



How Does a Rainbow Split the Light?

Vern, Magician Llama, and a color surprise

A SprigKids science story





Where did the colors go?

After a shower, a rainbow curved across the sky. Then a cloud covered the Sun, and the colors faded. "Did the sky lose its colors?" Magician Llama wondered.



Vern's prediction

"Maybe water adds colors to the light," Vern said. "Like tiny brushes in every raindrop!" Magician Llama twirled his wand. "Let's test that idea."



The test

Vern switched on the little white flashlight. Magician Llama held a clear prism in its beam. A white spot slid through the prism toward a blank card.



A surprise!

Then - whoosh! - the white spot opened into red, orange, yellow, green, blue, and violet. The prism had not painted the colors. It had spread them out.



Vern revises his idea

"White light was carrying many colors all along," Vern said. "As light enters and leaves glass - or a water drop - it bends. Different colors bend by different amounts, so they separate."



Try it safely

With a grown-up, shine a small flashlight through a classroom prism onto white paper. Move the prism slowly and watch for a band of colors. Never shine light into eyes, use a laser pointer, or stare at the Sun.

Grown-up note: Use a low-power classroom flashlight and a stable prism. Keep the glass or prism away from table edges, and stop if the beam points toward anyone's eyes.



Remember the rainbow's journey

White light can carry many colors.

Light bends when it enters and leaves water or glass.

Different colors bend by different amounts.

A prism or raindrop spreads light into a spectrum.

A rainbow is light, water, and the right view - not paint in a hat.