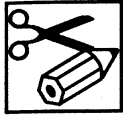


Mobius Strips

Leader



Make and explore the characteristics of Mobius strips.



You will need:

- Paper—thin and flexible ($8\frac{1}{2}$ " \times 14" preferred)
- Scissors
- Ruler
- Tape or glue



Do this:

- Have students make a Mobius strip:
 1. Cut out a long, rectangular strip of paper (1 in. \times 14 in. recommended).
 2. Put your initials on both ends.
 3. Give one end a half twist (you will see your initials on one end, but not on the other).
 4. Tape or glue the ends together.
- Exploration activities:
 - A. How many sides were on the original rectangular strip? 2
How many long edges were on the original rectangular strip? 2
 - B. Draw a line down the middle of your Mobius strip. Keep drawing until you reach the point at which you started. Is the line all over the Mobius strip? Yes
How many sides are on the Mobius strip? 1
 - C. Make a mark on the edge of your Mobius strip. Trace around the edge with your finger until you reach the point at which you started.
How many edges are on the Mobius strip? 1
 - D. Following the line you drew for B, cut the Mobius strip in half.
Describe what happens. (*student has one large Mobius strip which is half as wide.*)
Does the new band have one or two sides? 1
 - E. Cut the new band in half down the middle.
Describe what happens. (*student has two narrower Mobius strips that are the same size.*) Does the new band have one or two edges? 2



Student _____



Do this:

- Make a Möbius strip:
 1. Cut out a long, rectangular strip of paper (1 in. × 14 in. recommended).
 2. Put your initials on both ends.
 3. Give one end a half twist (you will see your initials on one end, but not on the other).
 4. Tape or glue the ends together.

- Exploration Activities:

A. How many sides were on the original rectangular strip? _____

How many long edges were on the original rectangular strip? _____

B. Draw a line down the middle of your Möbius strip. Keep drawing until you reach the point at which you started.

Is the line all over the Möbius strip? _____

How many sides are on the Möbius strip? _____

C. Make a mark on the edge of your Möbius strip. Trace around the edge with your finger until you reach the point at which you started.

How many edges are on the Möbius strip? _____

D. Following the line you drew for B, cut the Möbius strip in half.

Describe what happens. _____

Does the new band have one or two sides? _____

E. Cut the new band in half down the middle.

Describe what happens. _____

Does the new band have one or two edges? _____



WHAT I FOUND