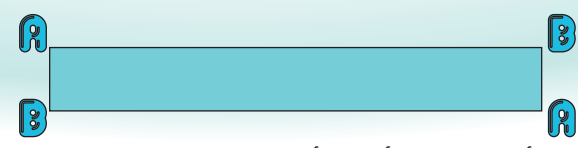
A Möbius strip is a special object. It can be oriented to other objects, but parts of a Möbius strip cannot be oriented to its other parts.

There is no left- or right-hand side. There is only 1 edge. Only 1 side. It's kind of spooky and pretty fabulous.

Jax Place
Jax Place

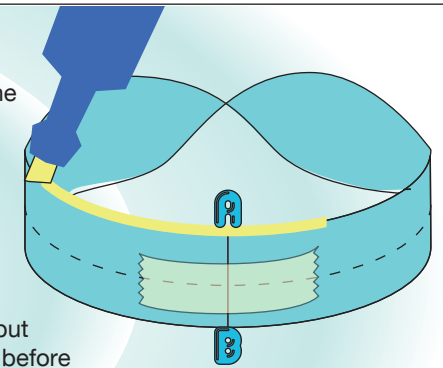
Make an Impossible Object

WHAT YOU NEED: strips of paper 11 to 12 inches long - tape - scissors - pencil - felt-tip pen



WHAT TO DO:

Make a simple loop with the first strip of paper. Use your scissors to cut the loop down its middle where the dotted line is. Cut all the way around the loop. How many rings do you end up with?



Next, make another loop, but put a half-twist in the strip before you tape it together. Look at the A-B marks in the lower drawing and match up the A's and the B's. You just made a Möbius strip. Cut it just like you cut the first loop. How many loops do you end up with?

MORE STUFF TO DO:

Make another Möbius strip. Use a pencil to draw a line down the middle of the strip. Keep drawing until you've gone all the way around. Then mark the edge of the strip with a felt-tip pen. Go all the way around. Try the same things on a simple loop of paper.

WHAT IS GOING ON:

A Möbius strip is an object that has only one edge and only one side. Even though you think you're cutting it in two, you can't do that. You only cut it into one – again – one set of links.

P.S. from Beakman: The symbol behind Jax's letter is not a Möbius strip. It's really the math of forever and ever.