

# EXTRA!

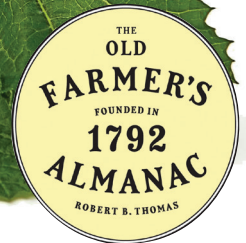
FROM THE OLD FARMER'S ALMANAC

COMPOST 101

6 TRIED-AND-TRUE TELESCOPE TIPS

ARE YOU SLEEPING IN THE RIGHT POSITION?

**IRRESISTIBLE ZUCCHINI RECIPES**



SEPTEMBER 2022

PHOTO: PIXABAY

## FEATURES

### FOOD

Irresistible  
Zucchini Recipes

### LIVING NATURALLY

Are You Sleeping in  
the Right Position?

### ASTRONOMY

6 Tried-and-True  
Telescope Tips

### GARDENING

Compost 101



### WEATHER FORECASTS

How We Make  
Our Predictions

September U.S. and  
Canadian Weather  
Forecasts

Weather Update

## DEPARTMENTS

### CALENDAR

September Holidays,  
Full Moon Names,  
and More

### ASTROLOGY

Best Days to  
Do Things

Gardening by the  
Moon's Sign

### ASTRONOMY

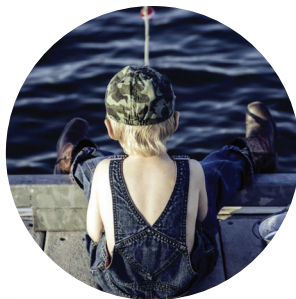
Sky Map for  
September

### WIT

Humor Me  
*Grins and groans  
from the Almanac*

### WHAT'S NEXT

See what we have  
in store for our  
October issue!



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# SEPTEMBER

*Holidays, Full Moon Names, and More*



## EYE ON THE SKY

### SEPTEMBER'S FULL MOON NAMES

Harvest Moon, Corn Moon,  
Yellow Leaf Moon

### MOON PHASES

**First Quarter:** September 3, 2:08 P.M. EDT

**Full Moon:** September 10, 5:59 A.M. EDT

**Last Quarter:** September 17, 5:52 P.M. EDT

**New Moon:** September 25, 5:55 P.M. EDT



TAP FOR MORE ABOUT MOON PHASES



TAP FOR MORE ABOUT SEPTEMBER'S FULL MOON

## HOLIDAY HAPPENINGS

**Sept. 5:** Labor Day

**Sept. 11:** Patriot Day

**Sept. 11:** Grandparents Day

**Sept. 17:** Constitution Day

**Sept. 21:** International Day of Peace

**Sept. 22:** Autumnal Equinox

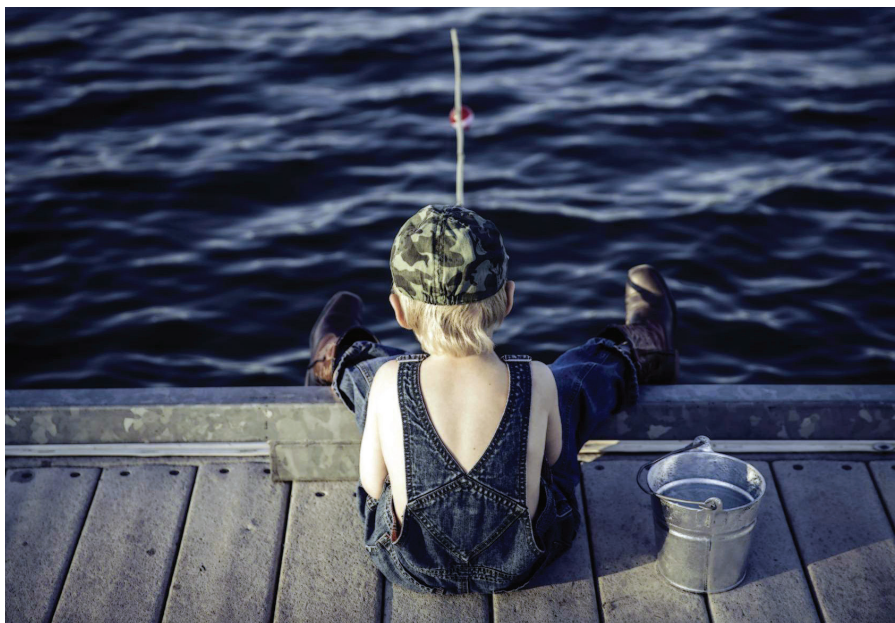
**Sept. 25:** Rosh Hashanah begins at sundown

## SEPTEMBER'S BIRTHSTONE: SAPPHIRE



The sapphire is a form of corundum whose typically blue color is created by tiny bits of iron and titanium. Due to various trace elements, it can also appear in other colors—except red, which is a ruby. The sapphire was once thought to encourage divine wisdom and guard against evil and poisoning. It symbolized purity, truth, trust, and loyalty.

Love flowers? Order your copy of *The Old Farmer's Almanac Flower Gardener's Handbook* at [Almanac.com/Shop](http://Almanac.com/Shop) or Amazon.



## BEST DAYS TO DO THINGS

These September 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*

### PERSONAL

Advertise to sell: 1, 2, 28, 29

Ask for a loan: 13, 14

Begin diet to gain weight: 2, 10

Begin diet to lose weight: 15, 25

Buy a home: 1, 2, 29

Color hair: 13–15

Cut hair to discourage growth: 13–15

Cut hair to encourage growth: 9, 10

Entertain: 21, 22

Get married: 25–27

Have dental care: 23, 24

Move (house/household): 16, 17

Perm hair: 7, 8



Quit smoking: 15, 25  
Straighten hair: 3, 4, 30  
Travel for pleasure: 21, 22  
Wean children: 15, 25

### **AROUND THE HOUSE**

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Bake: 18–20  
Brew: 1, 2, 28, 29  
Can, pickle, or make sauerkraut:  
18–20  
Demolish: 1, 2, 28, 29  
Dry fruit, vegetables, or meat: 21, 22  
End projects: 24  
Lay shingles: 21, 22  
Make jams or jellies: 9, 10  
Paint: 25–27  
Start projects: 26  
Wash floors: 9, 10  
Wash windows: 11, 12

### **OUTDOORS**

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Begin logging: 5, 6  
Go camping: 3, 4, 30  
Go fishing: 1–10, 25–30  
Set posts or pour concrete: 5, 6

### **IN THE GARDEN**

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Destroy pests and weeds: 11, 12  
Graft or pollinate: 18–20  
Harvest aboveground crops: 1, 2  
Harvest belowground crops: 23, 24  
Mow to promote growth: 1, 2, 28, 29  
Mow to slow growth: 13–15  
Pick fruit: 23, 24  
Plant aboveground crops: 1, 2, 28, 29  
Plant belowground crops: 18–20  
Prune to discourage growth: 21, 22  
Prune to encourage growth: 3, 4

### **ON THE FARM**

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Breed animals: 1, 2, 28, 29  
Castrate animals: 7, 8  
Cut hay: 11, 12  
Purchase animals: 18–20  
Set eggs: 7, 8, 15, 16  
Slaughter livestock: 1, 2, 28, 29  
Wean animals: 15, 25

# Take your pick!



## 2023 Almanac Calendars are Now Available!

**ORDER NOW!**



## GARDENING BY THE MOON'S SIGN

Use the September 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 SEPTEMBER

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

+ TAP FOR  
MERCURY IN  
RETROGRADE  
DATES

▶ TAP FOR  
SEPTEMBER  
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.

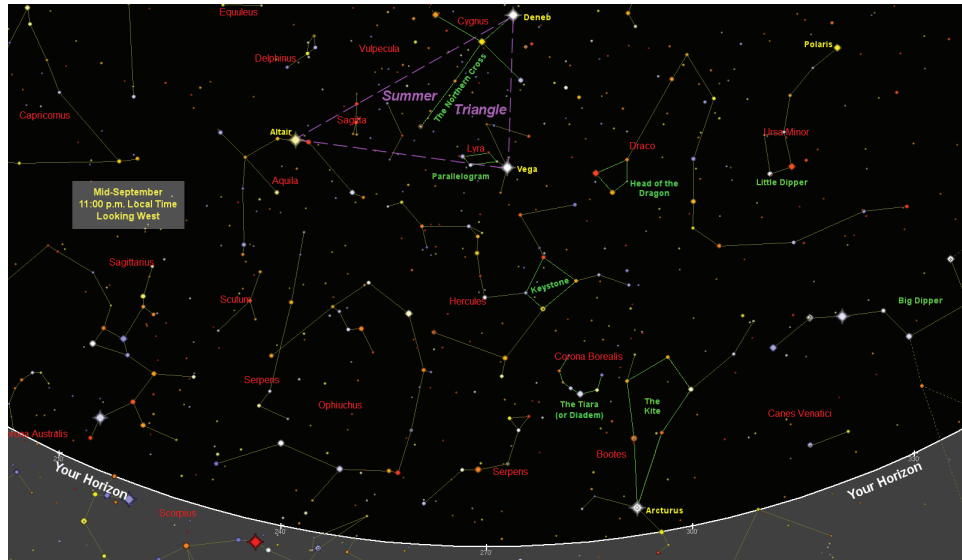
Mercury's remaining 2022 retrograde periods: **September 9–October 1** and **December 28–(January 18, 2023)**.

—Celeste Longacre

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Celebrating its 45th anniversary in 2022, the best-selling Old Farmer's Almanac Gardening Calendar is filled with beautiful art, helpful tips, insightful quotes, and an easy-to-use grid with holidays and Moon phases. Order yours today at [Almanac.com/Shop](https://www.almanac.com/shop).





Mid-September  
11:00 p.m. Local Time  
Looking West

## DISCOVERING THE LATE-SUMMER TRIANGLE



TAP TO GET  
A PRINTABLE  
SEPTEMBER  
SKY MAP



TAP TO  
FOLLOW  
OHIOAN JEFF  
DETRAY'S SKY  
ADVENTURES

**A**lthough the calendar tells us that autumn begins this month, the sights of summer are still prominent in the night sky. The distinctive Summer Triangle can help you to navigate the heavens on warm September nights.

When you face westward at this time of year, the night sky is dominated by three bright stars: Altair, Vega, and Deneb. These three form the Summer Triangle, as illustrated in purple on this month's sky map.

To spot the top of the Summer Triangle, look nearly straight up to find the bright star Deneb. It sits at the top of the Northern Cross asterism (unofficial star pattern), itself a part of the large constellation Cygnus, the Swan. The Northern Cross is one of those asterisms that, once seen, is easily recognized in the future.



Directly below Deneb, you'll find the even brighter star Vega, in the constellation Lyra, the Lyre. Moviegoers were introduced to Vega in the 1997 film *Contact*, starring Jodie Foster. In the movie, a planet orbiting Vega was home to the first alien civilization to contact Earth. To the left of Vega is a small group of four stars that form the Lyre, a delicate, near perfect parallelogram.

Look to the left to find Altair, the third member of the Summer Triangle, in the constellation Aquila, the Eagle. Altair is midway in brightness between Deneb and Vega. Its name derives from an Arabic phrase that translates as "the flying eagle." So, both the star and its constellation have roughly the same name. As interstellar distances go, Altair is a close neighbor—a mere 17 light-years (99.9 trillion miles) from us!

The three stars of the Summer Triangle are helpful for guiding you to other celestial sights. Following the line from Altair rightward past Vega brings you to the head of Draco, the Dragon. Once you have spotted its head, try to follow the sinuous body of the Dragon that slants upward and then bends downward to curl under the Little Dipper.

Below Vega lies the sprawling constellation Hercules, the mighty hero of Roman and Greek mythology. (The Greeks called him Heracles.) Four of the brighter stars of Hercules form the nicely symmetrical Keystone asterism. The Keystone is often visible even when most other stars in Hercules are obscured by streetlights and other manmade light pollution.

Just beneath the Keystone is the lovely constellation Corona Borealis, the Northern Crown. To me, Corona Borealis more closely resembles a Tiara or, if you are a Harry Potter fan, the Lost Diadem of Ravenclaw. In Harry's magical world, the Diadem was said to grant wisdom to its wearer and to carry the famous inscription: "Wit beyond measure is man's greatest treasure."

Just to the right of Corona Borealis and very near the horizon stands the kite-shape form of Boötes, the Herdsman. You'll need a dark location that's free of trees and buildings to get a good view of the Kite and its brightest star, Arcturus.

September nights are among the most pleasant of the year. Plan to spend at least one of them enjoying the Summer Triangle and the many sights within and around it.

—Jeff DeTray

FOOD



# Irresistible Zucchini Recipes

*The next time that you find yourself with more zucchini than you can handle, whether they're from your own garden or that of a friend, don't despair. Once you've sampled these tasty dishes, you may find yourself thinking about ways to increase next year's zucchini harvest!*

PHOTO: SAMANTHA JONES/QUINN BREIN

FOOD



# Ratatouille With Poached Eggs

PHOTO: BECKY LUGART-STAYNER

## RATATOUILLE WITH POACHED EGGS

- 1/4 cup olive oil
- 1 onion, finely chopped
- 1 medium zucchini, diced
- 2 cups peeled, finely diced eggplant
- 2 cloves garlic, minced
- 1/2 teaspoon paprika
- 2 cups finely diced plum tomatoes
- salt and freshly ground black pepper, to taste
- balsamic vinegar, to taste
- 8 teaspoons pesto
- 4 large eggs
- chopped fresh parsley, for garnish
- chopped pitted olives, for garnish

In a large, nonreactive skillet over medium heat, warm oil. Add onions and cook for 5 minutes, or until soft. Add zucchini and eggplant and cook for 3 to 4 minutes more, or until soft. Add garlic and paprika and cook for 1 minute. Add tomatoes and bring to a simmer. Add salt, pepper, and balsamic vinegar and simmer for 7 to 8 minutes.

With the back of a large spoon, make four depressions in the ratatouille. Drop 2 teaspoons of pesto into each.

One at a time, crack each egg into a small bowl, then slide the egg into a depression in the ratatouille. Cover skillet and cook for 4 to 6 minutes, or until eggs are done to your liking. Garnish with parsley and olives before serving.

**Makes 4 servings.**



FOOD

# Zucchini Sausage Squares

PHOTO: SAMANTHA JONES/QUINN BREIN

## ZUCCHINI SAUSAGE SQUARES

- 12 ounces bulk pork sausage
- 3/4 cup finely chopped onion
- 2 cloves garlic, minced
- 4 eggs
- 2 large zucchini, grated
- 1/2 cup shredded Parmesan cheese
- 1/2 cup bread crumbs
- 1 teaspoon dried basil
- 1/2 teaspoon dried oregano
- 1/4 teaspoon salt
- 1/8 teaspoon freshly ground black pepper
- 1 cup shredded sharp cheddar cheese

Preheat oven to 375°F. Grease an 11x7-inch baking dish.

In a pan over medium heat, cook sausage, onions, and garlic until sausage is no longer pink. Drain fat.

In a bowl, beat eggs until frothy, then stir in zucchini, Parmesan, bread crumbs, seasonings, and sausage mixture.

Pour into prepared baking dish, smooth the top, and bake for 25 minutes. Sprinkle cheddar on top and bake for 15 minutes more.

**Makes 10 servings.**

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A photograph of a zucchini spice cake with orange cream cheese frosting and yellow sprinkles. The cake is sliced into several pieces, with one slice on a white plate in the background. The cake is on a wooden cutting board, and a silver fork and knife are visible in the foreground. The background is a blue and white striped cloth.

# Zucchini Spice Cake With Orange Cream Cheese Frosting



## ZUCCHINI SPICE CAKE WITH ORANGE CREAM CHEESE FROSTING

### CAKE:

2 cups all-purpose flour  
2 teaspoons baking powder  
2 teaspoons ground cinnamon  
1 teaspoon ground nutmeg  
1 teaspoon baking soda  
1/2 teaspoon salt  
3 eggs  
1-1/4 cups brown sugar  
1/4 cup honey  
3/4 cup vegetable or canola oil  
1/2 cup plain or vanilla yogurt

1-1/2 cups shredded zucchini  
1 cup chopped walnuts  
1/2 cup finely diced banana  
1 teaspoon grated orange zest

### FROSTING:

4 ounces (1/2 package) cream cheese, softened  
1-1/2 teaspoons orange juice  
2 tablespoons honey  
1 teaspoon grated orange zest

*For cake:* Preheat oven to 350°F. Grease and flour a 10-inch tube pan.

In a bowl, combine flour, baking powder, spices, baking soda, and salt. Set aside.

In a separate bowl, beat eggs until light. Gradually beat in brown sugar and honey until mixture is light and fluffy. Slowly beat in oil. Stir in flour mixture alternately with yogurt. Lightly but thoroughly stir in zucchini, walnuts, banana, and orange zest.

Pour batter into prepared pan. Bake for 50 to 60 minutes, or until a toothpick inserted into the cake comes out clean. Cool for 10 minutes, then invert onto rack and remove from pan. Cool completely, then cover with frosting.

*For frosting:* Using a stand or hand mixer, beat cream cheese and orange juice. Gradually beat in honey. Stir in orange zest by hand.

**Makes 10 to 12 servings.**

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Join The Old Farmer's Almanac Gardening Club, and you'll receive a members-only box full of our best gardening goodies.

**LEARN MORE!**

LIVING NATURALLY



# Are You Sleeping in the Right Position?

PHOTO: DEANDROBOT/GETTY IMAGES

## LIVING NATURALLY

**I**s there a best sleeping position? Front, back, right side, left side? Curled up, straight as a log, one leg over the other, splayed out across the entire bed? One pillow? Two, three—none? Pillow between legs, under knees, under feet, under stomach? Head and chest elevated or legs above head?

There is no simplistic answer to this question, as though you could tell someone to “only sleep facing left or right.”

### THE BEST SLEEPING POSITION

The real answer is that the best position is one in which you keep your spine in a neutral position, which will ensure that your neck, upper back, and lower back are not put under stress and that your posture isn't negatively affected.

This is most easily achieved by sleeping on your back or side and supporting key points of your body with pillows.

For this reason, the back and side sleeping positions are often considered to be the best for your body.

*If sleeping on your back:* Place a pillow under your knees to keep the natural curve of your spine intact and to reduce stress on your lower back.

To support your head and neck, use a pillow that won't push your head forward too much or let it loll backward uncomfortably. Ideally, your ears should be aligned with your shoulders and hips.

*If sleeping on your side:* Your head and neck should be aligned with the rest of your spine, parallel to the mattress,



TAP TO LEARN NATURAL SLEEP REMEDIES



TAP TO LEARN ABOUT NIGHTTIME LEG CRAMPS

so use a pillow (or two) to make sure that your head is properly supported.

Place a pillow between your knees to keep them together. This prevents the pelvis from tilting in any one direction.

Depending on your mattress, you may need to support your waist, too; a rolled towel or small throw pillow can be used effectively—just make sure that it isn't firm enough to push your spine out of alignment with your neck and lower back.

### THE WORST SLEEPING POSITION

Most experts agree that the worst sleeping position is on your

**Most experts agree that the worst sleeping position is on your stomach.**

## If you find that you're stuck sleeping in a way that may not be optimal, you might try changing your sleeping position.

stomach, which strains the neck and spine, which in turn may lead to joint and muscle pain or numbness and tingling. (There's one notable exception: Sleeping prone may be the best position for people with sleep apnea.)

*If you must sleep on your stomach:* Place a flat pillow under your lower stomach and pelvis to support the natural curve of your spine.

It's important to get a good night's sleep, so in the end, keep the above advice in mind and sleep in whichever position makes you feel the most comfortable.

### HOW TO CHANGE YOUR SLEEPING POSITION

If you find that you're stuck sleeping in a

way that may not be optimal, you might try changing your sleeping position. Experts have a few things to say about doing so:

- It's difficult to change the way that you sleep. One recommendation for avoiding either the prone (on your stomach) or supine (on your back) sleep position involves strapping or taping an object to your back (e.g., a tennis ball) or front (a dried pea) to provide just enough of an irritant to prevent you from sleeping that way. There are also various devices on the market and bed/mattress manipulations intended to "train" sleeping posture.

- Similarly, if you're trying to avoid sleeping on a particular side, stack a few extra pillows

behind your back to prevent yourself from easily rolling over in the night.

- Most of us don't stay put while we sleep anyway, changing position more than 10 times each night.

If you're having trouble sleeping, consult your healthcare professionals to learn more about ways that you can help yourself to get more sleep. You may find some help from natural sleep remedies, as well as from learning how to prevent or deal with nighttime leg cramps, if they are a challenge.

—Margaret Boyles



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

ASTRONOMY



# 6 Tried-and-True Telescope Tips

*Since Galileo's time, millions of people have delighted in owning a telescope.  
If astronomy is a new hobby for you, look-y here.*

## ASTRONOMY

### **TIP #1: IGNORE CLAIMS ABOUT POWER OR MAGNIFICATION.**

Most people equate “high power”—say, 300× or 600× (expressed as “300 power” and “600 power,” respectively)—with “better telescope,” but the importance of magnification is often exaggerated. Most celestial objects look clearer, sharper, and with no portion of the target outside the field of view through a modest 50× to 120× eyepiece. Higher power only makes an image blurrier, thanks to our atmosphere’s fuzziness.



TAP FOR MORE  
**TELESCOPE STYLES**

Any eyepiece with any power can be inserted into any telescope. (Yes, the power lies in the eyepiece.) Some companies include a 450× eyepiece to satisfy customers who suffer from “high-poweritis,”

but this degree of magnification produces an image that is dark and blurry.

### **TIP #2: FOCUS ON THE TUBE: THE FATTER, THE BETTER.**

The size of a telescope, expressed in inches, will be more meaningful than any information about magnification. The diameter, or aperture, reveals a telescope’s true value: specifically, how much light its lens or mirror can gather. For example, a telescope, or tube, that is 10 inches in diameter gathers, or lets in, more light than one that is 6 inches in diameter. (The length of the tube is unimportant.) To better understand this principle, look through the wrong end of several telescopes of different diameters.

### **TIP #3: CURB YOUR ENTHUSIASM—AT FIRST.**

Most people who get

a telescope expect to see billions of heavenly bodies right from their own backyard.

In fact, there are only about a dozen objects in the sky that appear spectacular; everything else looks colorless, smudgy, and blurry. (High power won’t alter a smudgy view; under excessive high power, even the Moon would appear blurry.)

Some amateur astronomers love the faint smudges, and they train their eyes to recognize subtle features. The majority of raw beginners will not be impressed by the thousands of galaxies and nebulae that could be viewed through a small telescope because they do not know what they are—yet.

Most novice astronomers use a telescope to view the Moon (except in its full phase, when its craters and mountains seem to vanish because the Sun is

## ASTRONOMY

shining straight “down” on it), Jupiter, Saturn, a few nebulae, and a few double stars.

Backyard amateurs seldom use their telescopes for seeing single stars. Half of the stars in the sky are double stars; they look single to the naked eye, but their beautiful contrasting colors are visible through a telescope. To find any of these, you must know where to look.

### **TIP #4: START SMALL.**

If astronomy is a new interest, make your first telescope a relatively inexpensive one—say, under \$500. Something at this price will display exquisite images when pointed at the appropriate targets; just don't expect colorful swirling galaxies and nebulae that resemble the photos in magazines. And remember: You can always upgrade. Many beginners look for portability and ease of setup, but these

conveniences too often define telescopes that are too flimsy to provide a steady image.

If you want a hassle-free, durable telescope that never needs adjustment, get a refractor. This kind uses a lens to collect and focus light.

You can buy a 2.4-inch (60mm) beginner's refractor for less than \$100.

If you can afford more, get one that is at least 3 inches in diameter (about 75mm). A 4-inch (100mm) model would be better, while a 5-inch (125mm) one, although expensive, would be ideal.

A reflector telescope uses mirrors to collect light and “reflect” images. A 6- to 10-inch model with a motor drive to track sky objects automatically as they move during the night is a wonderful tool. But this type is large and must be carried in and out of the house for each use.

Some libraries offer card holders the ability to

check out telescopes. This can be a great way to try a telescope before you buy.

### **TIP #5: OPEN BOTH EYES.**

Do not undervalue a pair of binoculars. Binoculars are unbeatable for delivering a bright image, a wide field, and a stereoscopic view. Binocular magnifications are too low for viewing planets well, but they are fine for sighting loose star clusters and for sweeping the Milky Way.

Keep this in mind: Binoculars over 10× cause images to shake too much, so avoid them. Image-stabilized binoculars are preferable, but they are expensive.

In order to have an image that is bright enough for astronomical use, make sure that the second number in the specs (as in 7×35, for binoculars that would be described as “seven power”) is at least four times greater than the first. But any binoculars whose second number is



## ASTRONOMY

30 or higher and whose magnification is 7 to 10 can provide satisfying views of many celestial phenomena.

### **TIP #6: JOIN A CLUB.**

Local astronomy clubs welcome enthusiasts of all experience levels. Most clubs hold monthly sky-observing sessions with impressive telescopes. A club is a great way to explore

the night sky and learn about the equipment. Many clubs have informative newsletters; if one is offered, sign up. To find a club near you, go to [Astroleague.org/astronomy-clubs-usa-state](http://Astroleague.org/astronomy-clubs-usa-state).

Many schools and science museums have telescopes, programs, and open nights throughout the year. Contact their science or

astronomy departments.

### **SEE FOR YOURSELF**

As a calendar of the heavens, *The Old Farmer's Almanac* provides accurate sighting times for celestial events and highlights throughout the year. For planet viewing times in your area, go to [Almanac.com/Astronomy](http://Almanac.com/Astronomy).

—*Bob Berman, Old Farmer's Almanac astronomer*

## TELESCOPE VIEWING DO'S AND DON'TS

**RED LIGHT:** It takes at least 10 minutes to acquire night vision (that is, to be able to see well in the dark), so if you are constantly turning a standard flashlight on and off to read a star chart, your eyes are always fighting to get adjusted. On the other hand, a red light enables you to read without losing this darkness sensitivity. Pick up a red LED flashlight in a hardware or home supply store or use red cellophane and rubber bands to cover a flashlight.

**GREEN LIGHT:** Red lasers do not cast a beam into the sky but green ones do, especially at a dark site away from artificial lights. These look “cool” and allow a knowledgeable stargazer to point out celestial objects to friends, but you should never point any laser at a person's eyes or aim a green laser at an airplane—which can not only harm the eyes of the pilots or passengers but also is a federal offense.

**HOW TO AVOID THE WIGGLES:** Telescopes belong on a lawn, not on a wooden deck or pavement—although pavement is better than a deck. A deck vibrates, even if you can't feel it. Pavement heats up during the day and, as the heat from it dissipates after sundown, this warm, rising air can distort an image as seen through a telescope. Telescopes also should not be used at an open window. The same warm air principle distorts the view: Heat from the house escapes through the open window, making for turbulent air. Avoid closed windows, too, as the quality of the glass will distort an image.

## **'SCOPE STYLES**

Galileo's telescopes were refractors—the simplest type. The user peers through an eyepiece and literally looks through the instrument (or a star prism, an accessory that eliminates the need to bend the neck or crouch).

Isaac Newton invented the reflector, which uses mirrors to gather light. The user looks through the side of the tube and sees the image through a series of reflections. These are good instruments in the 6- to 12-inch size, but they are not easily portable.

Today, many amateur astronomers prefer catadioptric, or mixed-type, instruments. These have lenses and mirrors that “fold,” or bounce, the light back and forth to produce a portable (albeit pricey) instrument with a short tube, which also serves well for uses such as bird-watching.

GARDENING



# Compost 101

*Lessons in decomposition*

PHOTO: STOCKPLANETS/GETTY IMAGES

**C**ompost—simply the results of decayed once-living material—is an extraordinary source of plant nutrients and remarkable in its ability to chemically balance and build soil. Your plants will love it and reward you with larger flowers and abundant produce (with, some say, improved flavor). Here is all that you need to know to get started.

### BASIC AND BEYOND

A basic compost pile is a “passive” system. This can be started in autumn with shredded leaves piled in a corner of the yard. Make a pile as much as 10 feet or more in diameter and 4 feet high. Then ignore it. In a year, it will be ready; you will be able to pull out from its steamy center compost that is sufficiently decomposed to use in your garden. However, it is not yet at the crumbly, black-gold “humus” stage. This comes with more time.

An “active” compost system is one that generates

usable compost faster and doesn’t take up as much space. It also enables you to recycle common yard debris—weeds and prunings from the garden, vegetables that rotted or grew too large to eat, kitchen scraps, deadheaded flowers, and even manure and hay or sawdust obtained from nearby farms. (Animal manure needs to decompose before it goes onto the garden. Uncomposted manure is high in acids that can “burn” plants, especially seedlings.)

### WHAT ABOUT A BIN?

Having a bin to contain your active compost is easier and tidier than a pile, but a bin is not necessary. The simplest container is a three-sided square pen. Ingredients are added and compost is removed at the “open” fourth side. Lots of people make these with three discarded (and usually free) shipping pallets fastened together with wire. A box frame with wire mesh stretched across scrap lumber frames

will also work.

One container is adequate, but turning the compost within one bin may be a challenge. (Turning the ingredients speeds up the decomposition process.) If possible, have two bins side by side. Start the compost in one. A few weeks later, transfer, or turn, the pile into the other bin. Repeat this periodically.

Three-pen bins are also common. Raw material goes into the first bin. A couple of months later, you fork this into the second bin and start another load of compost in the first. After a few more months, you flip the material in the second bin into the third one. You continue to transfer material every few weeks, letting the contents of the third bin sit there until they’re ready to use. This system provides a continuous supply of compost.

Factory-made bins are another option. Choose a model made from recycled materials.

# GARDENING

## SIZE

The size of an active compost pile should be between 27 cubic feet (3 feet on a side) and 100 cubic feet (5 feet square, 4 feet tall). These dimensions, according to many studies, create conditions for generating the optimum heat (135° to 160°F) for steady decomposition. A soil thermometer will tell you how hot your pile is, but you don't need one. When you push aside the outer layers of the compost pile and see steam rising from inside, you'll know that it's "cooking." Be careful about feeling it with bare hands; it can burn your skin.

## LOCATION

Put your compost pile/bin in a place that is easy to reach with a wheelbarrow

or the like; you'll be hauling material to and from the pile. Place it in a level, well-drained location near a water source. Also, consider access in wintertime when you will want to dispose of kitchen scraps (best when cut up; the smaller, the better).

## TIME

There is no good or bad time to start a compost pile. If you don't have any autumn leaves (which can be added to the active compost pile at any time, shredded or whole), choose from myriad common organic materials. In late winter, these might include tree prunings, wood ashes, vegetable scraps—even the Christmas tree, if it's broken up. In the spring, toss in newly pulled weeds that haven't gone to seed,

soil from repotted plants, dead houseplants, crushed eggshells, and coffee grounds. In summer, organic debris abounds—dead flowers, seedless weeds, clippings from cutting overgrown plants and shrubs.

## LAYERS

An active compost pile is built from the bottom up, but it should not sit on the ground. Provide a base layer of rough stuff—sticks, twigs, roots, corncobs, woody stems. These will allow air to circulate and thus speed up decomposition.

The second layer should be soft stuff: grass clippings, spent flowers and plants, vegetables that are still green, shredded leaves, sawdust and wood shavings, and

## EXCELLENT INGREDIENTS FOR COMPOST

Coffee grounds	scraps*	Hay	Peat	Vegetable scraps
Corncobs	Fruit waste	Leaves	Pine needles	Vegetable stalks
Cornstalks	Grains	Manure	Sawdust**	and seeds
Eggshells	Grass clippings	Nutshells	Seaweed	Weeds with no
Fish and seafood	Hair	Paper	Straw	seeds

\*Native Americans used fish heads as fertilizer. Raw material will attract animals unless it is buried deep in the pile.

\*\*From unpainted, untreated lumber only.

## GARDENING

kitchen scraps (but not meats, milk, fat, or bones; use fish and seafood sparingly). Put potentially smelly ingredients deep into the middle.

The third layer should include garden soil, animal manure mixed with hay or sawdust, leaf mold (decomposing, shredded leaves), coffee grounds, discarded potting or germinating soil, and peat moss.

Repeat the second and third layers as often as you like; save small twigs, sticks and woody stems, and corncobs as the base for a new or turned compost pile. Soak the compost pile thoroughly at the start.

### TIPS FOR FASTER RESULTS

While the passive compost pile is taking a year or more to mature, the active pile can be ready to spread onto a garden in just 3 months. Adding air, water, and nutrients speeds the process. Air is provided by building the compost pile on a base. More air

can be added by inserting devices—perforated pipes, for example—into the pile.

**To speed it toward its completion, you can also “stir” your compost:** Flip it over, layer by layer, onto a spot next to it. Leave it there for a few weeks and then flip it back again. This gets the outside layers into that warm center for even

#### FIXES FOR BAD COMPOST

**FOUL ODOR?** Did you add protein foods such as meat and dairy products? You might need more air to penetrate the pile. Turn the compost.

**TOO DRY?** Give the pile a good soaking, then water it periodically.

**TOO WET?** The pile might be too small. Add woody, dry material—leaves, peat, wood chips—to green organic matter. Make your pile bigger.

**NO HEAT OR INSUFFICIENT HEAT?** Not enough nitrogen. Add organic fertilizer and more soft, green ingredients.

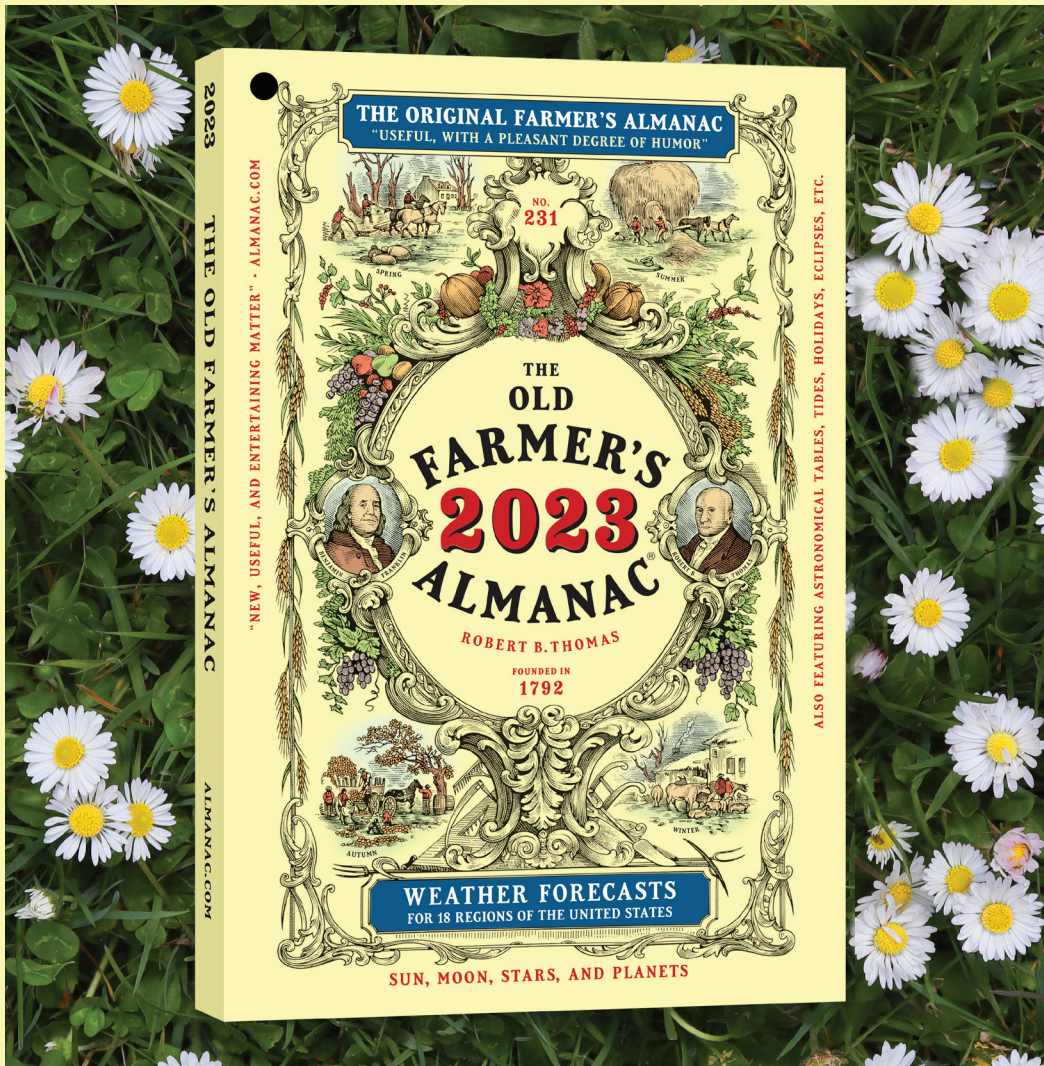
cooking. To have finished compost in 3 months, flip it at least once; turn twice if the pile is large.

**Water speeds decomposition.** Each month that it doesn't rain, give the pile another thorough soaking: Hose it down for 10 minutes and then repeat every couple of hours until it is saturated.

**Nutrients feed the organisms—worms and microorganisms—that eat away at the raw material** and turn it into compost. They'll work faster if you feed them organic fertilizer; bagged, composted animal manure; or, if it's available, barnyard manure (cow, horse, sheep, goat, rabbit, or poultry poop). (Avoid dog, cat, and human waste, which transmit diseases.)

Making compost is not complicated. There's plenty of room for experimentation, modification, and adjustment. In time, it all will turn to compost.

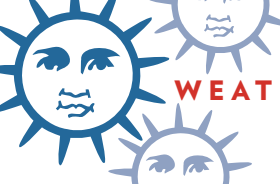
—*the Almanac editors, with Adrienne Cook*



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# WEATHER FORECASTS

IF THE STORMS IN SEPTEMBER CLEAR OFF WARM, ALL THE STORMS OF THE FOLLOWING WINTER WILL BE WARM.

## 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. Our forecasts are based on the tabulations that span the period 1991 through 2020.

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.

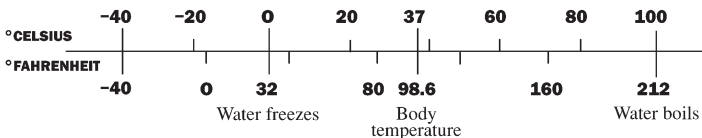


TAP TO FIND OUT THE WEATHER HISTORY OF THE DAY

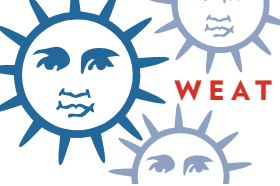


LOVE ALL THINGS WEATHER? TAP FOR THE WEATHER FOLKLORE OF THE DAY

### CELSIUS-FAHRENHEIT TABLE

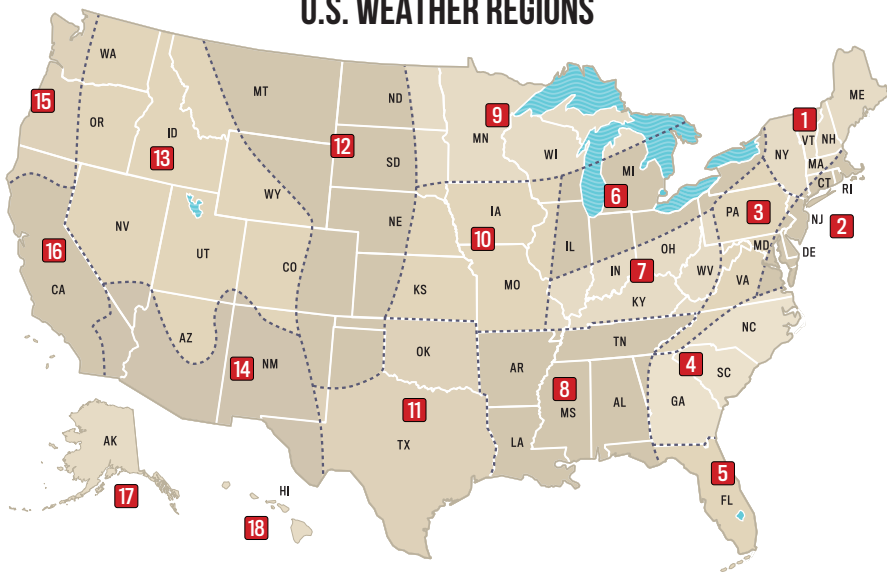






# WEATHER FORECASTS

## U.S. WEATHER REGIONS



## CANADIAN WEATHER REGIONS



CLICK HERE TO  
FIND **SEPTEMBER**  
**WEATHER**  
**PREDICTIONS**  
FOR THE U.S.  
AND CANADIAN  
REGIONS





## AN ACTIVE FALL WITH A MIXED BAG FOR ALL!

**L**abor Day Weekend looks to be wet across the Northeast, mid-Atlantic, Ohio Valley, and Upper Midwest but great for barbecues from the Southeast up through the Appalachians. Showers and thunderstorms will be scattered across the Plains, Rockies, and Desert Southwest, while the weather will be sunny but cool along the West Coast. While British Columbia will be largely dry, there will be the risk of showers elsewhere across Canada.

On Grandparents Day, the 11th, there may be a hurricane threat across the Southeast. This is right around the statistical peak of hurricane season in the Atlantic, which is September 10. Showers and thunderstorms will be possible across the eastern third of the U.S., with most areas running on the warm side. More sunshine is expected from the Upper Midwest through the Plains, while a few showers slide across the Pacific Northwest. Canada will be on



the cooler side, with some showers around, although Quebec will end up mainly dry.

Autumn, which officially arrives on September 22, will kick off with sunshine and cool weather across New England—perfect conditions for producing those prime autumn foliage colors for which the region is so well known. Spotty showers and storms will develop farther south, although Florida will be sunny and warm. Pockets of showers will populate the rest of the nation, with the exception of southern California, which looks to be dry. Rain is expected across eastern Canada, but more sun is expected in western areas.

Throughout the month of September, temperatures will mainly be near or below normal across the northern half of the U.S. and above normal in the southern half, Alaska, and Hawaii. Near- or above-normal temperatures will be found across southern Ontario, Yukon, and the Northwest Territories, with below-normal temps elsewhere. Precipitation is expected to be below normal across Florida, Texas, Oklahoma, and Hawaii and near or above normal elsewhere, while near- or above-normal precipitation is expected across all of Canada.

Looking ahead to the winter

forecast, we're monitoring several different factors. Of note, the La Niña that has been in place for the past 2 years has been expected to become more neutral as the year goes on. However, the latest indications are that the current La Niña could persist all the way through the upcoming winter. La Niña conditions rarely last for three consecutive winters, so this is a setup that we don't often see.

The Atlantic Multi-Decadal Oscillation (AMO) remains in a warm phase, while the Pacific Decadal Oscillation (PDO) is currently in a negative, or cool phase. Oscillations are linked ocean-atmosphere patterns that influence the weather over periods of weeks to years.

We're also monitoring the Sun, as sunspot activity has dramatically increased during the past 6 months and now is at its highest level since 2015. The relationship between increased solar activity and the future phase of the stratospheric winds near the Equator (known as the QBO) could lead to the polar vortex becoming displaced from the North Pole. This would open the door for some cold shots across the eastern United States and Canada this winter.

—*Bob Smerbeck and Brian Thompson,*  
Old Farmer's Almanac meteorologists



# HUMOR ME

GRINS AND GROANS FROM THE ALMANAC



## TOUGH TO SWALLOW

“I would like a nickel’s worth of chocolate candy, please,” said the small boy to the clerk at the corner drug store.

The candy was produced, but no payment appeared forthcoming.

“Where’s your

nickel?” the clerk demanded.

“Why, just charge it to Dr. Peters,” said the boy confidently.

“Nothing doing. Your father said that I was not to charge anything that you bought and that you weren’t to have anything unless

you had the money with you. Besides, why should I charge it to Dr. Peters? He ain’t your pa.”

“Aww, that’s all right,” said the boy. “I had a nickel, but I accidentally swallowed it. Now I’m going right up to the doctor’s



office, and he'll get it out. So you can just charge it to him."

### FOR WHOM THE SPEECH TOLLS

A Kentucky politician with quite a reputation for verbosity once arose at a legislative session to speak on an important matter. He began with, "I will divide my remarks under 12 subheads."

His listeners shivered and longed for the door.

Just then a counterpart from a western county got to his feet and begged to interpose a little preliminary anecdote.

"A friend of mine," he recounted, "was returning home one evening when he happened to spy a besotted fellow trying to ascertain the time on the big town hall clock,

which was of course darkened by night.

"At that very moment, it began to strike, slowly tolling 12 times. The man listened, looked hard at the clock, and then exclaimed, 'Confound you! Why couldn't you have said that all at once!'"

The chamber erupted in laughter, and the windbag took the hint.

### UNFATHOMABLE

The teacher was giving a combined lesson in English and mathematics.

"A fathom," she said, "is a nautical word used in defining distance. It means 6 feet. Now, I would like some young lady to give me a sentence using the word 'fathom.'"

Instantly, a hand shot

up at the back of the room.

"Mary?"

Mary stood up proudly.

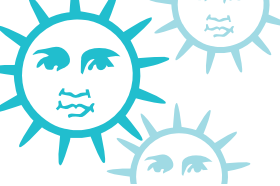
"The reason that flies can walk on the ceiling," said she, "is because they have a fathom."

### UNSUCCESSFUL SUCCESSION

The history lesson was in progress, and the teacher was having a hard time eliciting answers from her class. At last she brightened up, as it became the turn of her star pupil to provide a response.

"Now, Tommy," she said. "Mary followed Edward V, and then who followed Mary?"

Tommy indeed knew the answer to that and quickly shouted out, "Her little lamb, teacher!"

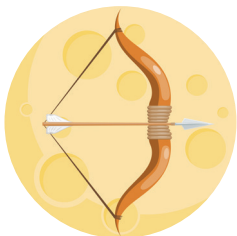


# WHAT'S NEXT



## FOLKLORE

Getting All Squirrely



## CALENDAR

Moon phases;  
October birthstones,  
holidays, and  
full Moon names



## ASTRONOMY

Explore with  
our Sky Map



## GARDENING

Autumn All-Stars



## FOOD

Happy Halloween  
Recipes



## LIVING NATURALLY

An Apple a Day—  
and Not  
Just for Eating!

Plus: Weather Update • U.S. and Canadian Weather Forecasts •  
Gardening by the Moon's Sign • Best Days to Do Things •  
• Humor • and much more in the October *EXTRA!*

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