

Dazzling Rainbows



photo by Andreas Krispler

Mini Fact:
Scientists believe Earth is the only planet in our solar system that has rainbows.

Have you ever looked up at the sky after it has rained and seen an arc of colors? Or perhaps on a hot summer day you’ve played in the sprinklers in your yard or held a garden hose toward the sun and seen a similar sight. Rainbows have been seen as good omens for thousands of years. But what causes the beautiful strips of color in the sky? The Mini Page looks at rainbows this week.

Color
Rainbows happen when the sun strikes raindrops at a specific angle, which is about 42 degrees. You have to be standing in just the right spot with the sun shining just the right way to see a rainbow. They often look quite striking with storm clouds in the background. The colors of the rainbow are commonly described and remembered by order with the made-up name ROY G. BIV (red, orange, yellow, green, blue, indigo and violet). But like a lot of things, people have different opinions about what colors make up a rainbow, so ROY G. BIV is only used as a guide.



photo by Petr Hykš

Double rainbow

Sometimes a rainbow forms above another rainbow, and this is called a **double rainbow**, which is rare. When this happens, the rainbow on the top is usually **fainter**, or lighter, in color. It has its colors reversed from the lower rainbow, so the top one has violet on the outer band instead of red.

Double rainbows occur when sunlight reflects twice through the same raindrop. You might be wondering how many raindrops are involved in the making of a single rainbow. The answer: trillions!



photo by ezhnikoff

Just out of reach

Some people have looked for the end of a rainbow, and they find it to be just out of reach. This is because no matter where you move, the rainbow will always be the same distance from you. The light making up the rainbow isn’t an object set in one point in the sky. A rainbow is actually part of a circle, and circles have no end.

Sundogs

A **sundog**, or parhelion (par-HE-lee-in), is a bright patch in the sky made up of colors. Sundogs occur more often than rainbows.

A sundog forms from a **refraction**, or bending, of light through ice crystals as they fall through the atmosphere. Sundogs can be seen during any season, anywhere in the world.



photo by fdecomite

Sundogs are about 22 degrees on either or both sides of the sun. Some people see them at the same time they see bright rings in the sky.

Moonbows

A **moonbow** is a rainbow that is made by moonlight instead of sunlight. Because the light is so faint, it can be difficult for human eyes to see the colors of moonbows. To us, the moonbows might appear as a simple white color, but cameras can pick up all the colors in a moonbow.

A moonbow is much rarer than a rainbow because a very specific amount of light and water must interact in a certain type of atmosphere for one to occur.

Resources



On the Web:

- bit.ly/MPRainbows

At the library:

- “Let’s Make a Rainbow!: The Science of Light and Optical Physics for Kids” by Chris Ferrie

Try ‘n’ Find

Words that remind us of rainbows are hidden in this puzzle. Some words are hidden backward or diagonally and some letters are used twice. See if you can find:

ARCH, BLUE, CLOUDS, COLORS, DROPLETS, DOUBLE, GREEN, INDIGO, ORANGE, PRISM, RAIN, RAINBOWS, RARE, RED, REFRACTION, SUNDOG, VIOLET, YELLOW.

T W N W D E R M C Q R I E Z P
R Y A E R G X S X E N A R C H
G E U H O H R G F D L S S W K
R L P D P O G R I V I W D O Y
B B N O L R A G O I P O U L L
B U E O E C O M R O T B O L C
S O C E T N S R A L X N L E Q
L D N I S I C S N E W I C Y K
K S O E R A R D G T G A P Y E
U N J P X R I C E R A R E A H



Cook’s Corner

No-Bake Peanut Balls

You’ll need:

- 1 cup peanut butter
- 1 pound confectioner’s sugar
- 2/3 cup butter, softened
- 1 teaspoon vanilla

- 2 teaspoons shortening
- 2 ounces semisweet chocolate



What to do:

1. Cover a cookie sheet with waxed paper.
 2. Mix together peanut butter, sugar, butter and vanilla.
 3. Chill in refrigerator for at least 2 hours.
 4. Roll into 1-inch balls.
 5. Melt shortening and chocolate in microwave on high for 30 seconds or until melted.
 6. Dip half of each ball in chocolate mixture and put on cookie sheet. Chill in refrigerator.
- Makes 50 balls.

* You'll need an adult's help with this recipe.

7 Little Words for Kids

Use the letters in the boxes to make a word with the same meaning as the clue. The numbers in parentheses represent the number of letters in the solution. Each letter combination can be used only once, but all letter combinations will be necessary to complete the puzzle.

1. fungus eaten on pizza (8) _____
2. pastries with a hole (6) _____
3. feeding on grass (7) _____
4. what you use to wash (4) _____
5. what you see yourself in (6) _____
6. where planes are stored (6) _____
7. bones in the body (8) _____

TON	TS	HANG	NU
GRAZ	ROOM	AR	MUSH
SKE	ROR	MIR	AP
ING	LE	SO	DO

Answers: mushroom, donuts, grazing, soap, mirror, hangar, skeleton.



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Mini Jokes



Abe: What did the rain wear to a fancy dinner party?

Ava: A rainbow-tie!

Eco Note



Sea level rise is accelerating along the U.S. coast and is expected to bring an additional hike of up to 12 inches by 2050, according to a new NOAA study. That will double the amount of sea level rise that has already occurred over the past century. Such a rise would threaten cities such as Miami, Boston and New York, where flooding is already occurring during the highest astronomical and storm-surge tides. This new data is a serious sign of the deepening climate emergency.

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For later:

Look in your newspaper for articles about rainbows and rain.

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