

Name: \_\_\_\_\_

Day 4

# The Magic of Rainbows

By Lydia Lukidis

Rainbows are multi-colored arcs that appear in the sky. They are made up of seven different colors. These colors are always in the same order. They are: red, orange, yellow, green, blue, indigo, and violet. An easy way to remember them is by the name ROY G. BIV. The letters in the name stand for each color.



Rainbows are beautiful. But they are rare. They don't happen every day. You probably know that you need two things for a rainbow to form. You need light and water. Rainbows often happen when the sun comes out after it has rained. Or there could be water in the form of mist, spray, fog, and dew. But what makes all these wonderful colors appear?

You may think that sunlight is white light. This is half true. To our eyes, it does look white. But inside that light, there are other colors. Can you guess which ones? It's the seven colors of the rainbow! We can't see them with our eyes. When a beam of sunlight shines down, we see white light. But if that beam of light hits a raindrop at a certain angle, it bends. This is called reflection and refraction. When this happens, the colors that make up the beam separate. Then they form a rainbow.

Let's get a bit more scientific. Light acts like a wave that vibrates. Every color has its own wave. The colors slow down at different speeds when they go into the raindrop. When they get reflected, they bend at different angles. So the light that



enters the raindrop is white. But when it exits, it is a different color. Each raindrop actually makes its own rainbow. And when there are many raindrops, they create a bigger rainbow that we can see.

These seven colors are also called the spectrum of light. It was the scientist Sir Isaac Newton who first discovered this. He figured out that white light contains these colors, and that this causes rainbows. He discovered this in 1672 when he conducted some experiments.

You may think a rainbow is an arc or a half-circle. But actually, a rainbow is a full circle of light. It just appears to be broken in half, because we are looking at it from the ground. A rainbow can't be touched either. It may look solid, but it is not a physical object.

Another fun fact about rainbows is that they're not located at a specific distance. If you try to follow or approach it, it won't get any closer. The rainbow will always be visible at the angle the raindrops bend the light. So don't try to chase a rainbow, because it's impossible!

## About the Author



Lydia Lukidis is a published children's author with a multi-disciplinary background that spans the fields of literature, theater, and puppetry.

Lydia's picture book, *Gerbs in the House: The Dilly Dally Bedtime Routine*, is now available. Find out if Mocha will ever get his silly son to sleep!

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Match each vocabulary word from the article with the correct definition.

\_\_\_\_\_ 1. indigo

a. semi-circles; curves

\_\_\_\_\_ 2. reflection

b. a band of colors, such as in a rainbow

\_\_\_\_\_ 3. separate

c. come near to something; move closer

\_\_\_\_\_ 4. arcs

d. when a surface throws back light instead of absorbing it

\_\_\_\_\_ 5. vibrates

e. performed; organized

\_\_\_\_\_ 6. spectrum

f. not occurring very often

\_\_\_\_\_ 7. conducted

g. able to be seen

\_\_\_\_\_ 8. approach

h. dark blue color

\_\_\_\_\_ 9. rare

i. divide; come apart

\_\_\_\_\_ 10. visible

j. moves back and forth quickly and rapidly