Newton's Color Wheel

Learn about the colors of the rainbow, and the electromagnetic waves that make them.

In the 1660s, English physicist and mathematician Isaac Newton discovered that clear white light was composed of seven visible colors, the colors we see in a rainbow—red, orange, yellow, green, blue, indigo, and violet.

Newton's work led to breakthroughs in optics, physics, chemistry, perception, and the study of color in nature.

To demonstrate his discovery of the colors that make up visible light, Newton made his famous Color Wheel, also known as the disappearing color disk. When the disk with segments in rainbow colors is rotated, the colors fade to white.

Newton's color wheel is very simple, and you can make one yourself. Here's everything you need and how to do it!

What You'll Need:

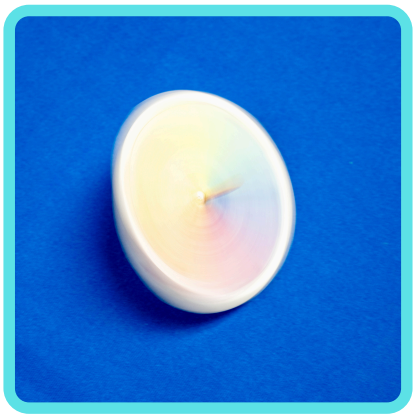
- A circular paper disk, divided into six sections like a pie. You can make your own or print the one we've included on the next page
- A toothpick
- Tape and/or sticky dots
- Crayons

What You'll Do:

1. Color each section of the disk in order of the color of the rainbow. Red, Orange, Yellow, Green, Blue, Violet. If you print out our disk, there are tiny triangles in the corner to show you the colors to use.

2. Carefully stick a toothpick through the hole in the middle of the disk.

3. Use a sticky dot and/or tape to secure the disk to the toothpick.



4. Use your thumb and finger on the toothpick to spin the disk like a top. Watch the colors blend as they spin. What do you see? Try spinning faster, then slower. How does that change what you see? Try changing the order of the colors on a new disk. Does that make a difference?