

FROGTOWN READIES FOR
ECLIPSE | 2024

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A TOLEDO-AREA GUIDE TO THE CELESTIAL HAPPENING ON APRIL 8



Enjoy the Eclipse!

But be careful, our recliners are pretty comfortable!

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Toledo Gallery
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INSIDE THE ECLIPSE

Ohio is the perfect place to be for this rare astronomical event. Here's a first look:

1.5 years

Average time between solar eclipses anywhere on Earth.

1806

The last year a solar eclipse passed over Ohio.

2099

The next year it will happen in Ohio.

21

Total solar eclipses to cross over the mainland United States in its existence.



DON'T STARE AT THE SUN!

The safest way to view the eclipse is with special glasses like these. Learn more on Page 5.

PHASES OF THE ECLIPSE

The moon will pass in front of the sun, culminating a minute or two of darkness.

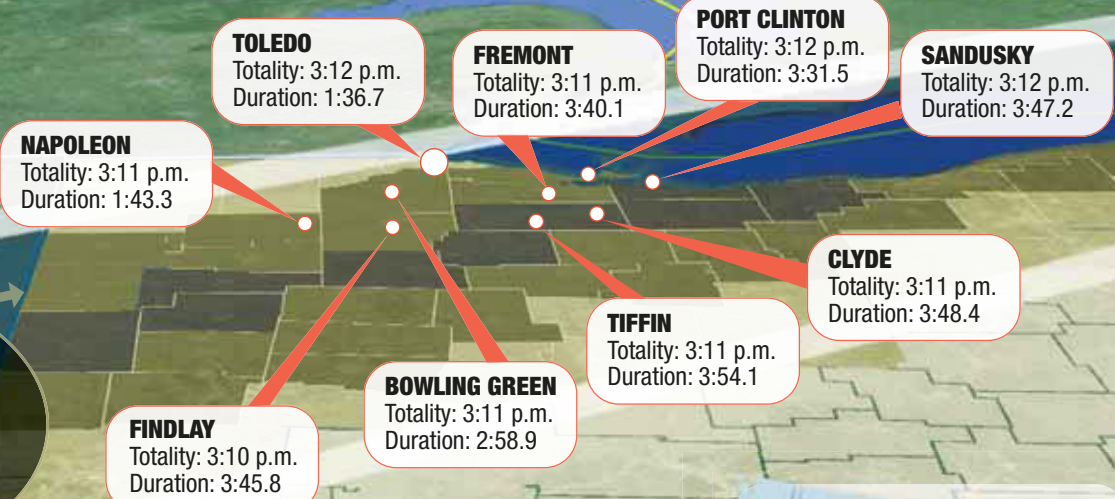


WHAT IS A SOLAR ECLIPSE?

An eclipse occurs when the moon passes between the sun and the Earth, casting a shadow about 100 miles wide. The diagram above shows how a solar eclipse occurs but is not drawn to scale. In fact, the moon and its shadow are much smaller and the sun is much, much larger than what is seen here.



PATH OF THE ECLIPSE



KEY
Counties with darker shading have a more direct view of the eclipse.

- LONGER TOTALITY
- SHORTER TOTALITY
- PARTIAL ECLIPSE

SOURCES: ema.ohio.gov, Google Earth, nps.gov, U.S. Naval Observatory's Astronomical Applications Department

THE BLADE

Eyeballing solar eclipse causes photochemical burns

By **KIMBERLY WYNN**
BLADE STAFF WRITER

The Earth's sun will be the star of the show on April 8, but don't let the moon's 2-hour, 30-minute run in Toledo result in cell damage to fragile photoreceptors in the eye.

"It is a beautiful celestial event. If you are going to do it, let's be ridiculously safe," said Dr. Avnish Deobhakta, a retinal surgeon at New York Eye and Ear Infirmary of Mount Sinai in New York City. "The solar eclipse is a repeatable event that has been known since antiquity. It is a beautiful thread and ties us all together. It is cool."

A total eclipse is a rare but cyclical occurrence, and the fallout from it also is uncommon, considering the millions who gather to observe the celestial event and the few who will carry the burns — creating the shape of a crescent — for the rest of their lives.

Ralph Chou, an expert on eclipse-related eye damage at the University of Waterloo in Canada, collected evidence from anecdotal data that fewer than 100 people nationwide — from estimates of as many as 215 million people viewing the event — reported any eclipse-related vision issues in 2017.

Photoreceptors are special-

ized cells in the eye's retina that convert light into electrical signals the brain can interpret. They are susceptible to photochemical damage from an overload of ultraviolet light. They cannot feel pain. And that can result in a glaring problem that may resolve itself over time — or it might not.

"While these events are awe-inspiring, and we want the public to enjoy this once-in-a-lifetime experience, they also pose potential risks to eyesight if proper precautions are not taken. Even a brief look at the partial eclipse can result in harm to the eyes," said Lindsay Florkey, president of the Ohio Optometric Association from Greene County Eye Care in Cedarville, Ohio.

"Children may need extra supervision during eclipses as they may not fully comprehend the risks involved, so parents are encouraged to educate their children about eye safety and provide proper filters or alternative safe viewing methods," she said. "It is important to seek care from your doctor of optometry should you feel you have experienced any type of UV exposure to the eyes."

The intensity of the sun often is underestimated. Most cannot count the number of times they have been sun-



An ISO 12312-2 filter reduces sunlight to safe levels so eyes are not injured. The glasses are at least 1,000 times darker than regular sunglasses, the American Astronomical Society says.

burned. While the outer layers of skin cells are tough, outer portions of photoreceptors are delicate.

"We don't have a way to give you back those photoreceptors," Dr. Deobhakta said. "There is damage that cannot be reversed."

Not looking directly at the

sun begins with parental instructions during childhood — along with looking both ways before crossing a street — and a natural dislike of the sun's penetrating brilliance.

"Humans as a species have developed an aversion to looking at the sun. You can't really focus on the sun. We sort of

grimace and look away," Dr. Deobhakta said.

That is humans' natural reaction — until there is a solar eclipse. Then, everyone wants to "see."

And it is safe to do so when the totality of the sun is blocked, which will happen for about 1 minute and 53 seconds

in Toledo. It is when the sun is partially covered, and less bright than usual, that onlookers tend to gaze upward when they shouldn't. That is when many patients diagnosed with solar retinopathy will get a crescent-shaped burn in their eyes.

"We use the term 'burning' because it makes sense to people. It is actually a chemical reaction in the cell that receives the light particle. The sun's rays have extremely large amounts of energy. These rays carry that energy into that cell and destroy it," Dr. Deobhakta said.

And it may not happen instantaneously. It may take hours or days for damage to become apparent, according to the experts of the eyes. Symptoms may include blurred eyesight, a blind spot, headaches, and increased sensitivity to light.

Long-term conditions can include metamorphopsia, which is when straight lines appear is warped, distorted, or bent. Chromatopsia is another condition that can result and involves an increased perception of a single hue, resulting in a color-tinged vision.

Businesses plan to cash in on timely rainmaker

By DAVID BARKHOLZ
BLADE BUSINESS WRITER

The total solar eclipse is shaping up to be a monster business and tourism event for northwest Ohio, made even more valuable by its timing on a Monday.

Local hotels and campgrounds are filling up fast or already full for the arrival of the eclipse.

With Sundays and Mondays typically the slowest days of the week for hotels and hospitality businesses, coupled with early spring being far from the year's busiest season, the eclipse picked a fine time to make an appearance.

"It fell on the right day for us," said Tim Meyer, general manager of the 241-room Renaissance Toledo Downtown Hotel and 300-room Hilton Garden Inn Toledo Downtown adjacent to the Glass City Center.

Mr. Meyer said he expects both to be sold out for the Sunday night before the eclipse and the day of the celestial show-stopper.

Lance Woodworth, CEO of Destination Toledo, said a total solar eclipse paints a path of business gold along its narrow path across America and beyond.

The buildup happens the entire previous week, Mr. Woodworth said. As of mid-February, room bookings across the region were up 200 percent to 400 percent year-over-year depending on the day, he said.

"That's a huge windfall that this event is bringing to our local economy," he said.

The Toledo metropolitan area has about 8,400 hotel rooms with those being 60 percent occupied on average, Mr. Woodworth said.

Past total eclipses in other markets give a sense of what may be in store for Toledo.

The 2017 total solar eclipse turned out 1.6 million travelers



THE BLADE

The eclipse is bringing 'a huge windfall' to the northwest Ohio economy, says Lance Woodworth, CEO of Destination Toledo. Besides dollars taken in, leaders say it's a chance for Toledo to impress visitors who may plan a return trip.

in South Carolina, including 800,000 from out of state, Mr. Woodworth said. Economic impact in business sales was \$269 million, the state estimated.

In Nebraska, total business sales totaled \$127 million, he said. But 46 percent of visitors to Nebraska for the eclipse said they would return to the state in the next two to five years after being impressed with the sights and hospitality.

Because visitors will be, in many cases, staying for days before and after the eclipse comes through Toledo, they too will have a chance to experience the people, city, and institutions that Toledo has to offer, Mr. Meyer said. Those include special doings at the Imagination Station and area hotels and restaurants that will serve as an introduction to the city for out-of-towners and fun activities for locals, he said.

Custom clothing screener Jupmode is selling a special edition T-shirt for the eclipse at its UpTown store, online, and at the Imagination Station and Franklin Park Mall, among other locations, owner John

Amato said.

The design features the signature TOL for Toledo on a black T-shirt with the O blotted out in the middle except for an aura around it simulating a total solar eclipse.

Mr. Amato said Jupmode will have made 1,000 of the T-shirts by eclipse day. While that's a nice run, the company screened 32,000 shirts for the Toledo Walleye's 2019 Kelly Cup run and 3,000 to commemorate the unlikely 2018 appearance of the Christmas Weed at the corner of West Alexis and Secor roads that drew national media attention.

Weeds won't be a problem when campers and RVs start arriving for the eclipse in the first week of April.

Outdoorsy.com, a site that allows RV owners to rent their rigs, has seen a huge uptick in bookings around the eclipse weekend, with Ohio showing the third most activity in the 15-state path of the eclipse.

Only Texas and Missouri have seen more bookings, said Lydia Davey, a spokesman for

See **BUSINESS**, Page Z8

SAFE TRAVELS

Plan your viewing spot ahead of time, authorities encourage

By DAVID PATCH
BLADE STAFF WRITER

With travel on northwest Ohio and southeast Michigan roadways potentially tripling during the total solar eclipse, picking a safe viewing spot ahead of time is crucial, authorities say.

What the Ohio State Highway Patrol and Ohio Department of Transportation want to discourage is people simply pulling over to the side of whatever road they're on when the sky starts to dim.

ODOT is "heavily discouraging people from stopping on our high-capacity roads," said Kelsie Hoagland, a spokesman at the district office in Bowling Green. "It's absolutely critical that people not use that as their viewing location."

"We encourage people to plan ahead now for a safe place to watch the eclipse," said Sgt. Ryan Purpura, a regional patrol spokesman. "Stopping on the interstates, or on exit or entrance ramps, could be problematic, it could be dangerous."

With 70 million people living in or near the eclipse's path of totality, "there's obviously going to be increased traffic" and advance preparation avoids "having to scramble on the day-of," Sergeant Purpura said.

The Ohio Emergency Management Agency estimates between 150,000 and 575,000 travelers will visit Ohio for the solar eclipse.

The Ohio Turnpike and Infrastructure Commission said it will staff its toll booths, service plazas, and maintenance buildings as it would for any expected high-volume event.

State troopers will be "highly visible and ready to assist motorists in the days leading up to, during, and following the eclipse," the commission said in a statement.

No short-term lane closings will be allowed immediately before, during, or immediately after the eclipse, said Chris Matta, the commission's chief engineer, but one bridge project in Summit County has one of three lanes closed in each direction.

Portable message signs will be placed at various locations along the toll road to keep travelers informed about traffic incidents, driving conditions, or to provide other roadway safety messages. Some service plaza restaurants will extend their hours, and gasoline and diesel fuel deliveries to the fuel islands will be increased.

Ms. Hoagland said ODOT officials recently participated in a Federal Highway Administration seminar to discuss experiences from past eclipses, including one seven years ago that missed Ohio to the south.

The transportation department plans to have assistance vehicles deployed to render aid, such as emergency gasoline for anyone who might get stuck in congestion and run out of fuel, she said. It also is making sure its two-way radios are all charged up as a communication option if local cellular networks get jammed up.

"It's not because we're hoping to have to provide assistance to motorists, but we want to be prepared in case we need to," the ODOT spokesman said.

On its social-media platforms, the department is encouraging people to avoid travel if they can enjoy the solar show from where they are.

Ms. Hoagland said, however, that ODOT officials believe the grid-based roadway network along much of the totality path will work in its favor, compared to other areas where terrain might cause

travel bottlenecks.

Tim Lubbe, the court administrator at Lucas County Common Pleas Court, said relieving travel demand is the main reason why the courthouse will be closed April 8 on what would otherwise be a normal business day. Other Lucas County departmental offices will be open only from 8:30 a.m. until 12:30 p.m.

The Wood County Common Pleas Court also will be closed, and many area school districts decided early in the school year to not hold classes on the day of the eclipse.

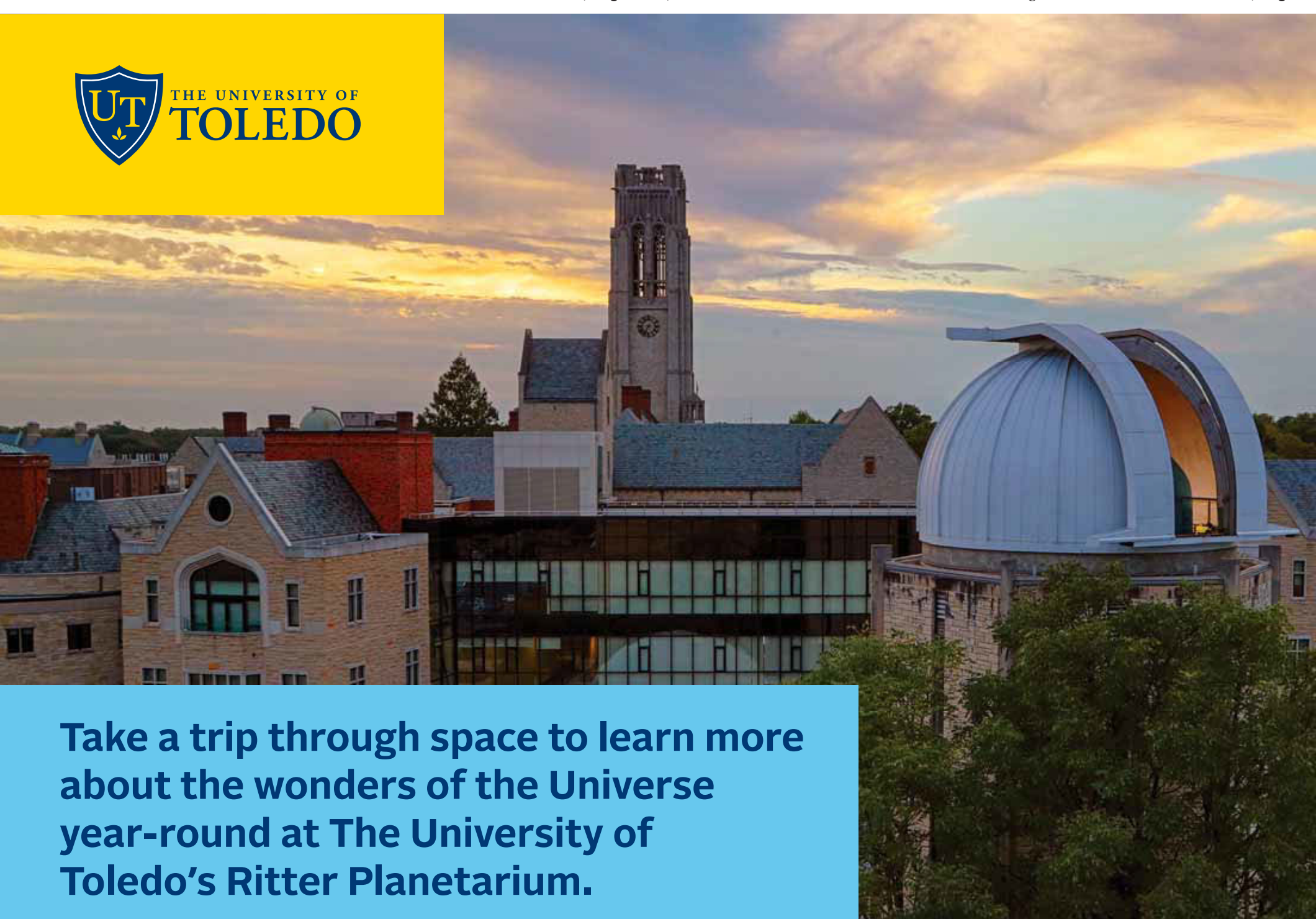
And in early March, the city of Perrysburg announced that city offices and Perrysburg Municipal Court would be closed because of the eclipse, and the week's trash, recycling, and yard-waste collection schedule pushed back one day.

Perrysburg's principal streets will be designated as Emergency Response Corridors from Saturday through April 9 and any vehicles illegally parked along them will be ticketed and towed immediately, city officials said. Public Wi-Fi at four city parks will be restricted from Sunday evening through the morning of April 9 "to ensure that Perrysburg emergency responders have a designated place to communicate with each other should communications such as cellular service be disrupted."

While most eclipse-watching movement is expected to be on the ground, several area airports expect enough visiting aircraft to require reservations for parking space on their ramps.

"We are anticipating a large increase in traffic, based on what airports in the path of totality from past eclipses have reported along with

See **TRAVELS**, Page Z7



Take a trip through space to learn more about the wonders of the Universe year-round at The University of Toledo's Ritter Planetarium.

Admission

\$8 for adults

\$6 for children and seniors



Visit utoledo.edu/nsm/rpbo for public program schedules, parking information and details about school programs, scout trips and hosting special occasions.

Imagination Station party joins science, community

Partial eclipse in 2017 drew 3,000 to museum

By **ERIC TAUNTON**
BLADE STAFF WRITER

Observers of the total solar eclipse in April will have a place to enjoy it with other residents at Toledo's science museum.

Imagination Station will host a solar eclipse viewing party at Festival Park that will feature food trucks, beer trucks, and smoothies, as well as activities like paper rocket launches and telescopes for viewing the eclipse, said Carl Nelson, chief scientist for the museum.

"We will have some telescopes set up so that you can actually view the partial phase of the eclipse that starts about an hour before totality and continues an hour and a half afterwards," he said.

Viewers visiting the park for the eclipse will also be able to make their own eclipse glasses, not just the ones Imagination Station has available, Mr. Nelson said.

"Some people say they [eclipse glasses] don't really fit adults very well, depending on the size of your head, so we'll

have an activity station where you can use a paper plate and modify it," he said. "You can decorate it for little kids and then add a strap onto it."

During the 2017 eclipse, there were about 3,000 people surrounding the Imagination Station, which led to excitement among those in attendance, even the days after that eclipse, said Lori Hauser, chief executive officer for Imagination Station.

"The really cool thing will be watching it with other people," said Lori Hauser, chief executive officer for Imagination Station. "I think that magical moment when the totality is taking place for everyone to experience it together."

She said the museum will be playing tranquil music to enhance the moment.

The museum wants to play up what's happening during the event, like drops in temperatures and the changes in animal behavior.

Ms. Hauser said a lot of events will be taking place a few days prior to further excite-

ment for the eclipse, on top of the Solar Ambassadors educating communities about the eclipse across northwest Ohio, like a beer tasting April 4 at Imagination Station.

The science center will also have extended hours that day, Ms. Hauser said, opening at 10 a.m. for the eclipse, which will experience totality at 3:12 p.m.

Mr. Nelson said the community should attend the viewing party, if possible, to experience the event with others, comparing it to being like a football game.

"I think there's a difference between standing in your backyard with your family, which is great, and standing with a large group of people experiencing this amazing event," he said. "It's kind of like going to the movie theater or going to a football game. That sense of awe, that sense of community and excitement that you get from everybody around you is amazing."

Contact Eric Taunton at: etaunton@theblade.com.



THE BLADE



"The really cool thing will be watching it with other people," said Lori Hauser, chief executive officer for Imagination Station. "I think that magical moment when the totality is taking place for everyone to experience it together." During the 2017 eclipse, there were about 3,000 people surrounding the Toledo science museum.

THE BLADE

In Battle of I-75, eclipse edition, BGSU wins with more time in totality

By **TOM HENRY**
BLADE STAFF WRITER

Ah, yes. The ol' University of Toledo/Bowling Green State University football rivalry, also known as the Battle of I-75.

If ever there was a need for a springtime competition called "Longest Time Available to Experience Totality Inside of a Mid-American Conference Football Stadium," this would be it.

And, sorry, Rocket fans.

BGSU wins. Both MAC universities are opening up football stadiums for viewing parties April 8, two of the largest places where people will be invited to gather and witness the first total solar eclipse coming through Ohio in 208 years.

There is no admission charge to get into either stadium.

Both UT and BGSU are planning to provide partylike atmospheres on a nice spring day, if the weather cooperates, with music, food trucks, and much of the same vibe people get attending college football games and tailgate parties in the fall.

Both are hoping, if there isn't too much cloud cover, to livestream images from their respective planetariums onto the high-tech jumbo screens inside of their stadiums.

Both have the same goal of using this high-profile event to whet more appetites for science in general and encourage people of all ages to learn more about astronomy in particular. Both will have telescopes and solar glasses.

Both will build up excitement with their visuals and loudspeakers as the crescendo nears. Both have NASA livestream images as Plan B if images from their respective planetariums can't be livestreamed that day because of weather or technical difficulty.

The one key difference? The amount of time in totality.

Hard as it is to believe, Bowling Green will have about twice as much time in totality, 3 minutes to Toledo's 90 seconds, according to forecasts.

Totally refers to those precious few moments when the moon totally blocks the sun, or — in other words — the opportunity to experience the full effect of the total eclipse.

That may seem hard to believe, given how Toledo and Bowling Green are only about 20 miles apart.

But it illustrates how much totality can vary within the 122-mile eclipse path that is expected to cut across North America in a northeasterly direction from Mexico to eastern Canada path within minutes.

Less than 30 miles south of Bowling Green, Findlay will have nearly 45 more seconds of totality.



THE BLADE/STEPHEN ZENNER



THE BLADE

The University of Toledo's Glass Bowl will open up to the public for eclipse viewing and could host as many as 15,000 people. 'We're really the first major stop down from Michigan and we don't know what the traffic's going to be like,' says Scott Molitor, UT interim provost and executive vice president for academic affairs.

Fostoria and Sandusky are an even stronger bet to get 3:45 minutes of totality. The Lake Erie islands will likely get more than Bowling Green and Toledo too, but not quite as much as Findlay, Fostoria, and Sandusky.

Cleveland's western suburbs appear poised to get the most in Ohio, nearly 4 minutes.

Oddly enough, Sylvania is expected to get no time in totality.

Scott Molitor, UT interim provost and executive vice president for academic affairs, said he isn't so much focused on the difference in precious seconds at each location as he is bringing people together for a good time and a chance to become more inspired.

"We could have up to 15,000 people in the Glass Bowl," he said.

Mr. Molitor said the Glass Bowl is in a position to draw people well beyond the Toledo area into its viewing party.

Depending on the traffic, it could be a preferred destina-

tion for people from southeast Michigan and northeast Indiana, who will miss experiencing totality unless they drive someplace that has it.

"We're really the first major stop down from Michigan and we don't know what the traffic's going to be like," Mr. Molitor explained.

UT also will host eclipse activities inside Centennial Mall on campus, weather permitting, for those who don't want or can't get inside its football stadium, he said.

Both campuses will have a limited supply of viewing glasses on hand for visitors, although — of course — people should try to get them from other sources beforehand just in case.

"Our mission is to educate and produce a football-like atmosphere in the spring," Mr. Molitor said.

Kate E. Dellenbusch, BGSU planetarium director, said similar things will be happening on that campus, including food trucks, music, and telescopes.

"We're trying to encourage people to come early and stay late," she said. "From a logistics standpoint, we're trying to treat it like a football game."

Gates open at noon at UT's Glass Bowl and at 1 p.m. at BGSU's Doyt Perry Stadium. The UT event is scheduled to last until 4:30 p.m.

BGSU's Firelands satellite campus near Huron, Ohio, is expected to have 52 more seconds in totality than its main campus in Bowling Green, a total of 3:52 minutes. That's one of the longest in Ohio.

BGSU is hosting a watch party there, too. There's no football stadium, but there will be movies, yard games, crafts, and performances by the Firelands Symphony Orchestra.

"Historically, eclipses have almost a religious or spiritual connotation. Bringing people together to witness this is pretty powerful," Mr. Molitor said.

He added that the aura surrounding eclipses is "baked into our cultural DNA."

"Our ancestors didn't understand the science and physical reasons for these things," Mr. Molitor said. "These things are literally biblical."

Other places with viewing parties include:

- Metroparks Toledo's Glass City Metropark and the Beach Ridge Area of Metroparks Toledo's Oak Openings Preserve Metropark, the latter of which includes the park district's Cannaley Treehouse Village and HEAVY Wheelhouse.

"Our main viewing party will be at Glass City because of its central location, parking, and large number of people who live in the nearby neighborhoods," Scott Carpenter, Metroparks Toledo spokes-

man, said.

Andrew Layden, professor and chairman of the Physics and Astronomy Department at Bowling Green State University, stands in Doyt Perry Stadium, where there will be a watch party for the solar eclipse on April 8. There is no charge for admission. Bowling Green will experience about 3 minutes of totality during the eclipse.

There also are expected to be booths for face painting, balloon animals, jewelry, and other items or services, she said.

Solar eclipse glasses will be available for sale at the concession stand.

The couple also is hosting a viewing party at another drive-in it owns, the restored Van Del Drive-In near Middle Point, Ohio, in Van Wert County. Some 350 vehicles can get in there, Ms. Saunders said.

Though a bit of a drive for Toledo-area residents, Middle Point and the city of Van Wert are projected to have two of Ohio's longest times in totality. They almost will be among the first Ohio communities having that experience this time.

- The Imagination Station in downtown Toledo starts inside its Festival Park at 10 a.m.

Food and beer trucks will be on site. And, of course, there will be plenty of games and hands-on science activities.

- The Toledo Zoo. Eclipse-related activities begin at 10 a.m. Admission is free for Lucas County residents before noon. Proof of residency is required.

- Hensville. Live music, food, eclipse-themed cocktails, yard games, demonstrations, Mud Hens-Walleye souvenir eclipse glasses all start at noon. Tickets \$5 and up.

- Cedar Point. Its event, called Total Eclipse of the Point, begins at noon. Tickets start at \$99.

- City of Oregon's "Blackout on the Bay." Event starts at Oregon Rec Soccer Complex at 2 p.m. Hot dogs and eclipse glasses provided by city. Call 419-698-7147 for details.

- Toledo's Promenade Park, Joe E. Brown Park, and Navarre Park starts things off at 1 p.m. The city said on its website there will be a live DJ, games, food, and activities, along with free eclipse glasses while supplies last. Lawn chairs, blankets, and nonalcoholic drinks are allowed.

And, just in case you need to wolf down a cold one in preparation for the big day, the Imagination Station is hosting Total Brewclipse from 6 p.m. to 10 p.m. on Saturday.

That pregame, beer-tasting event held two days prior to the eclipse will feature more than a dozen total eclipse beers that are part of the 419 Ale Trail. Tickets start at \$35.

Earnest Brew Works is hosting its own event the day of the eclipse at its original South Toledo location, starting at 2 p.m. Quenched & Tempered is having one starting at noon.

Other taverns, including Kickstand Saloon, are hosting events, too.

Contact Tom Henry at therry@theblade.com or on Twitter @ecowriterohio.

Don't risk your sight: Glasses cheap, available

By PHILLIP L. KAPLAN
BLADE STAFF WRITER

To make your own solar eclipse glasses, you will need a few specific materials to follow safety guidelines to protect your eyes from the sun's harmful rays. Follow the steps below precisely.

1. Acquire money and buy the glasses.

Everyone we talked to said you shouldn't actually make your own glasses.

The technology is too good and too affordable to take any chance with your eyesight, said Jason Lewin, chief marketing officer of American Paper Optics. Headquartered in Tennessee, they are one of a handful of eclipse viewing glasses manufacturers in North America recommended by the American Astronomical Society and NASA's only supplier.

This ultra lightweight handheld technology is first mentioned in the media surrounding the Hawaii/Mexico eclipse of 1991.

Despite an array of certified safe glasses under \$5, there are more expensive options for camera and telescope enthusi-



THE BLADE

At the minimum, solar glasses must meet the 'ISO 12312-2 international safety standard' of optical density. It should state so one of the arms of the glasses.

asts and professionals. These include many do-it-yourself applications with sheets of material that can cross into space-age technology with impregnated polymer films and nebula filters.

Baader Planetarium in Munich makes their own proprietary "AstroSolar" silver and gold film "to attain fine-optical properties necessary for high magnification work."

So while there are many safe, available, affordable options, they are not all the same.

At the minimum, your solar glasses must meet the "ISO

12312-2 international safety standard" of optical density. It should state so one of the arms.

Turns out, ISO is actually an acronym for a nongovernmental organization headquartered in Geneva.

From the American Astronomical Society: The International Organization for Standardization, or ISO (an acronym derived from the French version of the name) is composed of members from the national standards bodies of 167 countries.

The U.S. standard is the American National Standards Institute in Washington.

The ISO standard's "maximum allowable luminous transmittance" corresponds to that of a shade 14 welding filter.

Before cardboard eclipse glasses were so readily available, welding filters were commonly used to view partial phases of solar eclipses.

The ease with which you and your neighbors and children can literally stare at the sun safely is actually quite a phenomenal and evolution-

arily recent achievement of technology buried under the deception of a low price tag.

We have battled white light glare as long as its been there. Amelia Fay, curator at the Manitoba Museum in Canada, wrote that Inuit made something called "ilgaak," effectively snow goggles made out of organic materials, mainly bone, ivory, and wood. They feature two horizontal slits over the eyes, which greatly reduce ultraviolet glare. Though most artifacts are from the 19th century, the technique is believed to be thousands of years old.

It is widely reported that the first object we would call sunglasses was made around the 12th century in China to hide the reactions of judges. Called "Ai Tai," meaning dark clouds, they were flat panes of smoky quartz.

Mass-produced sunglasses as we know them were introduced by Sam Foster on the beaches of Atlantic City, N.J., in 1929 through his company, Foster Grant.

Truly anti-glare lens technology first hit the consumer market after 1936, when Ray

Ban designed anti-glare aviator style sunglasses for pilots using polarized lens technology newly created by Edwin H. Land, founder of the Polaroid Corp.

Today, Luxottica is the world's largest sunglasses manufacturer, with a net worth of approximately \$90 billion, including a glass-manufacturing plant in Lockbourne, Ohio, and the headquarters of its North American retail division is in Mason, Ohio.

D-I-Why? Pinhole projector method

Making your own eclipse glasses is not recommended on account of danger and stupidity.

Go figure.

But if you're bent on getting some crafting in to view this eclipse, there is the old pinhole method.

Also known as a camera obscura, the technique's earliest recorded history is by a Chinese philosopher called Mo-tzu (or Mozi) in 400 B.C., when

See GLASSES, Page Z7

ELOPE AT THE ECLIPSE

Couples plan to say 'I do' in Tiffin

Seneca Co. has 3:40 in totality

By DEBBIE ROGERS

BLADE STAFF WRITER

Say "I do," pitch a tent at a camp site, or join thousands of people at a football stadium during the total solar eclipse.

Northwest Ohio communities are taking advantage of the totality path by offering fun and educational events.

"It really is a once-in-a-lifetime opportunity. Why not take advantage of it?" said Bryce Riggs, executive director of the Seneca Regional Chamber of Commerce and Destination Seneca County.

Their signature event will be Elope at the Eclipse at the Frost Kalnow Amphitheater, 155 E. Market St., Tiffin.

Mr. Riggs said more than 150 couples are expected to either get married or renew their vows during the eclipse.

"People from all over the country are coming to Seneca County that weekend to start forever," he said, adding they will provide the first toast, music, photographer, and cake.

The Seneca County area is expected to have more than 3 minutes and 40 seconds of totality, which is one of the longest in the northwest Ohio area.

Also planned are a country concert, Christian-themed camp, and a bingo card adventure around Seneca County. There are dozens of campsites to rent out — from the fairgrounds with its utility hookups to a nature preserve that is very primitive.

"Like many smaller communities in northwest Ohio, there are not a lot of hotel rooms," Mr. Riggs said.

Seneca County started a process early on of registering private land that can be used as campsites during the eclipse and the weekend before, he said.

"We think resources will be scarce that week and safe places to stay will be crucial," Mr. Riggs said.

If camping is too rustic, try glamping in Springfield Township.

As part of their eclipse events, township officials are raffling off a two-day, "tricked-out" RV experience on campgrounds.

"We've embraced this science event. We're making it really cool and really fun," said township administrator Mark Hampton. "It's not just a look-in-the-sky event, it's a historical science event that's happening in our area."

Other events leading up to the eclipse are a Phil Barone concert, luminaria lighting, fireworks, "gazing and grazing," and a sunrise worship service.

If being with a big crowd is the eclipse plan, head out to "the Doyt," which will have plenty of parking and viewing space for 20,000 on the Bowling Green State University campus.

Andrew Layden, chairman of the Department of Physics and Astronomy, said the university is rolling out the red carpet for eclipse watchers.

Everyone is invited to "come early and stay late" and enjoy a variety of activities, he said.

The free Total Solar Eclipse Watch Party is from 1 p.m. to 4:30 p.m. April 8 in Doyt L. Perry Stadium.

This family-friendly event will include demonstrations, music, telescope viewing, and food.

At the south end of the stadium, a video board will

See EVENTS, Page Z8

Eclipse recipes celebrate new energy

Solar event is about self-reflection, setting intentions, experts say

By MADDIE COPPEL

BLADE FOOD EDITOR

Considering the rarity that is a total solar eclipse, watch parties are a way for people to bond during this universal curiosity — and what better way to share this experience than over eclipse-inspired food and drink.

"Are people gonna connect over food for the eclipse?" asked Brian Wixey, partner and baker at Wixey Bakery, 2017 Glendale Ave, Toledo. "I couldn't tell you. I mean, if you want to celebrate a moment together, why not do it over cupcakes?"

That's exactly what's in store for the bakeshop, Mr. Wixey said, with black-and-white swirled cupcakes, solar eclipse-themed doughnuts, and black-and-white cookies straight from Brooklyn, N.Y., to be featured on its menu leading up to the eclipse.

Other local establishments are participating in eclipse-themed food and drink, like Urban Pine Winery & Eatery, 3415 Briarfield Blvd, Maumee.

And if there was a wine to capture the essence of an eclipse, Jennifer McAear, owner, head winemaker, and sommelier, said she felt a rose is the wine that does just that.

The made-in-house rose, called Eclipse, is described as a refreshing strawberry and raspberry blend with crisp acidity meant to commemorate the solar eclipse of April 8.

"It has a little sweetness to it [and] it's perfect for the spring," she said. "We're just always thinking of new and interesting things that we can do and push. So, why not?"

New energy

The eclipse is all about self-reflection, setting intentions, and releasing anything that doesn't serve you anymore, ultimately bringing new energy into your life, said Lisa Fry, the co-owner of the Mystical Moons crystal shop in Defiance.

"I think there's also forever different ways to connect yourself to grounding and things like that," Mr. Wixey agreed. "I love the idea of having a mason jar of water that was under an eclipse and drinking it."

The eclipse is meant to bring connection and live in the now, Ms. Fry said, and there's no better way to connect with one another than over food.

These recipes are meant to celebrate the upcoming solar eclipse and are ideal for your viewing parties and other endeavors — from moon-gazing to intention setting.

Starting with black-and-white cookies, as a nod to Wixey Bakery, these cookies are a staple for a reason.

They're simple, sweet, and on theme. The traditionally white part of the cookie I colored a faint yellow to represent



THE BLADE/JEREMY WADSWORTH

In this orange-drop cocktail, a black cherry ice cube is meant to look like the moon with the orange base — including Mandarin Vodka — as the sun. The recipe isn't complicated, but it is an effective way to share the viewing experience.



THE BLADE/JEREMY WADSWORTH

Black and White Cookies fit the eclipse theme.

the sun, and the black icing was kept the same to honor the moon.

Moon pies are next up, and it's all in the name — this dessert resembles a s'more with the graham cracker cookie, layer of marshmallow fluff, and the rich chocolate coating on the outside.

An orange-drop cocktail finishes the lineup, with a black cherry circular ice cube to look like the moon and the orange base representing the sun — the recipe isn't complicated, but it is effective.

Black and White Cookies

Yield: 12 large cookies
Total Time: 2 hours (includes icing setting)
Ingredients

1 and ¾ cups all-purpose flour (spooned & leveled), or more as needed

½ teaspoon baking powder
¼ teaspoon baking soda
¼ teaspoon salt

10 Tablespoons unsalted butter, softened to room temperature

1 cup granulated sugar
1 large egg, at room temperature

2 teaspoons pure vanilla extract
½ cup full-fat sour cream, at room temperature

Icing
5 and ½ cups confectioners' sugar, sifted (measure before sifting)

7 Tablespoons whole milk, divided

2 Tablespoons light corn syrup
1 teaspoon pure vanilla ex-

tract
½ teaspoon salt
3 Tablespoons unsweetened natural or dutch-process cocoa powder

Directions:
Preheat the oven to 350 degrees. Line 2 baking sheets with parchment paper or silicone baking mats.

Whisk the flour, baking powder, baking soda, and salt together in a medium bowl. Set aside.

In a large bowl using a handheld or stand mixer fitted with a paddle attachment, beat the butter and sugar together on medium-high speed until smooth and creamy, about 2 minutes.

Add the egg and vanilla extract, and beat on high speed until combined, about 1 minute. Scrape down the sides

and up the bottom of the bowl and beat again as needed to combine. Reduce to low speed and add the dry ingredients in 3 additions, alternating with the sour cream. Beat everything on low until combined and no pockets of flour remain. Batter is extremely thick.

Using a greased ¼ cup dry measuring cup, drop mounds of dough 4 inches apart on prepared baking sheets — 6 cookies per sheet.

Bake for 16-18 minutes or until the edges are lightly browned. Allow cookies to cool on the baking sheets for 5 minutes, then transfer to a wire rack to cool completely before icing.

Make the icings: Whisk the confectioners' sugar, 6

See RECIPES, Page Z8

Eclipses have long fascinated, inspired movies, books, more

By LILLIAN KING
BLADE STAFF WRITER

Full totality eclipses have captured our imagination for thousands of years, so it only makes sense that we'd bring the fears and fictions they inspire to everything we create.

Most often a signal that something supernatural or otherworldly is taking place, eclipses in media often evoke fear, awe, excitement, a connection to the ancient past, or the feeling that something momentous is happening.

For those whose eclipse preparation includes couch surfing, it's worth checking out what popular culture has to say about these unusual astronomical events.

- **2001: A Space Odyssey** — movie, 1968

As the sun, moon, and Earth align, first-time viewers of *2001: A Space Odyssey* will quickly realize that they are not viewing the phenomenon from the third rock from the sun, but from outer space. The stage, then, is set for the rest of the landmark science-fiction film, whose exploration of humanity in space is often considered one of the greatest films of all time.

- **Barabbas** — movie, 1961

When director Richard Fleischer discovered there would be a lunar eclipse during the filming of *Barabbas*, his film about the prisoner released by the Romans instead of Jesus, he picked up his set and moved it several hours so he could film the crucifixion scene during the moment of totality, turning a Biblical staple into an awe-inspiring and nearly irreplaceable part of cinema history.

- **A Connecticut Yankee in King Arthur's Court** by Mark Twain — book, 1889

When an engineer is transported back in time to Arthurian Britain, the intrepid hero of Mark Twain's *A Connecticut Yankee in King Arthur's Court* uses his knowledge of a historical eclipse to convince King Arthur that he's a wizard more

powerful than Merlin, upon which he tries to bring democracy to the pre-modern masses.

If this sounds familiar, you may be remembering *Bugs Bunny in King Arthur's Court*, where it happens much the same, give or take a few carrots.

- **Dolores Claiborne** and **Gerald's Game** by Stephen King — books, 1992 (both)

Fiction's king of horror has added his own two cents to eclipse portrayals, using their otherworldly perception to enhance the terrible events that occur during the total eclipses of *Gerald's Game* and *Dolores Claiborne*, connecting the protagonists of each novel in a supernatural way.

- **Eclipse** by Stephanie Meyer — book, 2007 (movie, 2010)

Perhaps the most famous of all metaphorical eclipse media, *Eclipse* is a midway entry in the Twilight Saga franchise, which famously follows the trials and tribulations of teenager Bella Swan after falling for the vampire Edward Cullen. Here, Edward represents the moon blotting out the sun — the werewolf and rival in love Jacob Black — in Bella's life. But don't worry: dawn will break.

- **Heroes** — TV, 2006-2010

When an eclipse triggers superpowers in a group of ordinary people, their lives are uprooted by the changes that accompany their special abilities. With visuals and storytelling inspired by American comic books, eclipses are so central to this four-season superhero drama that there's even one in the logo.

- **Lara Croft: Tomb Raider** — movie, 2001

Based on the popular video game series, Angelina Jolie starts as the eponymous tomb raider, an adventure-seeking British heiress whose penchant for trouble leads her to clash with the Illuminati. Their hunt for a mysterious item called "the Triangle" that can control time when united with a solar eclipse is just one example of many in

media between eclipses and some ancient, supernatural power.

- **Nightfall** by Isaac Asimov — short story, 1941

There may be no deeper exploration of eclipse psychology in fiction than Isaac Asimov's *Nightfall*, about a planet with six suns whose inhabitants have never experienced nighttime. Deeply afraid of the dark, an upcoming total eclipse has the world's scientists predicting the collapse of civilization.

- **Little Shop of Horrors** — musical (1982), movies (1960, 1986)

The supernatural is in full force when struggling shop employee Seymour Krelborn purchases an unusual specimen from a Chinese flower shop during a solar eclipse, setting off a series of horribly comedic events about a ravenous plant with a taste for people. You just never know where a paranormal plant might come from.

- **The Legend of Zelda: Majora's Mask** — video game, 2000

Released on a tight turnaround after the success of its predecessor, *The Legend of Zelda: Majora's Mask* separates itself with a dark and oppressive atmosphere compounded by a grimacing moon hurtling on a collision course to eclipse the earth itself. Looming large in gaming history, *Majora's Mask* inspires the same supernatural fear associated with unusual and unnatural solar events.

- **Total Eclipse** — U.K./France, movie, 1995

In a tale of poetry and passion, eclipses are metaphor. Based on historical letters and poems from the romantically involved French poets Arthur Rimbaud and Paul Verlaine. The only film to fully name itself after the sun-shadowing event, *Total Eclipse* is a refreshing departure from eclipses that evoke the supposed savagery of ancient civilizations, standing in for the complexity of loving someone whose creativity outmatches your own instead.

MORE THINGS TO DO



Carl Nelson, the chief scientist with Imagination Station, models eclipse sunglasses.

lands Symphony Orchestra, featuring music inspired by the sun and the stars. Bring your lawn chair or picnic blanket and join us for a fun-filled day, Mon., April 8, from 8 a.m.-5. Admission is free and open to the public.

- **Solar Eclipse Party at Hensville:** 36 N. St. Clair St.; hensville-toledo.com/calendar/event/56934; Live music, food, and eclipse-themed cocktails for purchase, yard games, science demonstrations, and more: Mon., April 8, noon-5. This event is free to the public, but you must RSVP to reserve your eclipse glasses.

- **UTOledo's Total Solar Eclipse Viewing Event:** UTOledo's Main Campus and in the Glass Bowl; utoleto.edu/eclipse; Family-friendly event, includes educational information and activities, demonstrations, music, food trucks and concessions, fun on Centennial Mall and more: Mon., April 8, noon-6. Free solar eclipse glasses will be provided at UTOledo on the day of the event for safe viewing (while supplies last). Free and open to the public. On-campus parking is on a first come, first served basis. Permits will not be enforced on April 8, excluding disability, metered and reserved spaces.

- **Solar Eclipse Viewing Party:** Parkside Drive-in, 4500 Navarre Ave. (Route 2, across from Pearson Metropark), Oregon, Ohio; 635-7575; parkside-drive-in.com; Music, activities, door prizes, large tailgate spaces, full concessions: Mon., April 8, doors open for non-members at 8 a.m. and 7:30 a.m. for members. Rain or shine. Advance ticket sales only. Visit the website for details.

- **Whitehouse Solar Eclipse Viewing Party:** Whitehouse Village Hall, 6925 Providence St. and Blue Creek Metropark, 7035 Providence St., Whitehouse; Enjoy the day and this unique experience with us, there will be food trucks: Mon., April 8, 12:30-4:30. The eclipse will be from approximately 2-4:30 with totality from 3:11-3:13. Whitehouse Solar Eclipse Glasses will be available in limited quantities. Parking will be available at Village Hall, along Providence St. and at Blue Creek Metropark. Bring a lawn chair.

- **Eclipse events for Findlay:** findlaysolareclipse2024.com

- **The Cube:** 3430 N. Main St., Findlay; City of Findlay Viewing Site, public restrooms, concessions, free, Mon., April 8, opens at 7 a.m. Free admission.

- **Emory Adams Park:** 1827 S. Blanchard St., Findlay; City of Findlay Viewing Site, public restrooms, food trucks, Mon., April 8, opens at 6 a.m. Free admission.

- **Oakwoods Nature Preserve:** 1400 Oakwood Ave., Findlay; Hancock Park District Viewing Event, public bathrooms, Mon., April 8, opens noon-5 p.m. Free admission.

- **Riverbend Park:** 16618 TR 208, Findlay; Hancock Park District Viewing Event, kids' activities, specialty equipped solar filter telescopes, public restrooms, Mon., April 8 opens 12:30-4:30. Free admission.

- **Swale Park:** 215 Defiance Ave., Findlay; public restrooms, City of Findlay Viewing Site, Mon., April 8, opens at 6 a.m. Free.

- **The University of Findlay Campus:** 201 College St., Findlay; Booths, games, STEAM engagement activities, Newhard Planetarium & Mazza Museum tours and visits, public bathrooms, Mon., April 8 begins at 10 a.m. Free.

More locations are coming soon, visit Findlay website.

- **Events list for Sandusky, Cedar Point, Put-in-Bay, and more:** shoresandislands.com/solar-eclipse/#events

- **"A Monumental Eclipse:"** on the lawn of Perry's Victory & International Peace Memorial, Delaware Ave., Put-in-Bay; chamber 285-2832; visitputinbay.com; Mon., April 8. The Miller Ferry will be open for transportation, millerferry.com. Free solar glasses (while supplies last). Restaurants, golf carts, churches, nature trails, and parks will be open for this event.

- **The Park Goes Dark-Eclipse Watch Party:** Waterworks Park, 501-699 Ohio 163; Port Clinton, Ohio; 734-5522; Mon., April 8, 11 a.m.

- **Eclipse Viewing Party:** hosted by the Eries Shores Council, Boy Scouts of America at Camp Miakonda, 5600 W. Sylvania Ave.; eriesshorescouncil.org/eclipse; In addition to the eclipse viewing, there will be oppor-

tunities to participate in target and range sports, fishing, hiking, crafts, rocket launching, and more: Mon., April 8, noon-5. Registration: \$5 and includes viewing glasses and a patch (registration open until April 5). All youth must have a paid adult in attendance with them.

- **Solar Spectacular at Sauder Village:** 22611 State Rt. 2, Archbold, Ohio; 800-590-9755; saudervillage.org; Celebrate the sun, moon, and stars through brand new, interactive activities for all, create a sundial, and more: Mon., April 8, 1-6. Visit the website for tickets and details.

- **Glass City Riverwalk Solar Eclipse Viewing Party:** Glass City, 1001 Front St., Toledo; metropark-stoledo.com; Telescopes with solar filters, kids' zone, rain or shine, eclipse-themed activities: Mon., April 8, 1-4:30. Eclipse viewing glasses available to borrow. No reservations required.

- **Metroparks Total Solar Eclipse Events:** Oak Openings Preserve (Beach Ridge Area) 3520 Waterville-Swanton Rd., Swanton; metropark-stoledo.com; Casual eclipse viewing session with a naturalist, eclipse-themed activities: Mon., April 8, 1-4:30. Eclipse viewing glasses available to borrow. No reservations required. Free.

- **Total Eclipse at the Zoo:** Toledo Zoo and Aquarium, 2 Hippo Way; toledozoo.org/events/total-eclipse; Enjoy animal demos, character meet and greets, a bounce house, musical entertainment, and other fun activities throughout the day: Mon., April 8, 10 a.m.-4. Eclipse related activities are included with Zoo admission. Admission is free for Lucas County residents 10 a.m.-noon, with proof of residency.

- **Toledo City Parks Solar Eclipse Viewing Party:** Promenade Park, 400 Water St.; Joe E. Brown Park, 28 W. Lake St.; and Navarre Park, between Woodville Rd. and E. Broadway (behind East Toledo Family Center); toledoecclipse.org; Live DJ, outdoor games/activities, and food: Mon., April 8, 1-5. Free certified safety viewing glasses while supplies last. Bring chairs, blankets, and non-alcoholic refreshments.

- **"Launch Pad" for the viewing of the Solar Eclipse:** Amphitheater, 209 S. Arch St., Fremont; downtownfremontohio.org; Mon., April 8, 11 a.m.-6.

- **Solar Eclipse Watch Party:** Anderson Field, 1313 Oak Harbor Rd., Fremont; 334-5900; fremontohio.org; Mon., April 8, noon-4. Restrooms available. Free parking.

- **Solar Eclipse Watch Party:** Roger Young Memorial Park, Tiffin St., Fremont; 334-5900; fremontohio.org; Mon., April 8, noon-4. Park is located within a short walk of downtown Fremont local shops and restaurants. Restrooms available. Free parking.

- **Total Eclipse Viewing Party:** Northwest Ohio Railroad Preservation Inc., 12505 County Rd. 99, Findlay; nworrp.org; Museum's gift shop and model train displays will be open, Quarter scale train rides available (at an additional cost), live entertainment by local artist Chris Salyer, and food trucks: Mon., April 8, gates open at 9 a.m. Admission: \$20; \$20/advance parking space. Due to limited cell phone service on the day of the event, it is strongly recommended that visitors carry sufficient cash for all purchases. We do not know if our credit card system will function during the event. "Cash only" required for the day of the event parking purchase.

- **Monumental Eclipse at Put-in-Bay:** putinbay.com/events/monumental-eclipse-at-put-in-bay; Both the Miller Ferry and the Jet Express will be running, hotels and vacation rental homes, some amazing bars and restaurants, a great place to cruise around in some Put-in-Bay golf carts, and the perfect surroundings to take in a once-in-a-generation event: Mon., April 8.

- **Solar Eclipse Viewing Party:** Williams Park, 410 E. Stone St., Gibsonburg, Ohio; gibsonburgohio.org/2024-events; Mon., April 8, 2-4.

- **Run the Eclipse 5K:** Williams Park, 410 E. Stone St., Gibsonburg, Ohio; 637-2634/m.glotzbecker@gibsonrun.org; A 3 mile run/walk and is part of the Run The Eclipse Virtual Run taking place across the country, runners/walkers will be on the course during the solar eclipse. Admission/entry at runtheeclipse.com: Mon., April 8, starting at 2:55-6.

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Glasses

Continued from Page Z5

he noted that light passed through a pinhole into a dark room created an inverted image of the original illuminating object.

You effectively create a mini sun on a piece of cardboard through a pinhole in another piece of cardboard.

This method has always been safe because you literally face away from the sun.

Materials Needed:
Two pieces of white card-

board (paper plates can also work)

A pin or a needle

Instructions:

Make a small hole in the center of one piece of cardboard using a pin or needle. This is the "projector."

Use the second piece of cardboard as a screen where the image of the eclipse will be projected.

To view the eclipse, stand with your back to the sun and hold the pinhole piece so that it catches the sunlight. Position the second piece of cardboard so that it receives the light passing through the pinhole,

and is shaded by the first. You will see an inverted image of the sun projected onto the second piece of cardboard. As the moon passes in front of the sun, you can watch the progress of the eclipse on this makeshift screen.

For a clearer image, you can cover the hole in the first piece of cardboard with a small piece of aluminum foil. Tape the foil in place and then poke a hole through the foil. The more defined pinhole creates a more defined image.

Contact Phillip L. Kaplan at: pkaplan@theblade.com.

Travels

Continued from Page Z3

what local officials are telling us," said Clay Finken, director of Erie-Ottawa International Airport near Port Clinton.

Erie-Ottawa and Findlay Airport have created eclipse pages on their web sites to manage that business, although Mr. Finken said no reservations came in right away.

Aviators most likely are waiting to see what the weather forecast looks like seven to 10 days out before making any plans, he said.

"That's when we'll start to see the reservations start to pick up," the Erie-Ottawa director predicted. "We're asking all the aircraft be on the ground [before the full eclipse starts] so everybody's parked and set up."

Amanda McGee, Findlay

Airport's director, said the Federal Aviation Administration granted approval to close one of the two main runways to create extra parking space for visiting planes.

While Ms. McGee is preparing for "at least triple the amount" of normal aircraft activity, "we really don't know what to expect because none of us have been in the path of totality before."

A Findlay reservation, she said, will include free eclipse-watching eyeglasses, drinks, and snacks.

"Our goal is to keep aviators on the field by having food and beverages in place on the airfield" rather than have them feel any need to drive anywhere during the eclipse, she said.

Timothy O'Donnell, the airports manager for the Toledo-Lucas County Port Authority, said fixed-based operators at

Toledo's two main airports also have yet to see a surge in ramp reservations, "but if we do get a lot, we can accommodate them."

No viewing parties or similar special events are planned, but parking plans have been set up to handle extra business, Mr. O'Donnell said.

"We're hearing a lot of mixed results. We just don't know what to expect," he said before agreeing that "weather plays a huge factor in terms of whether people are going to come out."

Port authority spokesman Holly Kemler, meanwhile, said Park Smart will have members of its event team assigned to the three downtown Toledo parking garages it operates for the port authority "to accommodate the influx of tourists downtown that day."

Contact David Patch at dpatch@theblade.com.

Eyes

Continued from Page Z2

Benchmark of well-being

These same eye experts agree that the standard for safe viewing of a solar eclipse is ISO 12312-2.

An ISO 12312-2 filter reduces sunlight to safe levels so eyes are not injured. These glasses are at least 1,000 times darker than ordinary sunglasses, according to the American Astronomical Society.

This standard reduces the sun's visible light to a comfortable brightness level and also blocks ultraviolet and infrared radiation.

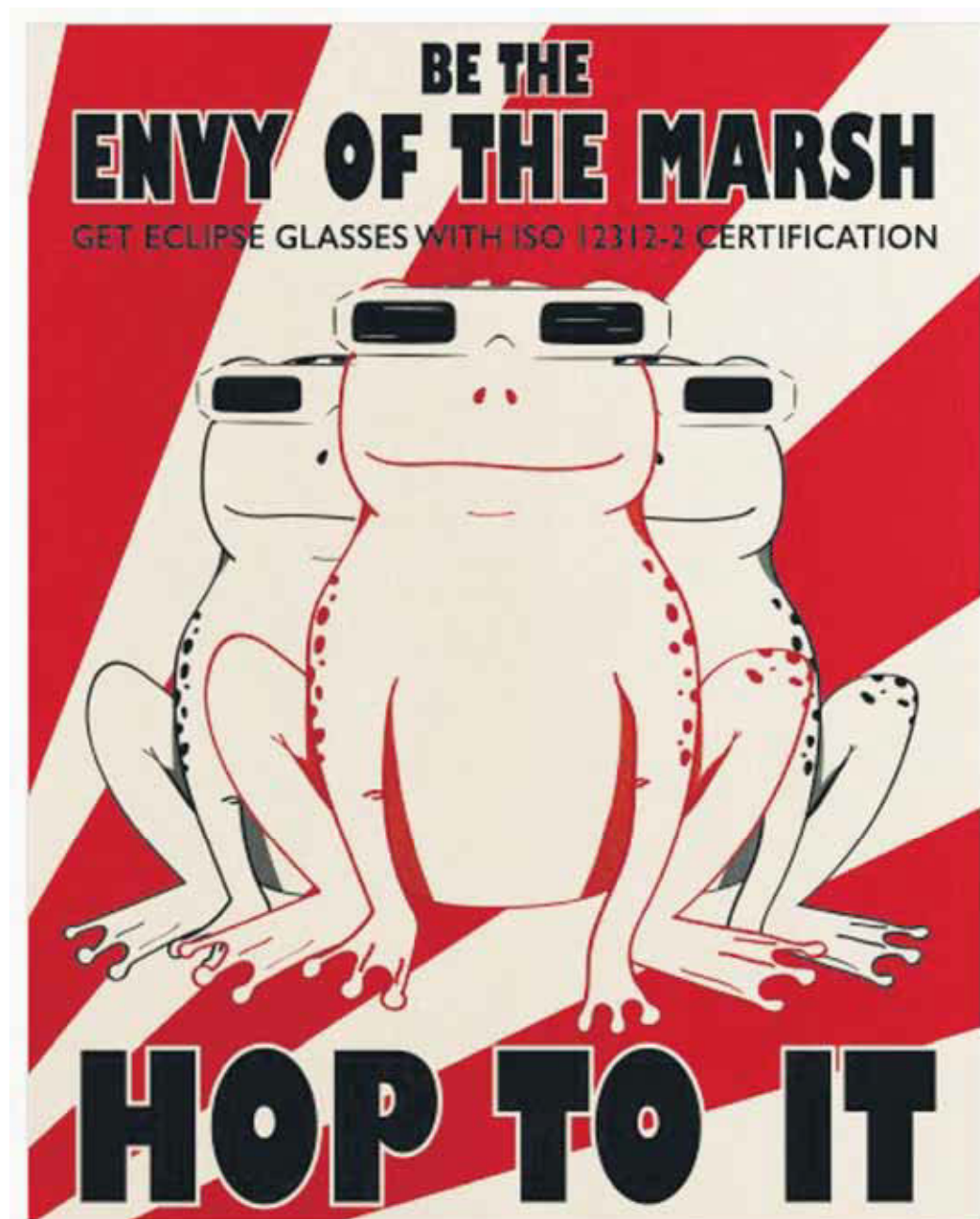
"The only time it is safe is during its totality," said Elizabeth Muckley, CEO and executive director of the Ohio Optometric Association. She saw three patients in her own practice in northeast Ohio with corneal burns following the 2017 solar eclipse. "We know you will get a solar burn if you look at the sun. We are going to have an uptick."

She also warns against viewing the eclipse through any

kind of device: no cameras, no phones, no telescopes, no binoculars — not even with solar shades because lenses can focus and intensify the brilliance of the sun. Oh, and tinted car windows are out, too. Welding filters rated for Shade 12 or higher are safe to use.

Meanwhile, expect eclipse glasses to be handed out like Halloween candy. And just as parents inspect the contents of their children's bag of treats, also know where the eclipse glasses came from and that they are not scratched or damaged in any way.

"There are some unscrupu-



THE BLADE/NOAH RIPLEY

lous websites that might stamp the glasses as safe," she said.

The American Astrological Association reports that not much of anything can be seen through a safe solar filter except for the sun, its reflection in a mirror or glinting from rays on metal. Some unshaded light bulbs, or an arc-welding torch, can be dimly seen.

A case study

Various researchers have studied cases of solar retinopathy following large-scale solar eclipse events. One ground-breaking case study was conducted in 2017

after a woman had been looking at the sun through what she thought were ISO 12312-2 glasses but were not.

Four weeks later, the patient developed blurry distortion in both eyes and could only see the color black. Specialists from New York Eye and Ear Infirmary of Mount Sinai examined her three days later and found holes had been burned in her retinas and diagnosed her with solar retinopathy and photochemical burns.

Dr. Deobhakta was the lead investigator. In this first-of-its-kind research, Mount Sinai researchers used adaptive optics

to analyze retinal eye damage on a cellular level.

"We have never seen the cellular damage from an eclipse because this event rarely happens, and we haven't had this type of advanced technology to examine solar retinopathy until recently," Dr. Deobhakta said at the time.

While there can be irreversible damage, there are cases where the brain will step in.

"The brain is an amazing thing," Dr. Deobhakta said. "Your brain can play games and fill in the blanks."

Contact Kimberly Wynn at kwynn@theblade.com.



TOTAL ECLIPSE

AT THE ZOO


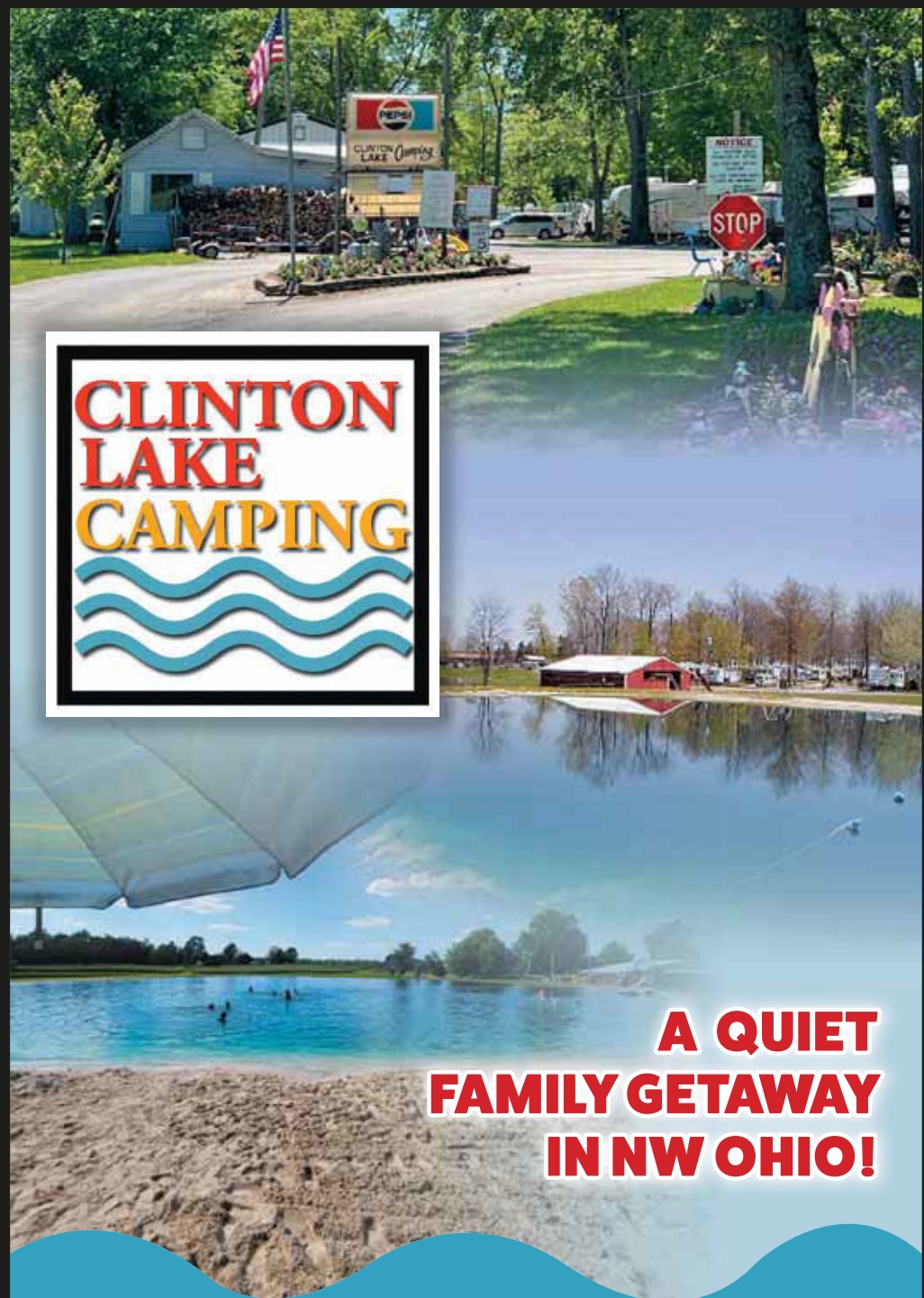
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10 a.m. - noon, with proof of residency.

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musical entertainment and other fun activities throughout the day.
Guests can also work with Zoo staff to take part in animal
observations and research to see how animal behaviors may
change during the partial and total eclipse. Grab your FREE
eclipse glasses (*while supplies last*) and head into the historic
Ampitheatre to watch the eclipse take place!

Eclipse related activities are included with Zoo admission.



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THE BLADE/JOE LANDSBERGER

Events

Continued from Page Z5

show images from the university's telescopes and NASA's, Mr. Layden said.

Music will include rousing songs from the Falcon marching band and specially written compositions from the college of music for the eclipse, Mr. Layden said.

The stadium will open at noon to the campus community and at 1 p.m. to everyone. Totality is expected a little after 3 p.m., with events wrapping up at 4:30 p.m.

People are invited to tailgate before and after to stay out of traffic. The Doyt is located right along I-75, and Mr. Layden said he would not be surprised if

eclipse viewers veer off the highway to join the BGSU party.

"It is really an ideal place," Mr. Layden said. "We're trying to have lots of things to keep people interested and active, so they come early and stay late."

The stadium will also offer telescopes to look directly at the eclipse, visits with Freddie and Frieda Falcon, and concessions for a fee.

Mr. Layden said students have been asked to contribute exhibits that are scientifically, artistically, or culturally related to the eclipse.

"We're trying to hit that balance: Let's have everybody learn about eclipses, but let's just do it in a way that's fun," he said.

Contact Debbie Rogers at drogers@theblade.com.

Business

Continued from Page Z5

Austin-based Outdoorsy.

One of advantages of renting an RV over booking a hotel is that eclipse seekers can move if local weather reports call for cloudy conditions.

A camper can be rented for as little as \$100 per night with a large motorcoach costing \$350 per night, depending on its age and condition, Ms. Davey said.

She said booking on Outdoorsy are up 650 percent for eclipse day versus April 8, 2023.

Contact David Barkholz at dbarkholz@theblade.com.

Recipes

Continued from Page Z5

tablespoons milk, the corn syrup, vanilla extract, and salt together in a medium bowl.

Transfer 1 cup to a separate bowl, add the remaining tablespoon of milk and the cocoa powder. Whisk until combined.

Spread vanilla icing onto half of the cookies — the flat side. Refrigerate for 15 minutes or until set so that the icings do not bleed into each other. Spread chocolate icing onto the other side and allow the icing to set completely, about 1 hour, before serving.

Cookies will stay fresh in an airtight container at room temperature for 2 days or in the refrigerator for up to 1 week.

Source: Sally's Baking Recipes, adapted by Maddie Coppel

Moon Pies

Yield: 12 servings

Time: 1 hour 12 minutes

Ingredients

For the cookie dough:
6 ounces unsalted butter
¼ cup light brown sugar, firmly packed
¼ cup cane syrup
¼ teaspoon vanilla extract
1½ cups all-purpose flour
1¼ cups (about 1 sleeve) graham crackers, ground fine
¾ teaspoon kosher salt
½ teaspoon baking powder
½ teaspoon baking soda
¼ teaspoon ground cinnamon

2 tablespoons whole milk
For the marshmallow center:
1 12 ounce container marshmallow creme

For the chocolate coating:
1 16 ounce bag bittersweet chocolate
2 tablespoons of vegetable or canola oil

Directions:

In a medium mixing bowl, cream butter, brown sugar, syrup, and vanilla until mixture is fluffy, about 1 minute.

In a separate bowl, combine flour, graham cracker crumbs, kosher salt, baking powder, baking soda, and ground cinnamon.

With the mixer on low, gradually add the dry ingredients to the wet ingredients until dry ingredients are thoroughly incorporated. In a slow, steady stream, add the milk. Continue to mix until the dough comes together and leave the side of the bowl.

Turn dough out onto a large sheet of plastic wrap. Flatten with the palm of your hand. Wrap the edges of the plastic wrap around the dough. Refrigerate for up to 1 hour.

Preheat the oven to 325 degrees.

Turn chilled dough out onto a lightly floured work surface. You may need to let the dough sit at room temperature for 5 to

10 minutes to make it easier to work with. Roll the dough until it is ¼ inch thick. Cut out cookies using a 3-inch round cookie cutter. Place cookies on a prepared cookie sheet.

Bake cookies for 10 to 12 minutes. They will still be soft when you remove them from the oven. Allow cookies to cool for 10 to 15 minutes until you can carefully transfer them to a cooling rack. Allow cookies to cool completely before beginning the next step.

Once your cookies have cooled, spoon approximately ¼ cup of marshmallow crème into the center of 12 cookies. Top marshmallow with a second cookie, then gently press down until the marshmallow just touches the edge. Place sandwiches on a cookie sheet and chill for at least 15 minutes.

In the meantime, melt the chocolate in a double boiler or in a heatproof bowl set over a small pan of boiling water.

Once the chocolate has melted, remove the pan from the heat and allow the chocolate to cool until it is still warm to the touch, but no longer hot. Slowly whisk in the oil.

Using two forks, gently place one sandwich cookie into the warm chocolate. Turn until thoroughly coated. Then remove cookies to a parchment paper lined cookie sheet. Let cookies stand until the chocolate shell has completely hardened.

Source: The Cooking Bride, adapted by Maddie Coppel

Orange Drop with a Black Cherry Ice Cube

Yield: 1 cocktail

Time: 5 minutes (plus chilling time for ice cube, about 4 hours)

Ingredients:

For the blackberry ice cubes (for a 6-cube circle tray):
2 cups black cherry juice
Drops of black food coloring

For the orange drop:
2 ounces Mandarin Vodka
2½ ounces fresh squeezed orange juice
¼ ounce simple syrup

Make the ice cubes at least 4 hours in advance, mixing two cups of black cherry juice in a bowl with about 8 to 10 drops of food coloring, or until it reaches your desired darkness.

Carefully pour the mixture into circular ice molds and freeze for at least 4 hours or overnight.

In a cocktail shaker, add the vodka, orange juice, and simple syrup. Add a few handfuls of ice and shake until cold to the touch. Strain into a martini glass.

Add the cherry ice cube to the drink to resemble a solar eclipse with the sun on the outside and the moon on the inside as the ice and serve.

Source: Traci York, adapted by Maddie Coppel

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THE UNIVERSITY OF TOLEDO IS ADVANCING ASTRONOMY

Asking and Answering Questions About the Cosmos

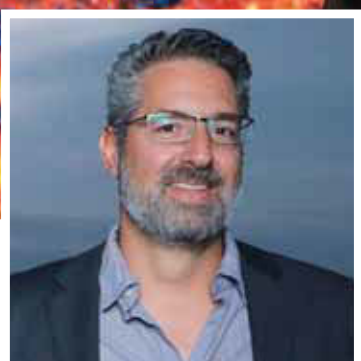
Astronomers at The University of Toledo are using the powerful James Webb Space Telescope to advance their cutting-edge research that is reshaping our understanding of the universe and exciting future generations of stargazers in the process.



UToledo astronomers are among the first to access data from the Webb. Professor **Rupali Chandar, Ph.D.**, is a core member of the international collaborative research program PHANGS, whose survey of nearby spiral galaxies offers new insights into galaxy evolution.



Professor **Michael Cushing, Ph.D.**, was part of the team that discovered the coolest class of brown dwarfs in 2011. His research into these substellar bodies is heating up with his first-cycle observation program and the unprecedented infrared capabilities of the Webb.



Since the Webb launched in 2021, a users committee has tackled questions like how to mitigate micrometeor risk and what's fair for exclusive data access periods. Steering these conversations is Professor **J.D. Smith, Ph.D.**, in his second year as chair.



Galaxy evolution, particularly through black hole accretion and feedback, is the research focus of Assistant Professor **Anne Medling, Ph.D.** Her latest investigations are supported by a National Science Foundation CAREER Award and a Cottrell Scholar Award.

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