2017 TOTAL SOLAB ECLIPSE

August 21, 2017 • 11:30am-3:00pm

TOTAL SO AREC

- Local **Events**
 - Live Music
 - Food
 - Movies
 - and more

City

St. B

Cheste

Wildwoo

House

Washington

Midnight @ Noon

A Historic Day

or many Americans, Aug. 21 will be a once-in-a-lifetime opportunity to see one of the greatest displays in nature: a total solar eclipse.

Partial solar eclipses — those in which the moon blocks a portion of the sun during the daytime hours — aren't particularly uncommon. Total solar eclipses, in contrast, are far less common, especially for people who don't have the means or interest to travel to obscure corners of the globe to witness them

A UNIQUE PATH

What makes this year's eclipse special, then? It's the path it's taking across the United States, making it visible in or near populated areas where tens of millions of people can experience it.

National Geographic has called this year's event the "best total solar eclipse in a century" because it is the first to cross the United States from coast to coast since 1918.

Prime viewing spots are located along a narrow strip that crosses 12 states, from Oregon to South Carolina. People along this path will see a total eclipse, in which the moon fully blocks out the sunlight for a period of time, briefly turning day into night.

Millions more, though, will witness a near-total eclipse that is almost as spectacular. Because of its prime path across North America, most people in the United States will be able to see at least a 75-percent eclipse

If you want to know when the eclipse will appear in your area, NASA has created an interactive map at eclipse2017.nasa.gov that can give you all the details.

TRAVEL PLANS

Because of the unique nature of this year's eclipse, many people are expected to travel to get a better view of the unusual heavenly phenomenon.

Even months before the eclipse, hotels in some areas were reportedly sold out as sky gazers made reservations well in advance to ensure they had the best view of the event. It's a good idea to plan early if you want to travel for the total eclipse.

Others are planning parties to mark the occasion, while many observatories and



educators are holding special events in conjunction with the eclipse.

Being something that happens so rarely in

the United States, the total eclipse is a great way to teach and raise excitement around science and the natural universe.





2017 ECLIPSE CORNER

The experience of viewing

art of the experience of seeing the total solar eclipse is to be in the right place at the right time. With all the information provided from different news areas that seems to be something we can easily plan for because we live in the right place – the totality zone. But, the weather can be a changing factor that can still mess up the best picnic plans. And then, if we decide to move, even a short distance, we may have forgotten the impact of our area acquiring so many new visitors who are here to see the eclipse. Could there be traffic problems?

August is generally a very good month for viewing a solar eclipse across the USA. Climatologists say states east of the Missouri and Mississippi Rivers have a heavier average cloud path than Missouri. We will be a nearly constant 50% statistically with the possibility of typical convective clouds forming from the heat in the afternoon. Overcast conditions from weather fronts are at a 20% rate. So, we do have the statistics on our side for a good view, so let us plan on that.

Viewing the totality is the key to this emotional event. Our response will be uniquely individual. One person's thrill of a lifetime can be a big yawn to another person. Excitement will mount as totality nears, and it all explodes at the moment the eclipse goes from 99% to 100% totality. This event falsifies our basic understanding that the constant Sun



PHOTO COURTESY OF NASA.GOV

is always up in the day. Being in the shadow of totality for the first time is most powerful and impacting. We may not realize how we will be impacted emotionally.

The solar eclipse going into totality gives of lots of things to see. Just before the complete total darkness, remember to look at the Diamond Ring Effect, Bailey's Beads, and possibly the chromosphere. Completely in the Moon's shadow, without your Eclipse Glasses, the corona and possibly a prominence can be seen around the black disk in the sky.

Stars and planets can be seen even near the eclipsed Sun. It is not the dark of night, and looking across the horizon, you can see beyond the shadow into an eerie twilight of orange and yellow. You will remember the feeling of amazement.

Anthony F. Aveni, author of several eclipse books, says the totality is a chance to feel the three dimensional nature of the universe. He says it is the same kind of response gained by the news media when they interview someone who has just been through a tornado. We just do not have the correct vocabulary to describe something so extraordinary beyond our normal experience except for the part, "it sounded like a train." Pictures do not convey the experience.

There is a group of people who try to go to the next total solar eclipse consistently. After the 2017 eclipse, there may be several US citizens join that group called "eclipse chasers". Like a hobby, following eclipses becomes their passion and they are off to plan for the next. Whether you will become an eclipse chaser or not, Missouri is in luck, we have another one coming through our state in 2024. —Dan Slais

Dan Slais is a retired 8th grade earth science school teacher from Waynesville, Mo. He has taught Astronomy and Geology for Columbia College and has worked as a seasonal National Park Ranger for seven seasons.







Eye Safety Tips

hile solar eclipses can be some of the most spectacular shows in nature, they also can be very dangerous if viewers don't follow proper precautions.

Here are some things to know.

EYE DAMAGE CAN BE PERMANENT

Staring at the sun any time cancause permanent, irreversible damage, so it's important to take eye safety seriously.

The human retina is very sensitive to light and also quite delicate. Too much sunlight hitting the retina can cause damage, resulting in solar retinopathy. In extreme cases it can cause blindness, but more often it results in other serious vision problems such as yellow or dark spots or blurred eyesight.

Solar eclipses are a particular risk because viewers are tempted to stare at the sun for long periods of time. Even a small sliver of sunlight showing is enough to cause permanent eye damage.

To save your vision, make sure you use proper eye protection — not ordinary sunglasses.

SPECIAL PROTECTION NEEDED

To watch the eclipse safely, you'll need to use appropriate eye glasses to filter out the sunlight.

According to NASA, only four manufacturers have been certified under the international ISO 12312-2 standard for these glasses: Rainbow Symphony, American Paper Optics, Thousand Oaks Optical and TSE 17.

It's a good idea to order eclipse glasses early because high demand may cause a backlog or shortage of these safety devices.

STAY SAFE

NASA also offers these safety tips:

- Homemade filters or ordinary sunglasses, even very dark ones, are not safe for looking at the sun.
- Always inspect your solar filter before use; if scratched or damaged, discard it. Read and follow any instructions printed on or packaged with the filter. Always supervise children using solar filters.
- Stand still and cover your eyes with your eclipse glasses or solar viewer before looking up at the bright sun. After glancing



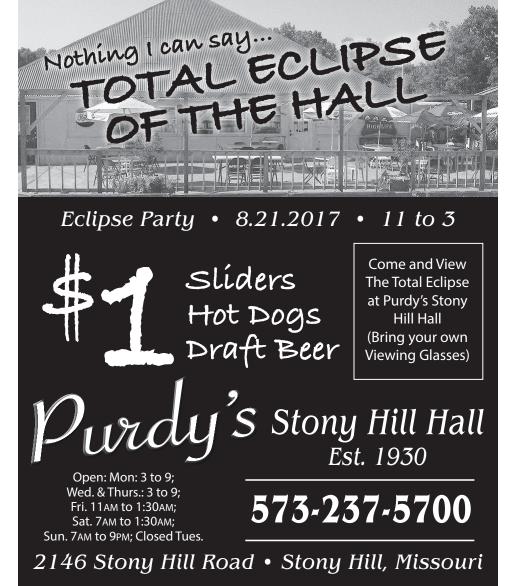
at the sun, turn away and remove your filter — do not remove it while looking at the sun.

• Do not look at the uneclipsed or partially eclipsed sun through an unfiltered camera, telescope, binoculars, or other optical device. Similarly, do not look at the sun through a camera, a telescope, binoculars, or any other optical device while using your eclipse glasses or hand-held solar viewer — the concentrated solar rays will damage the filter and enter your eye(s), causing serious injury.

- Seek expert advice from an astronomer before using a solar filter with a camera, a telescope, binoculars, or any other optical device.
- If you are within the path of totality, remove your solar filter only when the moon completely covers the sun's bright face and it suddenly gets quite dark. Experience totality, then, as soon as the bright sun begins to reappear, replace your solar viewer to glance a the remaining partial phases.







WED., AUG. 16, 2017 ■ PAGE 5B

GASCONADE Republican



Viewing Tips

Millions of people will be stepping outside to watch the solar eclipse as it crosses the United States from coast to coast on Aug. 21.

With a bit of planning, you can find the perfect spot to see this wonder of nature.

WHERE TO WATCH

If you're wanting to see a total solar eclipse, you need to make sure you find a spot within the path of totality. That's the roughly 70-mile-wide strip where the moon will completely block the sun's disk.

All Americans, though, will be able to see an impressive partial solar eclipse on Aug. 21.

A good location to watch the eclipse will be one with wide-open spaces, ideally with little light pollution from nearby cities. If you're going to a popular spot like parks or recreation areas, you'll want to arrive very early to make sure you can find parking and scout out a good location.

KNOW THE TIME

Once you've picked a broad area for witnessing the eclipse, knowing the time the eclipse will occur can be helpful for narrowing down the exact spot.

Several apps are available on smartphones that can make the calculations easy. You can also search online to find the start and end times for your area.

When you know the correct time of the eclipse, it's a good idea to go outside a day or two before the eclipse so you'll know where the sun will be positioned at that moment. You may find a building, tree or other obstruction blocks the view, so you

can scout out the best place to set up for eclipse viewing on Aug. 21.

BRING SUPPLIES

In addition to your solar filter glasses and camera equipment, you should pack just like you would for any summertime outdoor event

That means taking lots of extra water, sunblock and snacks. Even though the sun will be blocked for a portion of the time, you'll still probably be exposed to some strong solar rays before and after the eclipse.

GOOD STEWARDSHIP

You should also follow good etiquette to help take care of the natural beauty in your area. Some things to know:

- Clean up after yourself. If you pack it in, you should pack it out, including any food scraps or pieces of trash. Any time you utilize the outdoors, your goal should be to tread lightly and leave no trace that you were there
- Follow any fire restrictions. August is a hot, dry month that marks the peak of fire season in many areas. Make sure you follow wildfire safety rules in your area by respecting burn bans, properly putting out campfires and carrying a fire extinguisher or extra water as required.
- Use the correct routes. You should try to stay on marked roads and trails that are designed to protect wildlife habitats. If an area is marked as restricted from walking, driving or camping, respect the rules to protect the natural environment.



Capturing the Images

capturing light, and one of the most dramatic and memorable ways to do that is during a solar eclipse.

Getting good images of an eclipse can be challenging, though, from both a technical and safety viewpoint. Here are some things for photographers to consider.

SAFETY FIRST

Any time you plan on photographing the sun, you'll need to acquire an appropriate solar filter. Not only will a proper filter protect your eye sight — which should be your top concern in this type of photography — but it also can keep your equipment from being destroyed.

Both digital and film cameras can be damaged or ruined by un-

hotography is all about filtered or improperly filtered sunlight.

> Make sure you buy a filter that is properly certified and designed for direct sunlight, and follow all the manufacturer's directions for its safe use.

PRACTICE

Like in any type of quality photography, practice makes perfect.

In the case of eclipses, which don't occur often, you have to replicate the right conditions to prepare for it. With the proper filter in place, you can practice shooting photos of the sun in daylight to get some idea of the lenses and camera setup that will give you the results you're hoping for.

You also can practice at night by photographing the moon, which will be the same size as the eclipse.



Because a total eclipse is the fastest and most dramatic change in lighting that Mother Nature can throw at a photographer, you should take the time to make sure you're familiar with all the camera's settings. Atotal eclipse, which will last less than three minutes at peak locations, is no time to be learning about your new gear.

THE CORONA

The most famous photographs

of total solar eclipses always show the corona, that faint, pearly glow that surrounds the sun and is normally only visible during an eclipse

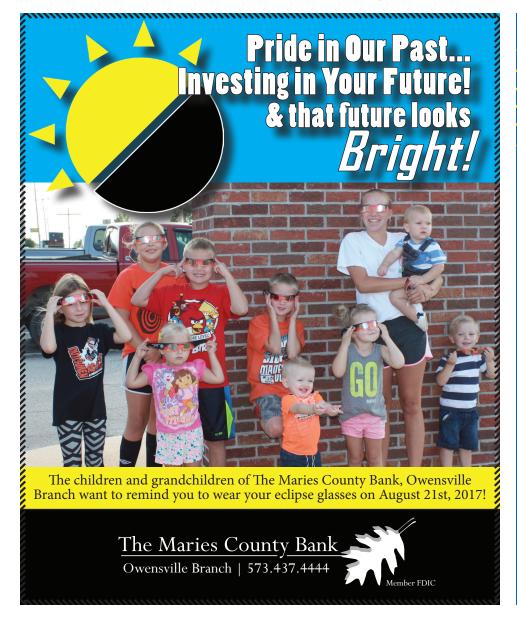
The corona is made up of very dim light, though, so a proper filter that works during a partial eclipse may not result in good images during the darkness of a total eclipse.

Professional photographers may use two or more cameras that are set up to capture the different

phases of the eclipse safely - perhaps one with a filter for the partial eclipse, and another unfiltered for the brief total eclipse when the corona is visible.

The key is to have safety precautions in place to avoid eye damage by accidentally pointing the unfiltered camera into the sun before or after the total eclipse.

See **Images**, Page 7B





WED., AUG. 16, 2017 ■ PAGE 7B

GASCONADE Republican



Solar Eclipse Basics

hile solar eclipses have existed ever since the moon was formed — which scientists say happened several billion years ago — humans' understanding of the eclipse is more recent.

Below are answers to some common questions about eclipses.

WHAT CAUSES AN ECLIPSE?

Eclipses are caused by the alignment of the sun, Earth and moon. A solar eclipse occurs when the moon's path falls between Earth and the sun, blocking out sunlight for a period of time.

HOW OFTEN DOES A TOTAL ECLIPSE HAPPEN?

On average, a total solar eclipse occurs somewhere on Earth every 18 months. The timing for a total eclipse over any specific spot, though, can vary dramatically depending on how the cosmic bodies align. According to Science.com, a ballpark estimate of 400 years is a reasonable average for any given point, but some spots on Earth can take up to 3,600 years between totalities.

WILL I SEE A TOTAL ECLIPSE?

If you live within the path of totality — a

relatively narrow strip from Oregon to South Carolina — you will see a total eclipse on Aug. 21. Otherwise, observers in America will see a partial eclipse.

CAN I WATCH IT ONLINE?

Yes. If the skies are cloudy or your job keeps you working at a desk, NASA is planning a two-hour-long live broadcast during the eclipse from the Newseum in Washington, D.C. It can be seen at nasa. gov or on cable television's NASA Channel.

HOW LONG WITH THE ECLIPSE LAST?

The Aug. 21 total eclipse will last no more than 2 minutes, 43 seconds, and perhaps considerably shorter depending on the viewing location. The longest eclipses have a duration over 7 minutes.

WHAT IS THE DIFFERENCE IN A PARTIAL AND TOTAL ECLIPSE?

A total eclipse occurs when the sun is completely blocked by the moon's path, revealing the corona that normally cannot be seen with the naked eye. In a partial eclipse, the moon passes the sun off center so that a portion of the sun's disk is still visible.

Images • *from page 6B*

SMARTPHONES

If you're careful to not look directly at the sun, it's possible to get great eclipse photos from a smartphone. If you try to use the digital zoom feature to focus on the sun and moon, though, most phones will create a pixelated, unimpressive image.

It's better to use smartphones to capture wide-angle pictures of your friends and your

surroundings while the eclipse is happening, not a closeup of the eclipse itself.

BE'IN THE MOMENT'

Finally, keep in mind that viewing a total solar eclipse may be a once-in-alifetime experience. No matter how much you want to take the perfect image, simply enjoying the wonder of this natural phenomenon can be far more rewarding.



Activities For Children

hen children will be around for the solar eclipse, it's a great chance to have some fun and teach them about astronomy at the same time..

Using a globe, tennis ball and flashlight is a great way to demonstrate exactly how a solar eclipse works. Just turn off the lights and show how the flashlight can cast a shadow on the globe when the tennis ball passes in front of it like the moon passes in front of the sun.

BIG SUN, SMALL MOON

Explaining the differences in size between the moon and the sun can be hard for young children to grasp. After all, when the moon covers the sun in the sky, it may look like the moon and sun are the same size.

In reality, it's all about perspective, and a simple game can demonstrate that. All you need is a quarter and a dinner plate.

Have one child hold the quarter while their friend holds the plate. Up close, it's obvious that the quarter is smaller. But as they step farther away from each other, or as the quarter is held closer to their eye, the quarter can soon look like it's bigger than the dinner plate.

You can also have your child predict how far their friend will have to walk before the quarter completely conceals the dinner plate. How far did they have to walk, and was the prediction accurate?

This is a great way to explain how the sun is 400 times bigger than the moon, even if they look similar in size when they cross in the sky.

WATCH VIDEOS TOGETHER

Today's kids typically love watching videos online, and a solar eclipse is a great way to put their digital interests to good use.

There are plenty of child-friendly, ageappropriate videos online that explain what a total solar eclipse is and why this year's event is so unique. Search on YouTube or other video sites for fun videos that explain the basics of astronomy, then share your favorites with your children.

HELP WITH BAKING

If you'll be making eclipse-themed treats,



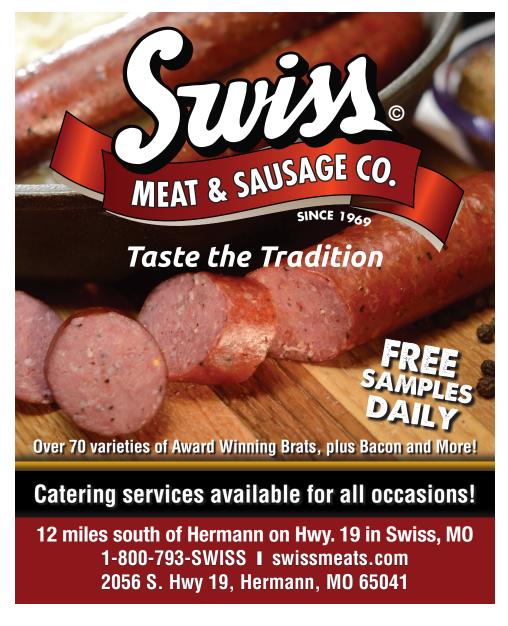
let the kids help.

While it can take a bit more time and perhaps create more clean-up work for Mom and Dad, letting children help in the kitchen is a great way to teach basic life skills and make memories at the same time.

With careful oversight, many kids can mix batters, cut out cookies and pour ingredients. It's a fun way to let them be a part of making the solar eclipse a special and memorable day.







Eclipses From The Past Reported In Newspapers

Pennsylvania Gazette - April 30, 1752

Eighteenth century newspaper accounts of solar eclipses are relatively rare and when they do show up they're usually just short blurbs about local circumstance details taken from the almanacs of the day. However, the brief notice printed in the Pennsylvania Gazette about the total eclipse of May 13, 1752, is unusual. The notice was submitted to the paper by a T. Fox, a Philadelphia carpenter, who claims that the times published for the 50 percent partial eclipse in Philadelphia by Benjamin Franklin's Poor Richard's Almanack are incorrect and that he himself has calculated the correct times. And indeed, with the benefit of today's precise eclipse predictions, we can see that Franklin's times were off by about 15 minutes and Fox's times are just about perfect.

North-Carolina Weekly Gazette -June 26, 1778

The total eclipse of June 24, 1778, was the first of its kind for the newly independent. but still at war, United States of America. New Bern, North Carolina, was close to the southern edge of the eclipse path and the North-Carolina Weekly Gazette printed a report of the event, noting that the weather was clear and that it was observed with "some surprise to the ignorant."

Washington National Intelligencer -June 18, 1806

The total eclipse of June 16, 1806, entered North America from the Spanish-controlled Southwest, moved across the continent in a northeasterly direction, and crossed over parts of Pennsylvania, New York, Massachusetts, and several other New England states. Although the path of totality missed Washington, DC, the National Intelligencer published an account of the partial eclipse as seen from the young nation's capital, reporting that clouds spoiled most of the event for observers. The article goes on to say that many people were disappointed with the degree of darkness experienced during even a 90 percent partial eclipse (somethings never change!) and that the eclipse had been highly anticipated as a means to accurately determine the longitudes of various places in the U.S.

Gettysburg Republican Banner -December 9, 1834

The total eclipse of Nov. 30, 1834, in Gettysburg, Pennsylvania, was only an 88 percent partial eclipse, but it apparently made quite an impression on the author of an article that appeared in the Gettysburg Republican Banner on December 9. The writer dedicates nearly half of his column to reflections about the "triumphs of science over ignorance and superstition" and "how wonderful a proof is this of the uniformity of the laws of nature." Readers learn about the eclipse itself, which was observed locally in clear skies and resulted in a remarkable drop in temperature of as much as 28 degrees!

Honolulu Polynesian - August 10, 1850

The total eclipse of Aug. 7, 1850, was an all-Hawaiian event, crossing no other land in its path across the Pacific. Although still a sovereign kingdom, by 1850 the islands were firmly under the influence of missionaries and businessmen from the U.S. and on Aug. 10 the U.S.-owned Polynesian reported on the eclipse. A rainy sky threatened observation in Honolulu early on, but the clouds eventually cleared for an unobstructed view of the event. The writer concludes with a note regarding how some of the Hawaiians still believe that eclipses foretell the deaths of their chiefs and that something of a public education campaign had been initiated to help dispel these superstitions.

New-York Daily Tribune - July 29, 1851

The total eclipse of July 28, 1851, crossed over Southeast Alaska before sweeping across British Canada and Greenland. Despite the fact that the path of totality never actually touched the United States (Alaska was still a Russian possession), newspapers still found the event noteworthy enough to cover, probably because the path eventually crossed over the Atlantic Ocean and entered parts of Europe. In New York, it was only a 17 percent partial eclipse, and on July 29 the New-York Daily Tribune took the opportunity to provide an overview of some of the upcoming eclipses for the next half-century.

Baltimore Daily Exchange -July 17, 1860

In the midst of a divisive presidential election and with secession only five months away, America can be excused if it didn't show much enthusiasm for the total eclipse of July 18, 1860. It also didn't help that the path of totality traveled only through Oregon and Washington Territory. Still, many newspapers did publish short reports about the eclipse. An article from the Daily Exchange notes the scientific importance of the eclipse.

New York Sun - August 9, 1869

The total eclipse of Aug. 7, 1869, was a highly anticipated event. The eclipse wasn't total in New York, but the New York Sun provided its readers with reports from various locations along the path of totality and a local account by a New Yorker who witnessed the 87 percent partial eclipse from Brooklyn Heights. The witness notes that the light diminished enough that the steam from the ships on the river appeared to darken from white to brown.

New York Herald - July 30, 1878

The total eclipse of July 29, 1878, was a bonanza for scientists and astronomers, with even Thomas Edison traveling west to observe it. On July 30, the New York Herald published a late-breaking telegraph dispatch

from the path of totality in Wyoming Territory. It describes the various experiments carried out by members of several expedition teams and their speculations on the nature of the sun's corona. Edison, after his temporary observatory almost blew down in a wind storm, was able to measure the heat of the corona and one professor even claimed he observed the hypothetical planet Vulcan between Mercury and the sun.

Salt Lake Daily Herald -**January 13, 1880**

By the time the total eclipse of Jan. 11, 1880, entered the U.S., its duration of totality had been reduced to no more than about 30 seconds and its path through the Wild West was only about 20 miles wide. Salt Lake City was the only major town along the path of totality but the eclipse apparently wasn't met with much enthusiasm. Many residents might have doubted their chances of witnessing anything spectacular due to the fact that the eclipse would occur right before sundown and would possibly be hidden behind nearby mountain peaks. It seems the Salt Lake Daily Herald didn't even assign anyone to cover the event, but it did publish a letter from a W.R. Frink who successfully viewed totality from an elevated point.

Daily Yellowstone Journal -January 3, 1889

The total eclipse of Jan. 1, 1889, was notable in that it occurred on New Year's Day, the first time this had happened anywhere on Earth in almost 500 years and the last time it would for another 700. This was also another "Wild West" eclipse. The western states and territories were a good place to be for eclipse chasers in the second half of the 19th century; every total eclipse that occurred in the U.S. over those 50 years was

See **Newspapers** page 10





Solar Eclipses In History

hroughout human history, solar eclipses have fascinated, intrigued and sometimes puzzled us.

Both lunar and solar eclipses have provided the basis for superstitions as well as a challenge for scientists and astronomers throughout the ages as they tried to predict when and where each eclipse would occur.

EARLY RECORDINGS

For ancient cultures, solar eclipses were important and noteworthy events, with the first recorded descriptions of them happening more than 2,000 years before the Christian era (B.C.E.) in China.

The Babylonian culture was one of the first to describe and predict eclipses. On May 3, 1375 B.C.E., a solar eclipse occurred that was described on ancient clay tablets. According to NASA, there is evidence that Babylonians used the Saros cycle of 18 years, 11 days to forecast approximately when solar eclipses would occur.

It wasn't until the time of Claudius Ptolemy, who lived from roughly 100-170 A.D. in Greece, that astronomers could achieve more accurate predictions of when eclipses might happen. Ptolemy's "handy tables" used data to calculate the positions of the sun, moon and planets, leading to better predictions of astronomical phenomena that were referenced through the Middle Ages.

The revolutionary work of Sir Isaac Newton resulted in even more accurate predictions of eclipse paths after he published his gravitational theories in the book "Principa" in 1687.

Edmund Halley, famous for his comet predictions, made the first map of the moon's shadow as it would cross England during a total eclipse in 1715.

Today, eclipses and their paths across the Earth can be predicted with great accuracy

SUPERSTITIONS

Before there was a scientific understand-

ing of why eclipses happen, people developed their own superstitions and meaning behind the dimming of the sun.

A tradition of banging pots and drums to make lots of noise during an eclipse is believed to date back thousands of years in ancient China, when people would try to stop the sun from being "eaten by a dragon," according to NASA.gov.

People have long made ominous associations with eclipses, too.

One of the most famous is the death of King Henry I of England in 1133 A.D., which coincided with a total solar eclipse on Aug. 2. After his death, England descended into civil war.

To many ancient cultures, a solar eclipse was a sign of angry gods or some kind of death, disaster or destruction to come.

Even today, some people around the world view eclipses as omens.

SIR ISAAC Newton published his gravitational theories in 1687, which led to more accurate predictions for eclipse timing and paths.



Newspapers • From page 9

visible from at least somewhere west of the Mississippi. The Daily Yellowstone Journal of Miles City, Montana, published a report about the eclipse on Jan. 3. It describes how the eclipse appeared to a group of local observers and notes that the spectacle spooked a gathering of Cheyenne women who were passing through town.

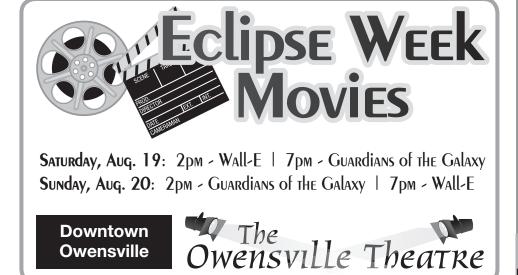
Norfolk Virginian-Pilot - May 29, 1900

After the total eclipse of May 28, 1900, swept across a wide swath of the southern U.S., it exited the country at Norfolk, Virginia. The next day, the eclipse was front-page news, with the Virginian-Pilot giving it a huge four-column headline. The newspaper reports that the eclipse was the "sight of a life-time" and President McKinley observed it from a ship anchored off Norfolk.

Topeka State Journal - June 8, 1918

Before 2017, the total eclipse of June 8, 1918, was the last to cross the U.S. from coast to coast. Although Topeka, Kansas, wasn't in the path of totality, other parts of Kansas were. A Topeka State Journal article notes that 90 percent of the sun would be obscured in most parts of the state and even mentions the year 2017 as the next time a total eclipse would occur over such a wide area of the country.

To see the actual images of these newspaper's stories visit: nationaleclipse.com/ history.html





Established in 1874

Planning An Eclipse Party

hether you love astronomy or just want to get together with family and friends to watch this year's solar eclipse, Aug. 21 is a great time for a party.

DECORATIONS

There's an obvious theme for any eclipse party—the solar system—so look to space for your inspiration.

Stars, crescents and circles can be a fun place to start if you want to keep the look simple, but there's no limit to how far your imagination can go.

Have a projector? Think about projecting an image of the moon on your wall for an unforgettable backdrop.

Globes or glass balls, often sold as garden sculptures, can make great space-themed centerpieces. Glowing balls from the toy aisle can make excellent moons.

For science-fiction lovers, using your favorite spaceships or characters in the decor can provide some inspiration.

And don't limit your creativity to decorating the room. Fun hats and star-themed hair pins can show your fun-loving side.

FOOD

Moon Pies: This one may be too easy, but it's perfect for the occasion. These delicious marshmallow and chocolate treats are ideal for any eclipse party, whether store-bought or homemade.

Sun-dried fruits: Raisins, dried apricots and dates can be fun and healthy ways to pay homage to solar energy.

Freeze-dried ice cream: Often thought of as treats that astronauts eat, freeze-dried ice cream pellets such as Dippin' Dots can be a great way to cool off on a summer day. While this chilled treat was never really used on the space shuttle, it still evokes the idea of space exploration.

Themed treats: Star-shaped cookies and





crystal-like sprinkles can lend a celestial look to your baked goods.

DRINKS

For the adults, mixed drinks can be a fun way to celebrate astronomy. Some classic space-related cocktails include:

- Black hole: Black samba with ice and club soda.
- **Big bang:** One part vodka, one part sambuca, one part absinthe.
- UFO: One part gin, two parts lemon soda.
- Bailey's Comet: One part butterscotch schnapps, one part Bailey's Irish cream, one part Goldschlager, one part sambuca.

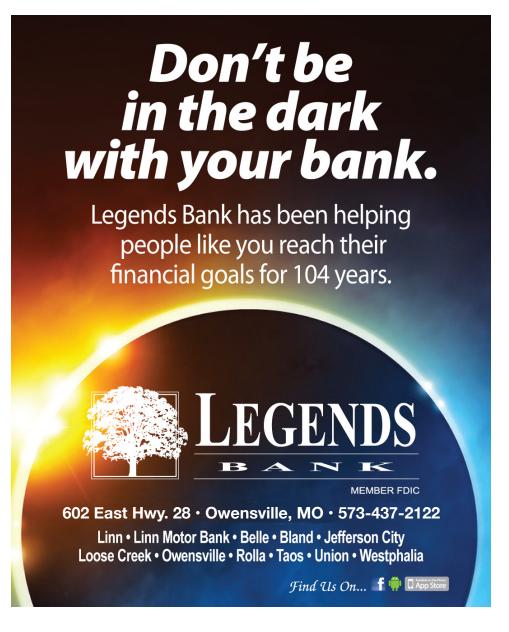
In addition, Blue Moon beer is also a widely available drink, with the perfect name for an astro-themed party.

MUSIC

No party would be complete without an eclipse-themed playlist. Some ideas:

- "Total Eclipse of the Heart" by Bonnie Tyler
 - "Fly Me to the Moon" by Frank Sinatra.
 - "Eclipse" by Pink Floyd.
 - "Man on the Moon" by R.E.M.
 - "Moon Shadow" by Cat Stevens.
 - "Space Jam" by Quad City DJs.
 "Black Hole Sun" by Sound-
 - "Black Hole Sun" by Soundgarden.
 - "Black Star" by Radiohead.
 - "Ain't No Sunshine" by Bill Withers.
 - "Blue Moon" by The Marcels.





Owensville~Rosebud MO • Total Solar Eclipse 2017

Midnight at Moon.

Eclipse Main Events



FRIDAY AUGUST 18:

- ♦ Blackout at White Mule Winery
 Live Music by: "Burnt Whiskey"
- ~ 5:00–9:00PM Buffet Dinner featuring beef brisket and chicken

SATURDAY AUGUST 19:

◆ "ECLIPSESTOCK" at Memorial Park in Owensville

Gates open 2:00PM • Music begins 4:00PM Featuring: "Deliverance," "Norm Ruebling Band," "Michael Connors," and "Interstellar Overdrive"

SUNDAY AUGUST 20:



Three Bands Pickn' on the
Farm ~ Bluegrass Festival
at Martha & Tom's Farm
beginning at 3:00PM

2017 TOTAL SOLAR ECLIPSE

MONDAY, AUGUST 21:

◆ Eclipse Viewing at Memorial Park

11:00AM–3:00PM (at the main ball diamond, Memorial Park, in Owensville)

Event Tickets ON SALE Saturday, August 12 9:00AM-2:00PM at Owensville Walmart*

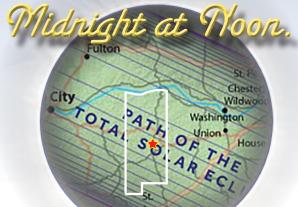
* Offline tickets will be available **Monday, Aug. 14** thru noon on **Friday, Aug. 18** at Medley Pharmacy and First State Community Bank in Owensville.

Show Your Military ID at Gate for a Discount!

T-Shirts & Swag Bags Available for Sale!



August 21, 2017 • 11:30AM-3:00PM



Friday August 18

- **1. Blackout at White Mule Winery** ~ 5:00–9:00PM Buffet Dinner featuring beef brisket and chicken
- 2. Tailgating & Football game at OHS 5:00-10:00PM

Saturday August 19

- **1. MOAC Bicycle Gravel Grinder** ~ 8:00AM-? (Begins and ends at Memorial Park)
- 2. All You Can Eat Breakfast

Masonic Lodge ~ 7:00AM-10:00AM

- 3. Shop Owensville & Rosebud 9:00AM-5:00PM
- **4. Swiss Country Days** ~ 9:00AM-5:00PM Free Tours, Free samples, whole hog plate lunch, local venders
- **5. Movies at Owensville Theater: ADMISSION \$5**Saturday Wall–E 2:00PM Guardians of the Galaxy: 7:00PM
- 6. "ECLIPSESTOCK" at Memorial Park ~
 Gates open 2:00PM Music begins 4:00PM

Sunday August 20

- **1. All You Can Eat Breakfast** ~ 7:00–10:00AM Owensville Masonic Lodge
- 2. Sunday Service ~ 10:30AM at St. James UCC Charlotte featuring scientist and theologian Steve Klein; Luncheon served after the service
- **3. Pulled Pork, Hot Dogs and more!** 11:00AM-3:00PM ~ Zion Lutheran Church Owensville
- **4. Pork Steak Sandwiches and Brats** at 4-Way Stop 11:00AM-? Knights of Columbus
- **5. Movies at Owensville Theater: ADMISSION \$5**Sunday Guardians of the Galaxy: 2:00PM Wall–E 7:00PM
- 6. Three Bands Pickn' on the Farm ~ Bluegrass Festival at Martha & Tom's Farm (beginning at 3:00PM)
- 7. Pre-Eclipse Program ~ 4:00PM (at OHS small gym)
 Guest Speaker Arndt Latusseck
- **8. Spaghetti Dinner** ~ 5:00–7:00PM at St. Peter's UCC Church, in Owensville

Monday August 21

- **1. Eclipse Viewing at Memorial Park ~ 11:00AM-3:00PM** (at the main ball diamond, Memorial Park, in Owensville)
 - **a. Vendors** (*Eclipse viewing glasses available for sale*)
 - **b. Solar System Demo** by Earth's Classrooms
 - c. Eclipse Informational Walking Trail
 - d. Special Eclipse Postal Cancellation 12:00-2:00PM
 - e. Eclipse Viewing at the main ball field
- Other Eclipse Viewings:
- 2. St. James UCC Charlotte Church ~ 11:00AM-3:00PM
- 3. White Mule Winery ~ 11:00AM-?
- 4. Swiss Meat & Sausage Company ~ 11:00AM-2:00PM

The schedule of events and ticket sales are available at http://eclipsemissouri2017.com Facebook page https://www.facebook.com/Owensvilleeclipse2017/