

The Möbius strip

The Möbius strip is a mathematical puzzle. Here is how to make one. Take a strip of paper about 30 cm long and 3 cm wide. Put it flat on the table in front of you.



Put a small cross in the top left and bottom right corners of the paper. Put a small circle in the bottom left and top right corners.



Twist the strip so that the two crosses and the two circles meet. Join the ends with sticky tape or glue.



The piece of paper that you started with had two sides. How many sides do you think the Möbius strip has? To find out, draw a line from where you joined the paper along the middle of the strip. Keep going until you come back to the line again. Look and see where your line went. It seems to be on both sides of the paper but you did not turn over. The Möbius strip has only one side!

Many artists have used the Möbius strip as inspiration for their work. This picture is by the famous Dutch artist M.C. Escher – an ant could crawl from any point on the Möbius strip to any other point, without crossing an edge of the band!



Möbius Strip II

AMAZING!

It is possible to knit a Möbius strip that has no join!



Question time

- What is puzzling about the Möbius strip?
- How can we test whether a loop is a true Möbius strip?
- What would happen if you tried to colour one side of the Möbius strip?
- Why do you think artists have used the Möbius strip in their work?
- Were the instructions easy to follow? Could you make them clearer?
- What other puzzles can you think of?