



Activity: Understanding Recycling with a Twist

Background:

Take a close look at the recycling symbol. What do you think it means? Why do you think it's shaped that way? The word "recycle" has the word "cycle" in it. A cycle is any series of events that repeat themselves, like a bicycle wheel goes round and round. The main aim of recycling to go round and round, or in other words, find ways to reuse things again and again in a never-ending cycle.

There is a great way to understand the idea of a never-ending cycle. It's called a Mobius strip. August Mobius was a 19th century mathematician who discovered the concept of a non-orientable two-dimensional surface with only one side when embedded in three-dimensional Euclidean space. What does that mean?! Basically, a Mobius strip is a three-dimensional object with only one side. It goes on and on and on.

Point Value:

8 points

Key Themes:



Scrapping



Math

Procedure:

1. Explain to students the background information above about Mobius strips.
2. Guide your students in making the strip by using the instructions below. You may want to use the attached template to make a finished example before your demonstration.
3. Cut a strip of paper 1 inch x 8.5 inches. Decorate with a recycling motif.
4. Bend it into a ring so that the ends meet.
5. Twist one end upside down.
6. Tape the two ends together and you have a Mobius strip—a three-dimensional object with only one side. Don't believe it?

7. Take a pencil and hold the point down on your Mobius strip. Hold the pencil in place while you pull your Mobius strip toward you, drawing a line down its center. Keep going until your pencil line ends where it began. You never lifted your pencil, yet you covered both “sides” of your strip! A never-ending cycle!

Materials:

Provided by Museum:

- Mobius strip example and template

Provided by you and/or student:

- Art supplies

RECYCLING WITH A TWIST

Directions:

Print two-sided, flip short side

Twist the A away from you and connect it to the D



RECYCLING WITH A TWIST

SCRAP
REUSE
IN THE