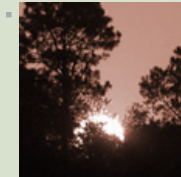
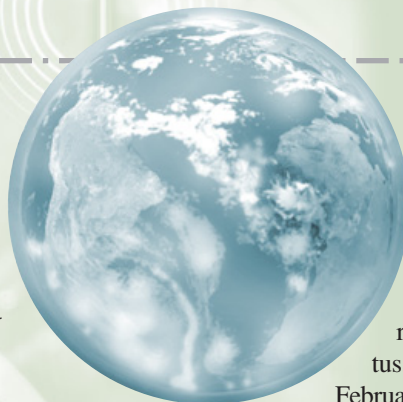




FEBRUARY 29



A SHORT HISTORY OF A PECULIAR DAY

February 29—Leap Day—sneaks up on us once every four years or so. Here's a handy guide to this elusive event.

WHEN DO WE LEAP?

The year must be divisible by four, such as 2008.

Any end-of-century year must also be divisible by 400. This means that 2000 was a leap year, but 1900 was not. As a result, the longest time possible between consecutive leap years is eight years, such as will occur between 2096 and 2104.

WHY DO WE NEED TO?

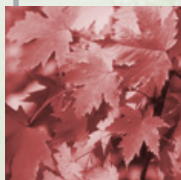
A year is 365 days long.

Not so fast. Literally.

Earth actually takes 365.24219 days to orbit the Sun. Leap Day is added to help the calendar stay aligned with Earth's revolution and to keep our calendar aligned with the four seasons. Without Leap Day, the calendar would be off by five hours, 48 minutes, and 45 seconds each year—or more than 24 days every 100 years.

The fancy word for adding an extra day (or week, or month, as some other calendar systems do) is called “intercalation.” Leap Day is an intercalary day. Years that are not leap years are called common years.

In ancient times, calendars were based on the Moon's cycle, and leap “months” were added every two to three years to keep these calendar systems aligned with the seasons. The first proposal for a Leap Day came in 239 B.C., from Egyptian pharaoh Ptolemy III (not to be confused with the Greek astronomer, Ptolemy). His proposal was part of something called the Canopus Decree. However, his idea was often ignored.



Leap Day officially became part of the Julian calendar developed by Julius Caesar in 46 B.C. The day was inserted after February 24—on February 25. This gave rise to another fancy term for the day: bissextus, from the Roman sextus (six) and bi (twice).

February 24 was the sixth day before the Roman calends, or first, of March, and in leap years, this “day” occurred “twice.”

Leap Day can definitely cause confusion. By about 9 B.C., it was discovered that many Roman priests in charge of computing the Julian calendar had added leap years every three years instead of four. And in 1236, King Henry III of England passed a law stating that Leap Day and the previous day should be counted as one day.

Leap Day is also part of the Gregorian calendar, the most widely used calendar today. (It was proposed by Pope Gregory XIII, and Catholic countries began using it in 1582; Great Britain and the American colonies didn't switch to it until 1752.) The Gregorian calendar added the rule that end-of-century years must also be divisible by 400 to qualify as leap years, a further effort at accuracy.

ARE WE LEAPING TOO MUCH?

Perhaps. Even with leap years, the calendar does not align perfectly with Earth's orbit of the Sun (which takes, remember, 365.24219 days). Our current leap year system means that the average length of each year is 365.2425 days. This difference amounts to about three extra days in 10,000 years. At least we have a lot of time to figure out this problem!

LEAPS FOR JOY

About 4 million people (including 22,500 Canadians) living today were born on February 29. People tend to either love it or hate it. Many feel that it's a sign of good luck to be a “leapling.” In the past, hospitals sometimes recorded either February 28 or March 1 on babies' birth certificates, in an attempt to avoid “confusion.” Most Leap Day babies celebrate on February 28. Computer programs have occasionally failed to recognize



February 29 as a birthday.

No family is likely to celebrate as much on Leap Day as the Henriksen family of Norway, which had three children born on February 29: Heidi in 1960, Olav in 1964, and Leif-Martin in 1968. They hold the Guinness World Record for “most siblings born on Leap Day.”

The Keoghs of Ireland and the United Kingdom may hold the record for generations of Leap Day babies, with three: father Peter Anthony, born in Ireland in 1940, son Peter Eric, born in the U.K. in 1964, and granddaughter Bethany Wealth, born in the U.K. in 1996.

LOVERS’ LEAPS

In less liberated times, Leap Day was known as “Ladies’ Day,” because it was the one day in every four years when women were free to propose to men. The custom was also known as “The

To keep clock time and solar time aligned, the concept of leap seconds was invented.

Ladies’ Privilege.” (Sometimes it is also called “Bachelors’ Day.”)

Some claim that in 1288 the Scottish Parliament passed a law assessing a fine of one pound or more on any available gentleman who refused such a proposal. However, this seems to be a folktale. According to another story, St. Bridget complained to St. Patrick that women could not propose, and he replied that they could do so every four years.

WAIT A LEAP SECOND . . .

Nothing is simple. It turns out that Earth’s rotation on its axis has slowed a tiny bit over the centuries, and isn’t always exactly the same. Meanwhile, since 1955, scientists have relied on atomic clocks to measure time precisely. To keep clock time and solar time aligned, the concept of leap seconds was invented. Since 1971, a leap second has been added about once every 18 months, at midnight on either December 31 or June 30.

Make the most of it. □ □

GOT TIME?

Go to Almanac.com/extras to learn about leaplings (people with Leap Day birthdays) and more fun Leap Day facts.

Alice Cary frequently writes about popular culture for *The Old Farmer’s Almanac*.