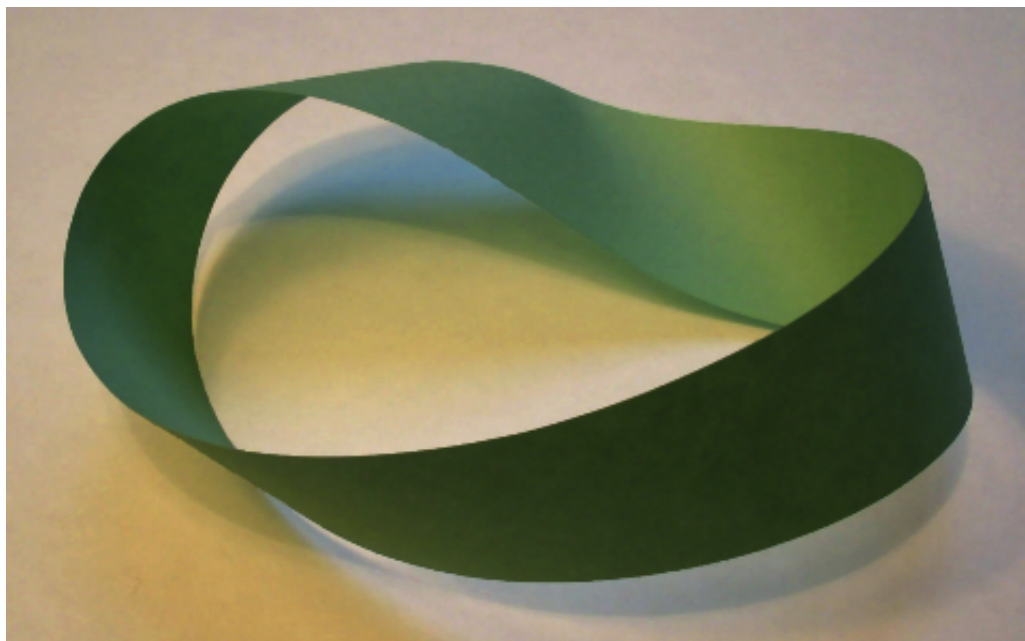


Möbius Bands



Take a long thin strip of paper, and join the two ends with a twist, as shown in the photo (match them up as if you're going to make an ordinary paper loop, like you would for a paper chain, then turn one side over). Glue or tape the ends together securely.



The Möbius strip, or Möbius band, was discovered by the mathematician **August Möbius**.

A strip the size of the margin of a piece of A4 paper is an ideal size, but any kind of paper, or even fabric, can be used.

Draw a line down the middle of the paper strip. What happens?

You will find that after you've connected your line back to the point where you started drawing, you'll have covered the entire length of both sides of the paper. Can you see why this happens?

Now cut it in half carefully along this line (start in the middle by snipping a small hole first). What happens?

You might find that the result is unexpected! Can you see why this is?

Make another Möbius band, and this time cut it one third from the edge (stay one third from the edge all the way around!) What happens?

Can you see which parts of the resulting object are made from which parts of the original Möbius band? Try making another and shading it in different colours on each third, before you cut.

Investigate further! What happens if you make a Möbius band with two or three twists, and cut it in half?