

# EXTRA!

FROM THE OLD FARMER'S ALMANAC

**ANOTHER  
RETRO GAME  
QUIZ**

**DELICIOUS  
COOKIES TO GIFT,  
SWAP—OR KEEP!**

**SANTA'S FAVORITE  
HOUSEPLANTS**

**BENEFITS OF  
CAST IRON  
COOKING**

DECEMBER 2019



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# DECEMBER

*Holidays, Fun Facts, and More*



## EYE ON THE SKY

### MOON PHASES

#### First Quarter:

Dec. 4, at  
1:58 A.M. EST

#### Full Cold Moon:

Dec. 12, at  
12:12 A.M. EST

#### Last Quarter:

Dec. 18, at  
11:57 P.M. EST

#### New Moon:

Dec. 26, at  
12:13 A.M. EST



TAP FOR MORE ABOUT  
MOON PHASES

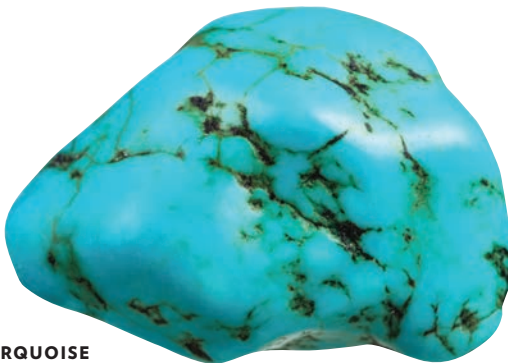


TAP FOR MORE  
ABOUT DECEMBER'S  
FULL MOON

## ABOUT THIS MONTH

This month's name came from the Latin *decem*, "ten," because this was the tenth month of the early Roman calendar.

**Birthstones:** Turquoise, Zircon, and Tanzanite



TURQUOISE

**Birth Month Flowers:** Narcissus and Holly



NARCISSUS

## HOLIDAY HAPPENINGS

**Dec. 1:** First Sunday  
of Advent

**Dec. 7:** National  
Pearl Harbor

Remembrance Day

**Dec. 15:** Bill of Rights Day

**Dec. 17:** Wright Brothers  
Day

**Dec. 21:** Winter Solstice

**Dec. 22:** Chanukah begins  
at sundown

**Dec. 25:** Christmas

**Dec. 26:** Boxing Day  
(Canada)

**Dec. 26:** First day of  
Kwanzaa



## WACKY TIMES

**Dec.:** National Pear Month

**Dec. 2:** Cider Monday

**Dec. 7:** Bike Shop Day

**Dec. 11:** International  
Mountain Day

**Dec. 13:** National Violin Day

**Dec. 13:** National Day of  
the Horse

**Dec. 20:** Underdog Day

**Dec. 26:** National  
Candy Cane Day



## RHYME TIME

*Bite, frost, bite!*

*The woods are  
all the searer,*

*The fuel is all  
the dearer,*

*The fires are  
all the clearer,*

*My spring is  
all the nearer,*

*You have  
bitten into the  
heart of the  
earth,*

*But not into  
mine.*

—Alfred, Lord  
Tennyson, English  
poet (1809–92)

**Answer: C.**  
(A. Mars,  
northern  
hemisphere;  
B. Jupiter;  
D. Neptune)

## DECEMBER'S QUIZ

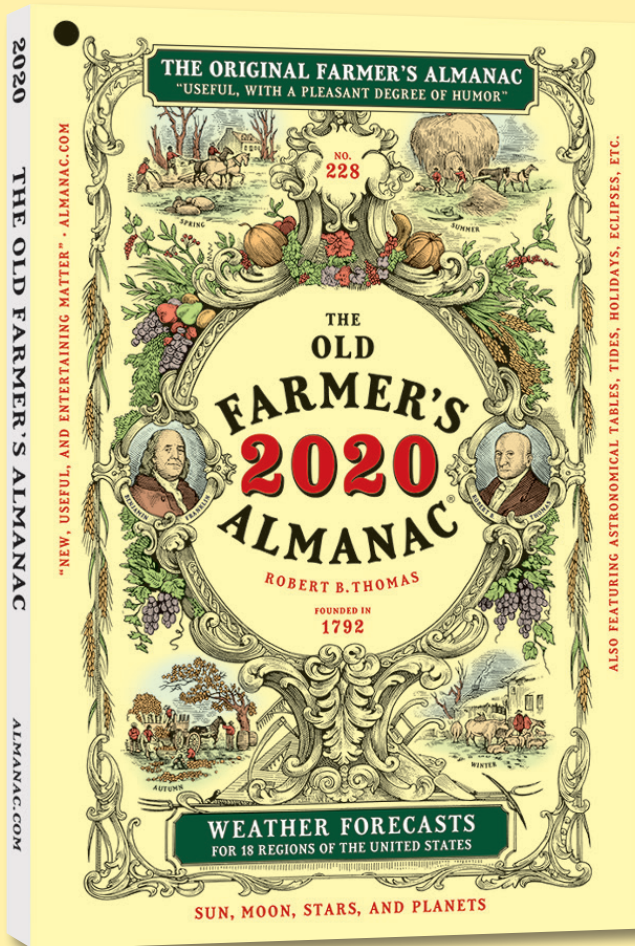
Astronomically speaking, Earth's winter season lasts about 3 months, between the winter solstice and vernal equinox. Roughly how long (in Earth time) is the winter season on Uranus?

- A. Just under 5 months
- B. 3 years
- C. 21 years
- D. 40 years



# Order Now!

## THE 2020 OLD FARMER'S ALMANAC



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## BEST DAYS TO DO THINGS

These December dates, deemed to be propitious in astrology, are based on the astrological passage of the Moon. However, consider all indicators before making any major decisions. —*Celeste Longacre*

### AROUND THE HOUSE

Bake: 13, 14

Brew: 21, 22

Can, pickle, or make sauerkraut:  
21, 22

Demolish: 21, 22

Dry fruit/vegetables/meat: 15, 16

End projects: 25

Lay shingles: 15, 16

Make jams/jellies: 3, 4, 30, 31

Paint: 8, 9

Start projects: 27

Wash floors: 3, 4, 30, 31

Wash windows: 5–7



## PERSONAL

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- Advertise to sell: 8, 9
- Ask for a loan: 21, 22
- Begin diet to lose weight: 18, 22
- Begin diet to gain weight: 9, 31
- Buy a home: 8, 9
- Color hair: 8, 9
- Cut hair to discourage growth: 19, 20
- Cut hair to encourage growth: 3, 4
- Get married: 19, 20
- Have dental care: 17, 18
- Move (house/household): 10–12
- Perm hair: 1, 2, 28, 29
- Quit smoking: 18, 22
- Straighten hair: 23–25
- Travel for pleasure: 15, 16
- Wean children: 18, 22

## OUTDOORS

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- Begin logging: 26, 27
- Go camping: 23–25
- Go fishing: 1–12, 26–31
- Set posts or pour concrete: 26, 27

## IN THE GARDEN

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- Destroy pests and weeds: 5–7
- Graft or pollinate: 13, 14
- Harvest aboveground crops: 8, 9
- Harvest belowground crops: 17, 18
- Mow to decrease growth: 21, 22
- Mow to increase growth: 6, 7
- Pick fruit: 17, 18
- Plant aboveground crops: 3, 4
- Plant belowground crops: 21, 22
- Prune to discourage growth: 15, 16
- Prune to encourage growth: 5–7

## ON THE FARM

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- Breed animals: 21, 22
- Castrate animals: 28, 29
- Cut hay: 5–7
- Purchase animals: 13, 14
- Set eggs: 9–11, 19, 20
- Slaughter livestock: 21, 22
- Wean animals: 18, 22



## GARDENING BY THE MOON'S SIGN

Use the December dates shown in the Moon's Astrological Place calendar below to find the best days for the following garden tasks:

**PLANT, TRANSPLANT, AND GRAFT:** Cancer, Scorpio, Pisces, or Taurus

**HARVEST:** Aries, Leo, Sagittarius, Gemini, or Aquarius

**BUILD/FIX FENCES OR GARDEN BEDS:** Capricorn

**CONTROL INSECT PESTS, PLOW, AND WEED:** Aries, Gemini, Leo, Sagittarius, or Aquarius

**PRUNE:** Aries, Leo, or Sagittarius. During a waxing Moon, pruning encourages growth; during a waning Moon, it discourages growth.

### THE MOON'S ASTROLOGICAL PLACE IN DECEMBER

1 Aquarius	9 Taurus	17 Virgo	25 Sagittarius
2 Aquarius	10 Gemini	18 Virgo	26 Capricorn
3 Pisces	11 Gemini	19 Libra	27 Capricorn
4 Pisces	12 Gemini	20 Libra	28 Aquarius
5 Aries	13 Cancer	21 Scorpio	29 Aquarius
6 Aries	14 Cancer	22 Scorpio	30 Pisces
7 Aries	15 Leo	23 Sagittarius	31 Pisces
8 Taurus	16 Leo	24 Sagittarius	

+ TAP FOR  
MERCURY IN  
RETROGRADE  
DATES

▶ TAP FOR  
DECEMBER  
MOON PHASES



## MERCURY IN RETROGRADE

Sometimes the other planets appear to be traveling backward through the zodiac; this is an illusion. We call this illusion *retrograde motion*.

Mercury's retrograde periods can cause our plans to go awry. However, this is an excellent time to reflect on the past. Intuition is high during these periods, and coincidences can be extraordinary.

When Mercury is retrograde, remain flexible, allow extra time for travel, and avoid signing contracts. Review projects and plans at these times, but wait until Mercury is direct again to make any final decisions.

Mercury's 2020 retrograde periods: **February 17–March 10, June 18–July 12, and October 14–November 3.**

–*Celeste Longacre*



## CONJUNCTION JUNCTION: VENUS MEETS SATURN!

**T**he song “Conjunction Junction” from the 1973 *Schoolhouse Rock* TV program taught young learners about the proper usage of “and,” “but,” and “or.”

To sky gazers, a conjunction is something completely different: a close meeting of two or more astronomical objects in the sky.

During the first half of December, there is a delightful conjunction of the planets Venus and Saturn, with Jupiter in close attendance.

Venus, the second planet from the Sun (Earth is the third), has long been known as “Earth’s Twin.” The two planets are nearly equal in size, with Earth being slightly more massive and having a slightly larger diameter.

The similarities don’t end there. Venus and Earth are both rocky planets, made of solid material, as opposed to planets like Jupiter and Saturn, which consist mainly of gases. It’s long been

TAP TO GET  
A PRINTABLE  
DECEMBER  
SKY MAP

TAP TO  
FOLLOW  
OHIOAN JEFF  
DETRAY’S SKY  
ADVENTURES



known that Venus has an atmosphere, a dense one, with thick clouds shrouding the entire planet.

Venus also comes closer to Earth than any other planet, sometimes venturing as near as 24 million miles. So, there has always been much to suggest that Venus and Earth are indeed twin planets.

Before a visit by the *Mariner 2* space probe in 1962, it was believed that Venus, like Earth, might harbor life. Yes, Venus was closer to the Sun than was Earth, so it was certainly the warmer of the two planets. In the absence of firm evidence to the contrary, it was easy to imagine Venus as a warm, cloudy, wet, swampy version of Earth. Perhaps it was populated by dinosaurs—or even humanlike Venusians!

These exciting prospects were dashed when *Mariner 2* swept past Venus on December 14, 1962. Instruments aboard the spacecraft determined that the surface temperature of Venus was nearly 800°F, hot enough to melt lead. We've since learned that Venus is also utterly dry, a far cry from the lush, tropical environment once envisioned.

But—and there is always a “but”—scientific research suggests that a couple of billion years ago, Venus might have been cooler and wetter than it is today. Maybe, just maybe, life once thrived on Earth’s “twin.”

Almost exactly 57 years after she was visited by *Mariner 2*, you can spy beautiful Venus this December, low in the southwest sky, shortly after sunset. After the Sun and Moon, Venus is by far the brightest object in the sky, outshining every other planet and every star. It's no wonder that the ancient Greeks and Romans both identified this dazzling planet with the goddess of love. (To the Greeks, she was Aphrodite.)

On the evening of December 10, Venus and Saturn are in conjunction, with very-much-brighter Venus just below Saturn. The planet Jupiter sits even lower, almost on the horizon, to the lower right of the pair.

For a few days before and after the December 10 conjunction, you can watch the position of Venus change from night to night. Compared to Saturn and Jupiter, which remain virtually stationary with respect to the background stars, Venus moves steadily toward the upper left each night. Our sky map shows the location of Venus in 3-day increments from the 4th to the 16th.

If your weather is warm enough, take a few minutes to enjoy other sights in the early December night sky. As shown on the map, there are several distinctive asterisms (unofficial star patterns) and bright stars worthy of your attention.

—Jeff DeTray



AMUSEMENT

# Another Retro Game Quiz

*How well do you know the origin of toys and games?*

PHOTO: PIXABAY

## AMUSEMENT

**Read the anecdote about each invention and guess the product that it describes.**

1. In 1966, a storefront window display featuring colored lights in New York City captivated several toymakers. They knew that kids would love to play with such a thing, but feared that it might be dangerous. Eventually, they came up with a toy that worked safely.

2. This toy was inspired by Nordic folktales. In the 1950s, an unemployed baker began carving wood figures. He later made dolls out of rubber and mattress springs. First Lady “Lady Bird” Johnson, wife of President Lyndon Johnson, loved these.

3. In the 1960s, British engineer Denys Fisher spent 20 months trying to make a new drafting tool to create patterns with gears and cogs. One

night, while listening to Beethoven’s *Ninth Symphony*, he figured it out. A friend told the engineer that his creation would make a great toy—and it did!

4. In 1966, several toy designers were developing a game called Caveman, involving play money, paper stepping-stones, and foam rocks. When one of them



## AMUSEMENT

bounced a foam rock, the group realized that an indoor ball would be much more fun than Caveman.

5. Leslie Scott, who grew up in Ghana, invented this game after her parents brought home a set of handmade wooden building bricks for her little brother. The game's name is a Swahili word meaning “build” or “build it.”

6. Ancient Egyptians played this game using vines. In the 17th century, this pastime became popular as a boys' activity among Dutch settlers in North America, which is why one way of playing is called “Double Dutch.” The game was then considered too strenuous for girls.

7. This toy was invented in the 1940s by a retired teacher named Eleanor

 TAP FOR ANSWERS



Abbott, who had polio. She had been a patient in a San Diego hospital and wanted to invent something fun for young patients who were also recovering from the disease.

8. Georgia resident Xavier Roberts invented these dolls after his mother taught him quilting and a folk art called “soft sculpture.” He decided that his creations would be “adopted”—not “bought”—and he called

his workplace “Babyland General Hospital.”

9. While tinkering in his basement to create a new type of heat pump, nuclear engineer Lonnie Johnson connected some tubing with a special nozzle to a sink. A powerful stream of water shot out, and an idea for a new toy was born.

*(Our first Retro Game Quiz was published in December 2018.)*

*—Alice Cary*

**ANSWERS TO  
RETRO GAME QUIZ:**

1. Lite-Brite
2. Troll dolls
3. Spirograph
4. Nerf balls and toys
5. Jenga
6. Jump rope
7. Candy Land
8. Cabbage Patch Kids
9. Super Soaker



# Delicious Cookies to Gift, Swap— or Keep!

*The holidays are approaching, and this means that it's time to make cookies. Whether you are invited to join in a cookie swap or need to make host/hostess gifts, sharing cookies is delicious fun.*



# Turtle Thumbprint Cookies

 TAP FOR  
RECIPE

## TURTLE THUMBPRINT COOKIES

- 2/3 cup butter, softened**
- 1/2 cup sugar**
- 2 egg yolks**
- 1 teaspoon vanilla extract**
- 1-1/2 cups all-purpose flour**
- 20 caramels**
- 2 tablespoons heavy cream**
- 36 pecan halves**
- 1 cup semisweet chocolate chips**
- 1 tablespoon shortening**

In the bowl of a stand mixer, combine butter, sugar, egg yolks, and vanilla. Beat at medium speed, scraping bowl often, until creamy. Reduce speed to low; add flour. Beat until well mixed. Cover and refrigerate until firm, at least 1 hour.

Preheat oven to 375°F.

Shape dough into 1-inch balls. Place 1 inch apart on ungreased cookie sheets. Make indentation in center of each cookie with thumb. Bake for 7 to 10 minutes, or until edges begin to brown. Cool completely.

In a microwave-safe bowl, combine caramels and heavy cream. Microwave on high (100% power) for 1 minute; stir. Continue microwaving in 1 minute intervals until melted; stir until smooth. Spoon about 1/2 teaspoon of caramel mixture into the center of each cookie. Top with pecan half.

In a microwave-safe bowl, combine chocolate chips and shortening. Microwave on high (100% power) for 1 minute; stir. Continue microwaving in 30 second intervals or until melted; stir until smooth. Drizzle over cookies. Let stand until set, about 2 hours.

**Makes 3 dozen cookies.**

SHARE  
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RECIPE

 TAP FOR RECIPE

# Sugar Cookies

## SUGAR COOKIES

### COOKIES:

3-1/4 cups all-purpose flour  
1 teaspoon baking powder  
1/2 teaspoon salt  
3/4 cup (1-1/2 sticks)  
butter, softened  
1 cup sugar  
2 eggs  
1 teaspoon vanilla extract

### BUTTERCREAM FROSTING:

1/4 cup (1/2 stick) butter,  
softened  
2 cups confectioners' sugar  
1 to 2 tablespoons milk  
1 teaspoon vanilla extract  
green or red food coloring  
(optional)

*For cookies:* In a bowl, combine flour, baking powder, and salt.

In the bowl of a stand mixer, cream butter with sugar until fluffy and light. Beat in eggs and vanilla. Add flour mixture to make a firm dough. Cover and refrigerate for at least 1 hour.

Preheat oven to 350°F. Grease baking sheets or line with parchment paper.

Roll out a quarter of the dough at a time to 1/8-inch thickness on a lightly floured working surface. Use cookie cutters to create desired shapes. Place cookies 1 inch apart on prepared baking sheets. Bake for 10 minutes, or until lightly golden. Remove to cool on racks.

*For buttercream frosting:* In the bowl of a stand mixer, cream butter and sugar together until light. Add milk and vanilla. Tint with coloring as desired.

Use buttercream frosting to decorate cooled cookies.

**Makes about 5 dozen cookies.**

SHARE  
THIS  
RECIPE

 TAP FOR RECIPE

# Gluten-Free Chocolate- Coconut- Cranberry Cookies

 SHARE  
THIS  
RECIPE

## GLUTEN-FREE CHOCOLATE-COCONUT-CRANBERRY COOKIES

1 cup unsalted almond butter

1/2 cup sugar

1 egg

1/2 teaspoon vanilla extract

dash of ground cinnamon

1 bar (1.75 ounces) dark chocolate, chopped

1/2 cup old-fashioned gluten-free oats

1/2 cup dried cranberries

1/2 cup unsweetened or sweetened coconut flakes

Preheat oven to 350°F.

In a bowl, combine almond butter, sugar, egg, vanilla, and cinnamon and mix well. Add chocolate, oats, cranberries, and coconut.

Drop by rounded tablespoons onto a baking sheet. Bake for 10 to 13 minutes. Cool for at least 5 minutes on baking sheet to avoid crumbled cookies.

**Makes 12 to 18 cookies.**



NORFOLK  
ISLAND PINE

# Santa's Favorite Houseplants

*Ready for an indoor evergreen? Take a bough!*

**A**round this time, many people are thinking about getting a Christmas tree—and why not? Decorated and aglow with lights, they are lovely to look at, beautiful to behold. That is, until branches start to droop, needles start to drop, and you have to unscrew the stand and haul the tree away.

Consider the benefits of a houseplant tree. We have two suggestions.

- The **Norfolk Island pine, aka Norfolk pine** (*Araucaria heterophylla*), is ideal for a small space and—surprise!—it is not a pine but is still a coniferous evergreen. Native to Norfolk Island, a rocky outcrop in the South Pacific about 620 miles east of Australia’s coastline, it can reach 200 feet in height outdoors over a span of many years. But this won’t happen in your home; it is a very slow grower. You can start with one as petite as 2 feet tall.

The Norfolk pine can take direct sun but is best suited to rooms that get

indirect light (although it needs a daily minimum of 2 hours). Rotating the plant regularly helps it to maintain its upright form. It likes temperatures that range from 60° to 70°F in daytime and can tolerate slightly cooler conditions at night. High humidity makes it happy (especially in winter); putting a saucer filled with gravel and water under it will help to raise the humidity.

To avoid getting “wet feet” (standing in water), it needs well-draining organic soil. Brown needles will give you a clue that something is wrong: the environment is too dry, the temperature too hot or cool, or its pot too wet.

At holiday time, lay—don’t clip!—a short strand of mini-lights near its stem/trunk and suspend only small light-weight decorations from its delicate limbs.

This tree does not emit pine scents, but its convenience and compact size make good sense.

- Another option is a *Podocarpus macrophyllus*,

aka **Buddhist pine, Southern yew, Yew plum pine**, and a few other names. This slow-growing conifer (but not a true pine) is native to tropical Asia, where feng shui practitioners value it for helping to clean the indoor air and enhance the environment’s energy, or *chi*.

This tree is similar to the Norfolk pine in sunlight needs and soil and water preferences, although it can take cooler nights and tolerate an indoor draft.

A common topiary plant, this *Podocarpus* (there are others) can be trimmed to manage growth or pruned to a form without causing harm: Think conical, like a traditional Christmas tree. Its typical indoor height is 4 to 6 feet (outdoors, it can reach 10 times that height), so it can easily become the center of attention, with or without holiday lights and ornaments.

The holiday season lasts for only a few weeks, but these plant companions will bring years of pleasure.



LIVING NATURALLY



# Benefits of Cast Iron Cooking

PHOTO: ANNA\_SHEPULOVA/GETTY IMAGES

I have five pieces of cast iron cookware: two frying pans, a flat skillet, a biscuit pan, and a popover pan.

The price was right (two handed down from my mom, two from the “free mall” at the town dump, and one from a thrift store). All five pieces were old, well used, and relatively well seasoned—black with a rich patina—when I got them.

The seasoning self-maintains itself with regular use of the cookware.

They bear the heft and weight of history (and feel like it, too). The Chinese developed cast iron foundries some 2,500 years ago and probably the first iron cooking utensils. The cast iron kettles, cauldrons, spiders, and Dutch ovens of my colonial ancestors produced much of the cuisine that we call American. They look

good on my wood-fired kitchen stove, a stove of Amish design that is plain, simple, and black, with a cast iron cooking surface.

### BENEFITS TO SPARE

Here are more benefits of cast iron cooking:

- Cast iron cookware *conducts, distributes, and retains heat evenly*, cooking at a lower temperature than pots and pans made from other materials. There are no hot or cold spots in your pans.
- They are *ovenproof*, containing no wooden or plastic parts, which is important when you are cooking on a woodstove, which I do throughout the colder months. They also go from stovetop to oven with no melting, cracking, or warping.
- They’re *versatile*: I can use them for various egg dishes, vegetables, stir-fries, flatbreads, English muffins, and baking

powder biscuits.

- Properly seasoned, they offer a *nontoxic, (almost) nonstick cooking surface*.
- They’re *inexpensive*. You’ll often find cast iron in thrift shops.
- Cast iron is *extremely durable* and will last nearly forever.

Recently, I wondered if a couple of my cast iron pieces might benefit from a complete reconditioning. When I started searching the Web for information, I discovered that cast iron cookware and cooking with it is somewhat of a cult. Who knew?

People collect it, both vintage and modern pieces, and designate their collections to specific heirs. They argue over which brands are best and which sizes and shapes of iron cookware best serves a particular recipe. There are whole books written about how to cook with it and hundreds of online



## Cast iron cooking can be beneficial for folks with an iron deficiency.

articles and spirited discussions about the best way to season it and about whether it's even safe to use.

Cast iron does leach some (relatively nonabsorbable) iron into the food as it cooks, although apparently less from older, well-seasoned items than from newer ones. This can be beneficial for folks who suffer from an iron deficiency. There is a condition called hemochromatosis, usually inherited, in

which the body absorbs and stores too much iron, with toxic consequences. People with this condition, readily diagnosed by blood tests, are advised not to cook with cast iron.

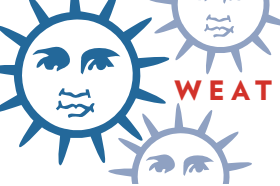
After decades of cooking with cast iron (not to mention regular blood testing), I don't worry much about getting an iron overdose from it. It's a matter of balance. I will say that I don't cook tomatoes or fruit dishes in my iron cookware (it imparts

a metallic taste to the food), and I don't deep-fry any foods, so I don't worry about concerns with deep-frying.

I will admit that hefting hot, heavy iron pans is tough on my increasingly arthritic thumbs and wrists. But I've just discovered the virtues of compression wrist-support gloves. Perfect! —Margaret Boyles



TAP TO READ MORE OF MARGARET BOYLES'S POSTS IN HER "LIVING NATURALLY" BLOG



THUNDER IN DECEMBER PRESAGES FINE WEATHER.

# HOW WE MAKE OUR PREDICTIONS

We derive our weather forecasts from a secret formula that was devised by the founder of this Almanac, Robert B. Thomas, in 1792. Thomas believed that weather on Earth was influenced by sunspots, which are magnetic storms on the surface of the Sun.

Over the years, we have refined and enhanced this formula with state-of-the-art technology and modern scientific calculations. We employ three scientific disciplines to make our long-range predictions: solar science, the study of sunspots and other solar activity; climatology, the study of prevailing weather patterns; and meteorology, the study of the atmosphere. We predict weather trends and events by comparing solar patterns and historical weather conditions with current solar activity.

Our forecasts emphasize temperature and precipitation deviations from averages, or normals. These are based on 30-year statistical averages prepared by government meteorological agencies and updated every 10 years. Most-recent tabulations span the period 1981 through 2010.

We believe that nothing in the universe happens haphazardly, that there is a cause-and-effect pattern to all phenomena. However, although neither we nor any other forecasters have as yet gained sufficient insight into the mysteries of the universe to predict the weather with total accuracy, our results are almost always very close to our traditional claim of 80 percent.

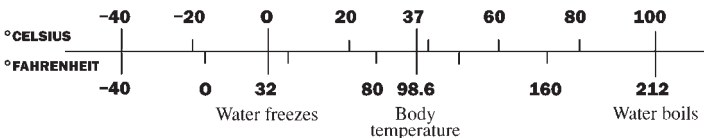


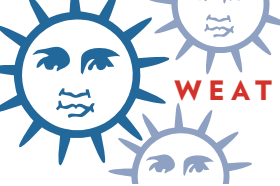
TAP TO FIND OUT THE WEATHER HISTORY OF THE DAY



LOVE ALL THINGS WEATHER? TAP FOR THE WEATHER FOLKLORE OF THE DAY

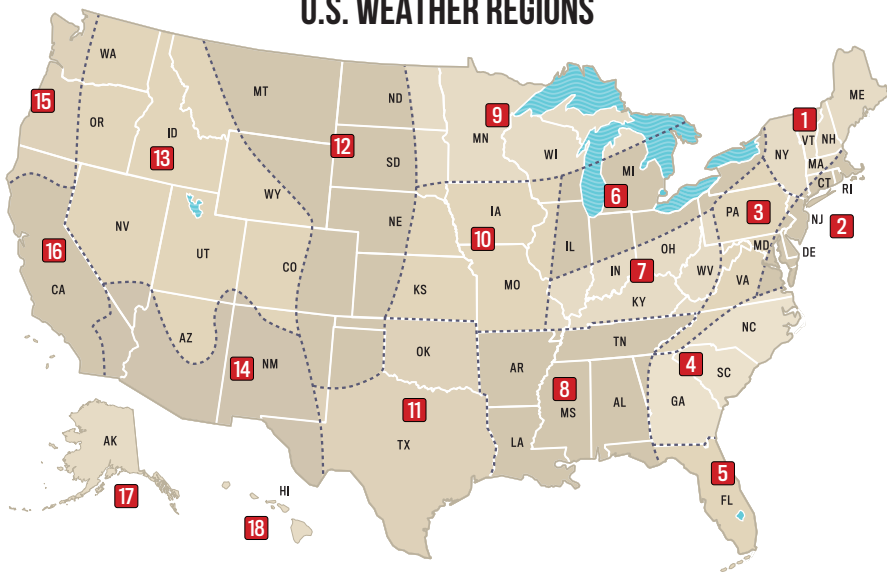
## CELSIUS-FAHRENHEIT TABLE



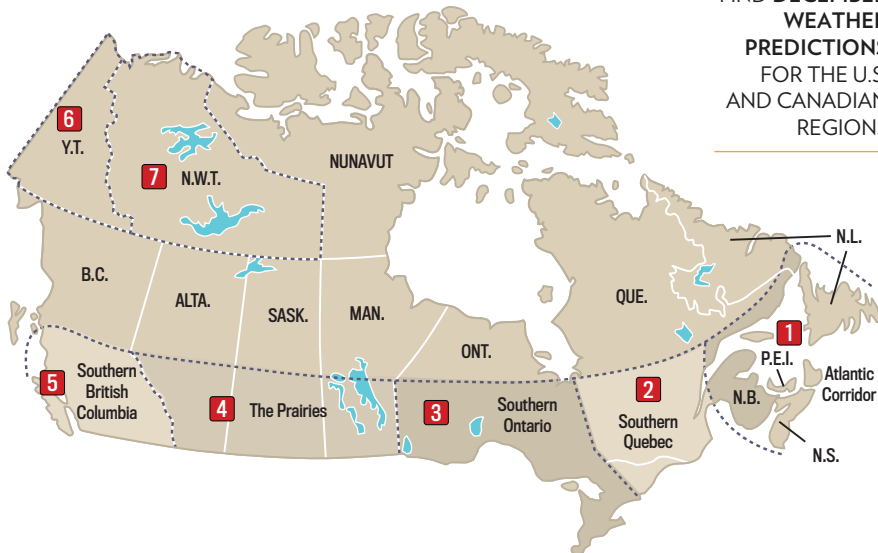


# WEATHER FORECASTS

## U.S. WEATHER REGIONS



## CANADIAN WEATHER REGIONS



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AND CANADIAN  
REGIONS



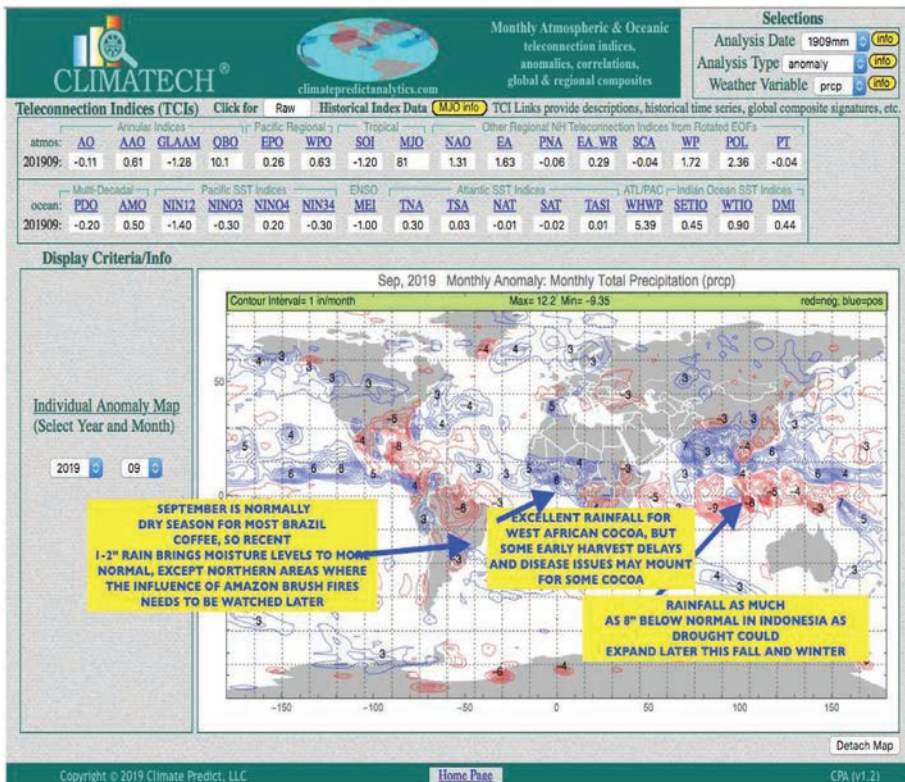


Figure 1. Teleconnection indices and worldwide monthly precipitation anomalies, September 2019.

## WINTER WEATHER MAKERS

The winter season has begun! What can we look forward to weatherwise over the next several months?

As always at the Almanac, first we look to the Sun, where we find that Solar Cycle 24, the smallest in more than 100 years and possibly the smallest since the Dalton Minimum in the early 1800s, is very close to its end. Nascent Cycle 25 is expected to also bring very low solar activity. Low levels of solar activity have historically been associated with cooler temperatures,



on average, across Earth, so ordinarily this would point to a cold winter across most of the United States and Canada.

However, due to other factors, recent winters have been on the mild side despite low solar activity, so we also need to look to teleconnections as the other primary factor to consider as we look into the future.

Teleconnections are patterns in the atmosphere that typically persist from weeks to years and influence temperatures, precipitation, storm tracks, and jet stream over large areas.

Think of a teleconnection as being like construction on an urban highway—it may impact the traffic flow for months (much as a teleconnection impacts the flow of the atmosphere), controlling the traffic flow completely and causing it to back up for miles during rush hour (much as a teleconnection can lead to a series of snowstorms), while at night causing traffic to slow down only through the construction zone (much as a teleconnection may not control the weather continuously, with dry periods between the storms that it brings).

There are many teleconnections, the most well-known 32 of which are listed at the top of Figure 1. This table and map are provided courtesy of Jim Roemer of Climatech, who can be reached at [bestweatherroemer@gmail.com](mailto:bestweatherroemer@gmail.com) for more information.

We strongly considered the expected teleconnections when we made our forecast for the print edition nearly a year ago, but our experience has been that forecasts of teleconnections are more accurate as we get closer to the actual forecast period.

Back then, we felt that important factors in the coming weather patterns would include a moderate El Niño, the Atlantic Multidecadal Oscillation (AMO) in a continued warm phase, the North Atlantic Oscillation (NAO) in a neutral to positive phase, and the Pacific Decadal Oscillation (PDO) in the early stages of its warm cycle.

When we now take more current observations into consideration, we come to believe that we will have the previously forecast El Niño, but that it will be a variant known as an El Niño Modoki. *Modoki* is a Japanese word meaning “similar, but different,” and here it is used to describe an El Niño in which ocean temperatures are warmer than normal in the central equatorial Pacific region instead of the eastern equatorial Pacific region, which is where the warmer waters associated with the “traditional” El Niño are usually found.

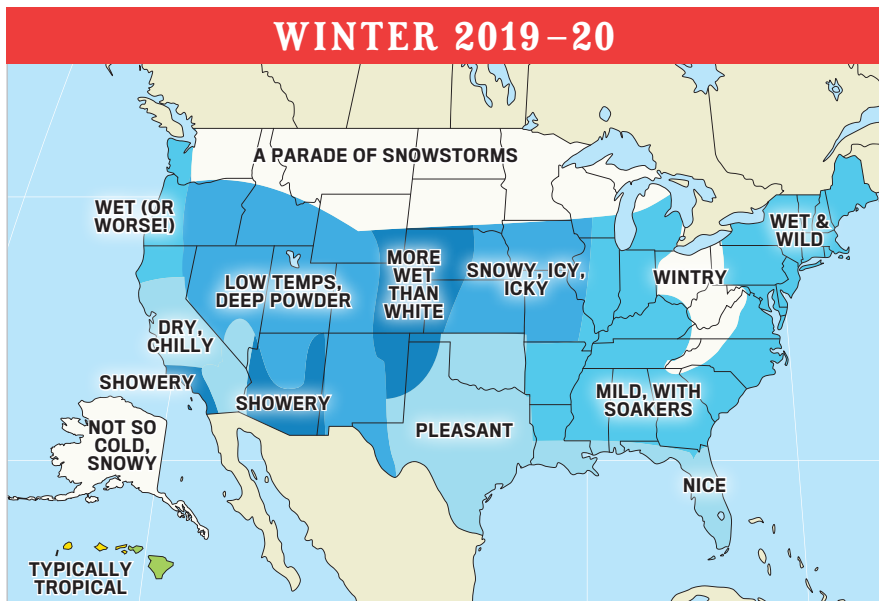


Figure 2. Old Farmer’s Almanac winter 2019–20 U.S. forecast.

This is an important difference because it drives different weather patterns across North America. The most significant differences are that (1) while a traditional El Niño usually brings rainy weather to California, an El Niño Modoki usually brings dry weather, and (2) temperatures are usually warmer in the El Niño Modoki than in a traditional El Niño in the eastern and western United States and Canada and colder in central sections. Even though we were forecasting an El Niño, we had previously forecast dry weather across much of California and the Gulf of Mexico regions—weather more associated with the Modoki variety than the traditional one.

Thus our forecast largely aligns with the current projection of an El Niño Modoki, except that we foresaw somewhat higher temperatures in much of Canada and the central United States than may appear to now be the case.

Our forecasts for the Atlantic Multidecadal Oscillation (AMO), the North Atlantic Oscillation (NAO), and the Pacific Decadal Oscillation (PDO) either remain in line with current projections or are not sufficiently different to cause our original winter forecast to change.

One other teleconnection that is important with regard to this winter’s



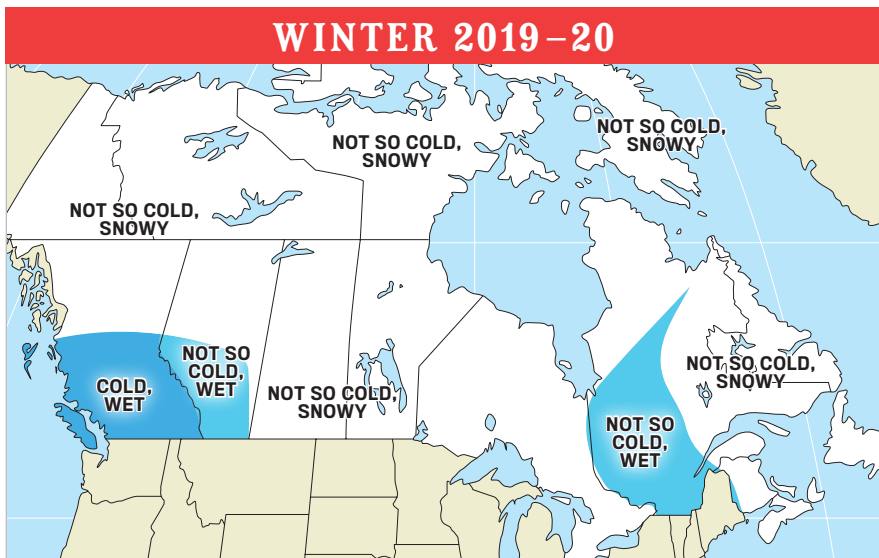


Figure 3. Old Farmer's Almanac winter 2019–20 Canadian forecast.

weather is the Antarctic Oscillation Index (AAO). This had been positive, but record stratospheric warming over Antarctica means that the AAO should trend toward negative.

A negative AAO is typically associated with colder temperatures and above-normal snowfall across North America, especially in the mid- to later stages of the season. Thus while we do expect that temperatures overall will be above normal, we also see some very cold periods ahead in January and February.

The other main factor to consider in the winter forecast has been the recent trend of global average temperatures to be on the increase, especially in the northern United States and central and northern Canada. This is also an important consideration in our winter forecast.

In summary, we can say that the latest data on sunspots and teleconnections cause our forecasts for the upcoming winter (Figures 2 and 3) to change very little. Perhaps the most significant update is that we now expect a higher chance of above-normal snowfall from the mid-Atlantic region into New England, with a powerful Nor'easter or two a distinct possibility in the latter half of winter.

—Michael Steinberg, Old Farmer's Almanac meteorologist



# HUMOR ME

## GRINS AND GROANS FROM THE ALMANAC



### NOTABLE RESPONSE

A stranger came in to an attorney's office one day and said, "I have just sold a load of lumber to Mr. Hampson and taken his notes for it—will they be good?"

"Well," was the reply, "he is the lead singer in our church, and I've

never heard his notes complained of."

### TINY TAR

"Papa," asked a little boy, "are sailors tiny people?"

"Why, no, son," replied the father. "What ever gave you that idea?"

"Because I read the

other day about a sailor going to sleep on his watch."

### AVERAGE HEN

Asked the teacher: "What is an average?"

The class seemed to be stumped, until a little girl raised her hand and said, "It's what a hen lays her eggs on."

Bewilderment and laughing ensued, until the girl pulled out her lesson book, in which was written: "The hen lays 200 eggs a year, on an average."

### FRESH HISTORY

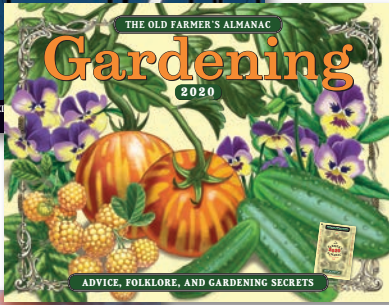
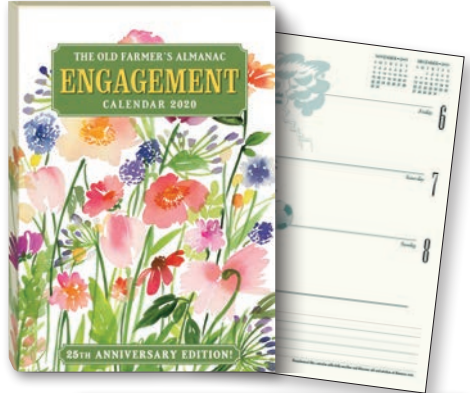
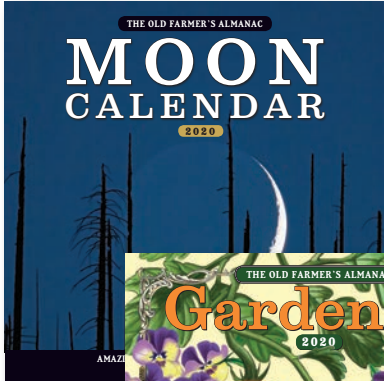
"Now, tell me," asked the teacher. "Where was the Magna Carta signed?"

Student: "At the bottom!"

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MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29						

**Fast Facts** | **Historical Events** | **Birthdays** | **Deaths**

**Fast Facts:** February is the only month with 28 days. It is also the only month that can be a leap month. The name 'February' comes from the Roman god of the month, Februs. The word 'calendar' comes from the Latin word 'calendarium', which means 'a book of accounts'.

**Historical Events:** 1787: The Constitution was signed. 1862: The Emancipation Proclamation was issued. 1918: The Spanish Flu pandemic began.

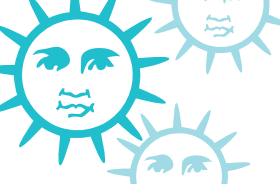
**Birthdays:** George Washington, Abraham Lincoln, Martin Luther King Jr., and many others.

**Deaths:** George Washington, Abraham Lincoln, and many others.

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