

Name: _____

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.



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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.



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1. Based on the information you read in the article, what does the acronym ROY G. BIV stand for? In your answer, make sure you list one word for every letter of the acronym.



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4. In the article, you learned that white light is actually made up of the seven colors of the rainbow. Why can't we see those colors when the sunlight is shining down on us on a clear day?
 - a. The colors are only visible once they've bent and separated by passing through a raindrop at different speeds.
 - b. The colors are only visible when the sunlight reflects off glass or ice.
 - c. You can only see the colors when the sun peeks through a snow storm.
 - d. You can only see the colors in certain parts of the world, such as the tropics.

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



1. _____ indigo

a. semi-circles; curves



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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

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In the article, "The Magic of Rainbows," you learned what causes a rainbow to form in the sky. On the lines below, tell about a time when you saw a rainbow.



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a. The colors are only visible once they've bent and separated by passing through a raindrop at different speeds.

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d. You can only see the colors in certain parts of the world, such as the tropics.

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9. f. rare

i. divide; come apart

10. g. visible

j. moves back and forth quickly and rapidly