

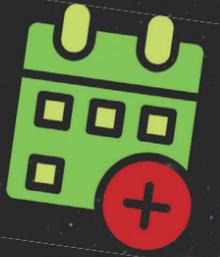
LEAP YEAR

EXPLAINED

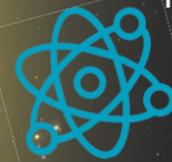
WHAT IS IT?

A **LEAP YEAR** is a year that has 366 days instead of 365.

A **LEAP DAY** is the extra day added to the calendar, as February 29, during a leap year.



THE SCIENCE



It takes a solar year, approximately 365.24219 days — or **365 DAYS, 5 HOURS, 46 MINUTES AND 48 SECONDS** — for the Earth to orbit the Sun. Our calendar rounds the solar year down to 365 days. But those leftover hours don't just disappear. To make up for the missing time, one day is added to our calendar approximately every four years.

WHY IT'S IMPORTANT

Those few hours may not seem like a big deal, but if you keep subtracting six hours from the solar year every year, eventually it adds up. For example, **JULY** in the United States is during the warmest summer months. If not for leap years, eventually, after a few hundred years, we'd be celebrating July 4 in the winter months.



WAIT JUST A SECOND ...



Since 1972, the International Earth Rotation and Reference Systems Service has added a **LEAP SECOND** into the length of the day 27 times. This adjusts for the sun's gravitational pull and the moon dragging on the Earth as it rotates. Leap seconds are unpredictable because Earth's rotation fluctuates. The next leap second should be **JUNE 30, 2020**. Or not.

LEAP DAY CUSTOMS



According to Irish legend, St. Brigid made a deal with St. Patrick to allow **WOMEN TO PROPOSE** to men every four years on Leap Day.

In some parts of the world, Leap Day is **BACHELORS DAY**.

In Scotland, women intending to propose were advised to wear a **RED PETTICOAT**.

A man was expected to pay a penalty if he refused a marriage proposal, either a **GOWN OR MONEY**. In some countries, the man would have to buy the woman **12 PAIRS OF GLOVES**, to hide the embarrassment of not having an engagement ring.



In Scotland, it used to be considered **UNLUCKY** for someone to be born on Leap Day.

In Greece, it's unlucky for a couple to **MARRY** during a leap year and especially on a leap day.

Leap Day is also **ST. OSWALD'S DAY**, named after the archbishop of York who died on Feb. 29, 992.

IN THE FUTURE ...

The Gregorian calendar is far superior to the Julian calendar, but even it's not perfect. Over the span of a year, it's 26 seconds too fast. Due to this slight error, around the **YEAR 5000**, we'll either need to add an extra day or reform the calendar again.

(Of course, that won't affect anyone alive today.)

Some have suggested updating the calendar now, creating a 364-day **WORLD CALENDAR**, which would allow each date to fall on the same day of the week every year.

ELSEWHERE IN OUR SOLAR SYSTEM

If humans were to colonize other planets, they would need leap years, too, since a planet's orbit around the sun and rotation on its axis are not perfectly in line. On **MARS**, one day would be subtracted from the calendar every three years. **VENUS** is even stranger, where one rotation of the planet (day) takes longer than an entire orbit around the sun (year). Also, Venus rotates backward.



IF YOU'RE BORN ON LEAP DAY ...

LEAPLINGS (or leapers or leapsters) are babies born on Leap Day. In common years, they celebrate on February 28 or March 1.

According to the Honor Society of Leap Year Day Babies, a free membership for all leaplings, there are about **4 MILLION** leap year babies in the world.



The odds of being born on a Leap Day are about **1 IN 1,461** births. Leaplings have **TWO AGES**. For example, a man's real age may be 40, but he'll have only had a chance to celebrate his real birthday 10 times.

LEAP DAY BIRTHDAYS



The Henriksen family in Norway had **3 CHILDREN** born on Leap Day: Heidi in 1960, Olave in 1964 and Leif-Marin in 1968.

The Keogh family had **THREE GENERATIONS** born on Feb. 29 in 1940, 1964 and 1996.

1468 – Pope Paul II
1792 – Italian composer Gioacchino Rossi
1916 – American singer **DINAH SHORE**
1924 – American baseball player Al Rosen
1960 – Motivational speaker Tony Robbins
1964 – Hockey player Lyndon Byers
1968 – Actress Wendi Louise Peters
1972 – Singer and actor Saul Stacey Williams and actor Antonio Sabato Jr.
1976 – Rapper and actor **JA RULE**
1980 – Musician Chris Conley

THE HISTORY

46 BC

JULIUS CAESAR created a calendar system that added one leap day every four years, acting on the advice of Alexandrian astronomer Sosigenes. At the time, February was the last month of the year.



1582 AD

POPE GREGORY XIII provided further fine-tuning to the system. Because too many leap years had been observed, the calendar had fallen out of step with the solar year by **10 DAYS**. Gregory first moved the calendar forward 10 days in October, jumping from Oct. 4 to 15, which ignited riots in Europe as people felt 10 days of their lives (and pay) had been stolen. Next, Gregory added that a leap day should not occur in years ending in "00," unless divisible by 400.



1752 AD

AMERICAN COLONIES adopt the Gregorian calendar.

1923 AD

GREECE finally adopts the Gregorian calendar.