Make a Snake That Spins!

October 13, 2024 / DIY / STEM Activities / Marvelous Mechanics Motion / Ages 6 - 8 / Spinning Snake

Have you ever seen a paper snake spin on its own without any wind? This isn't magic, but the charm of science! In this experiment, you'll witness a magical heat snake dance and spin as the flame rises. What force makes it move? Let's find out.

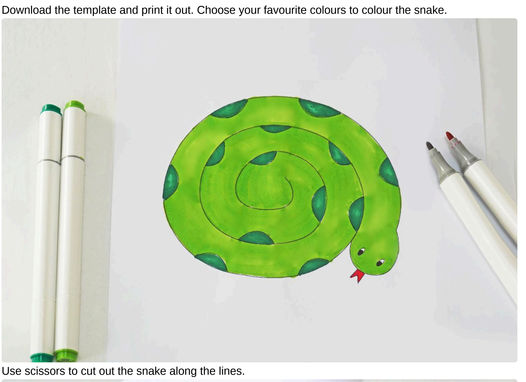
- Age: 6-8
- Time: Less than 30 minutes
- Messiness level: A bit messy

Materials Needed:

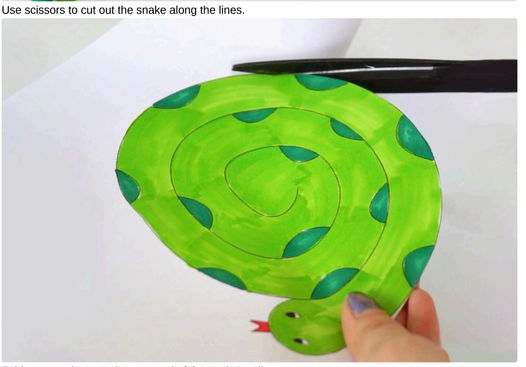
Snake pattern template
Different coloured markers
Scissors
Pen refill (can be replaced with a wooden skewer or pencil)
4 small candles
Plasticine
Lighter

Step-by-Step Instructions:

1. Download the template and print it out. Choose your favourite colours to colour the snake.

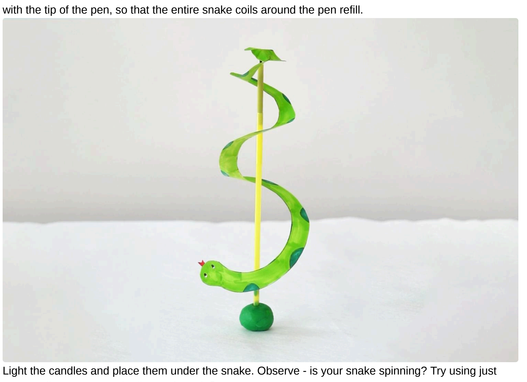


2. Use scissors to cut out the snake along the lines.



3. Fold a cross shape at the very end of the snake's tail.

4. Insert the pen refill upright into the plasticine. Align the intersection of the two folds at the snake's tail with the tip of the pen, so that the entire snake coils around the pen refill.



5. Light the candles and place them under the snake. Observe - is your snake spinning? Try using just one candle; can you make the snake spin?

The Science Behind It:

This experiment primarily involves the rising of hot air and convection. When you light the candles, the flame heats the surrounding air, making it lighter and less dense, causing it to rise. The rising hot air causes the "snake-shaped" paper strip to rotate. The shape and weight distribution of the paper strip make it more susceptible to air currents, causing it to spin.