

Science in the News

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Once in a Blue Moon

Written by Angela Freeman

People changed
this photo to make
the Moon look
huge and blue.



What Is a Blue Moon?

You may have heard that a blue moon is coming on May 31. But most blue moons have the same gray color as any other full moon. So what makes a blue moon special?

Two Kinds of Blue Moons

The term *blue moon* can mean two different things. The older definition describes a blue moon as the third full moon in a season that has four full moons. Most seasons have only three full moons, so this extra one is unusual. It's called a *seasonal blue moon*.

A blue moon can also be the second full moon in a month that has two full moons. This is known as a *monthly blue moon*. Months usually have only one full moon, so this event is also rare. Each type of blue moon happens about once every two and a half years.

May's "Blue" Moon

The upcoming blue moon on May 31, 2026, will be a monthly blue moon, but will it look blue? Probably not! ❖



Is the Moon Ever Blue?

The Moon usually looks gray, but it can also look white, yellow, or even reddish-orange. The color is based on where the Moon is in the sky and what is happening in Earth's atmosphere. Dust, smoke, or pollution can change how light reaches our eyes.

Most photos showing a bright blue Moon are fake. People changed the Moon's color. But on very rare occasions, tiny bits of debris in the air—often from a volcanic eruption or a large forest fire—block red light. When that occurs, the Moon really can look blue.

Triple Whammy!

1. huge size = supermoon
2. color = blood moon
3. date = monthly blue moon



This monthly blue moon rose over a castle in England in 2018. It looked reddish-orange because there was an eclipse on the same night. It looked huge because the Moon was near the closest point to Earth in its orbit. All three events together made this a very rare "super blue blood moon."



Environment



For the first time in 180 years, giant tortoises are roaming free on Floreana Island.



Going Home to the Galápagos

February 20 was an exciting day in the Galápagos Islands. Workers set more than 150 giant tortoises free on Floreana Island. It's part of a long project to bring back *native species*. These animals and plants lived on the island in the past. Over time, they died off due to human activity on the island.

Bad Change, Good Change

When humans first arrived, they hunted giant tortoises for food. They also brought *invasive species* that didn't belong. Rats, wild cats, and pigs spread across the island. They ate tortoise eggs and babies. Goats, cattle, and other livestock damaged native habitat.

Now, workers are repairing that habitat so native wildlife can return. The tortoises are only the beginning. Over the next seven years, the workers plan to bring more native species back to Floreana Island.

Birds, Bugs, and Blackberries

One of these species is the brujo (BROO-hoh) flycatcher. This small bird lives only in the Galápagos. An invasive vampire fly feeds on baby brujos. The babies become weak. Many die. Invasive blackberry plants also crowd out native trees. Brujos and other island birds rely on the native trees to survive.

The Hard Work

Repairing Floreana means more than returning native species. Workers must also remove invasive ones. They are using poisons to kill rats, wild cats, and vampire flies. They are also studying natural ways to remove blackberry plants.

Later, the workers plan to release finches and other birds back onto the island. They'll even bring back a native snake, the Floreana racer. ❖

People are working to bring the brujo flycatcher back to Floreana Island.





Math

The STEM of World Cup Soccer Balls

The World Cup is right around the corner. It starts on June 11. While most people are focused on the players, there's another star of this show: the ball.

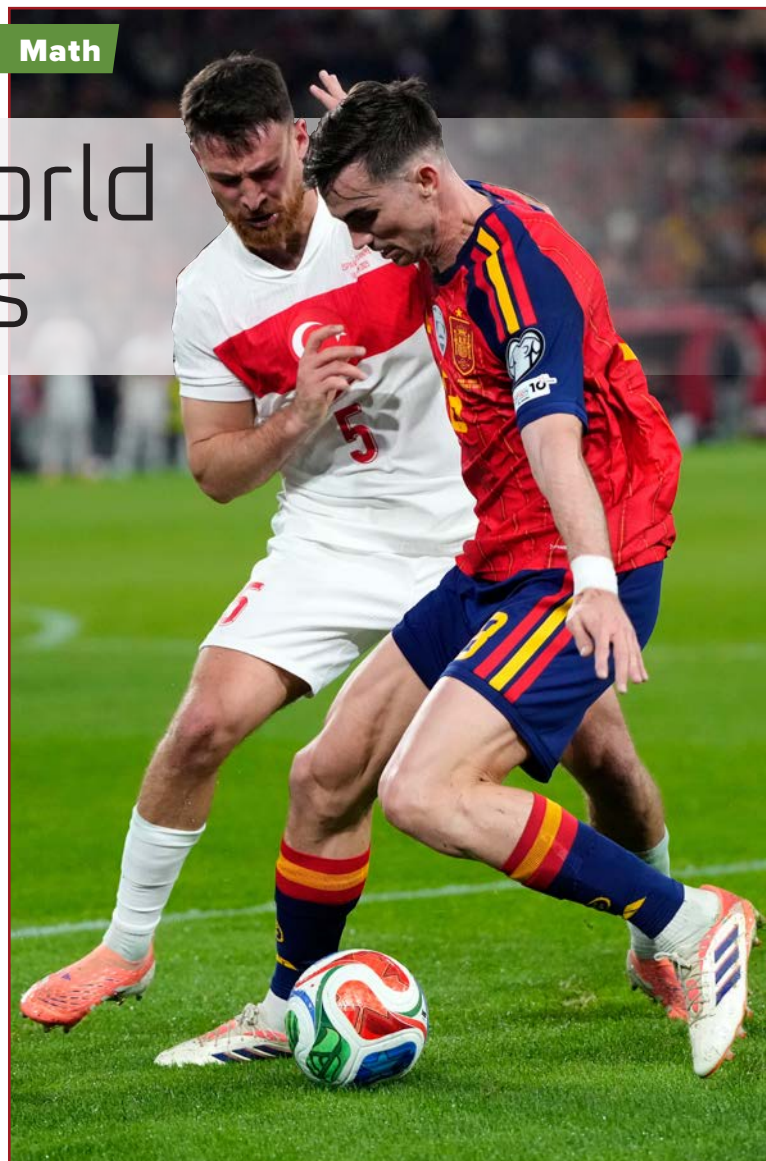
You might think that soccer balls are all basically the same. But each World Cup gets its own new soccer ball. These balls undergo years of testing and design—and they're not simply round.

The Trionda, Cubes, and More

This year's World Cup ball is called the Trionda. Its basic shape is a *tetrahedron*, a 3D form made up of four triangle-shaped sides. The edges of each triangle are curved to fit together.

The basic soccer ball that most people recognize is the Telstar ball. Its base shape is an *icosahedron*—a shape with twenty triangle-shaped sides. Another base shape is the cube, a six-sided *hexahedron*. The 2014 Brazuca ball was made by curving the edges of each side of a cube to make it round.

Changes in shape, however small, can mean big changes in how a ball behaves! ♦

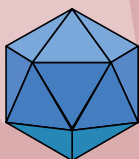


Kicking the new Trionda ball, athletes compete for their place in the World Cup.

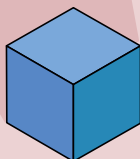
The Geometry of Soccer Balls



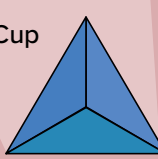
Telstar ball
1970 World Cup
Base shape:
icosahedron



Brazuca ball
2014 World Cup
Base shape:
hexahedron
(cube)



Trionda ball
2026 World Cup
Base shape:
tetrahedron



Soccer balls have changed a lot from the original Telstar ball.

The Physics of Soccer Balls

The design of a soccer ball can affect its *drag*—how much the air pushes against the ball as it moves. At a certain speed, the drag on a ball decreases. This point is called the *critical speed*. Getting past the critical speed makes a ball more stable as it flies through the air. A ball that's too smooth will have a high critical speed that is harder to reach, and a ball traveling below that speed might behave strangely. For goalies, that can be a nightmare!