The Magical Möbius Strip

The Trick	
Möbius strip tricks	
Items needed	
cash register paper or 6 pieces of copy paper (any color)	pencil
tape	scissors
How to do the trick	
Möbius Strip: See worksheet on back of page.	
The Science	
The **Möbius strip,** named after the German mathematician and astronomer August Ferdinand Mobius, is an object with only one surface and only one edge. The Möbius strip is a two-dimensional smooth surface which is not orientable. The study of objects like the Möbius strip in mathematics is called topology. The Möbius strip has provided inspiration for sculptures and graphical art. Maurits C. Escher is one of the artists who based many of his drawings on this object. It is also featured in science fiction stories that suggest that our universe might be some kind of Möbius strip. There have been real world applications of the Möbius strip. Giant Möbius strips have been used as conveyor belts. Since "each side" gets the same amount of wear, the belt lasts longer.	

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Number of Twists	Prediction: How many sides? 1 or 2	Observation: How many sides? 1 or 2	Take scissors and cut down the center of the loop following the line you drew. What happened?
1 			
2 			
3 			

1. What do you think will be the number of sides with 4, 5, or 6 twists? What leads you to that conclusion? (Look for a pattern.)

   4 twists = _____ sides 5 twists = _____ sides 6 twists = _____ sides

2. Make a strip with 1 twist. Cut the strip so it is divided by 1/3 and 2/3. What happened?