

What to Expect on Eclipse Day

September 27, 2023



GORDON AND BETTY
MOORE
FOUNDATION

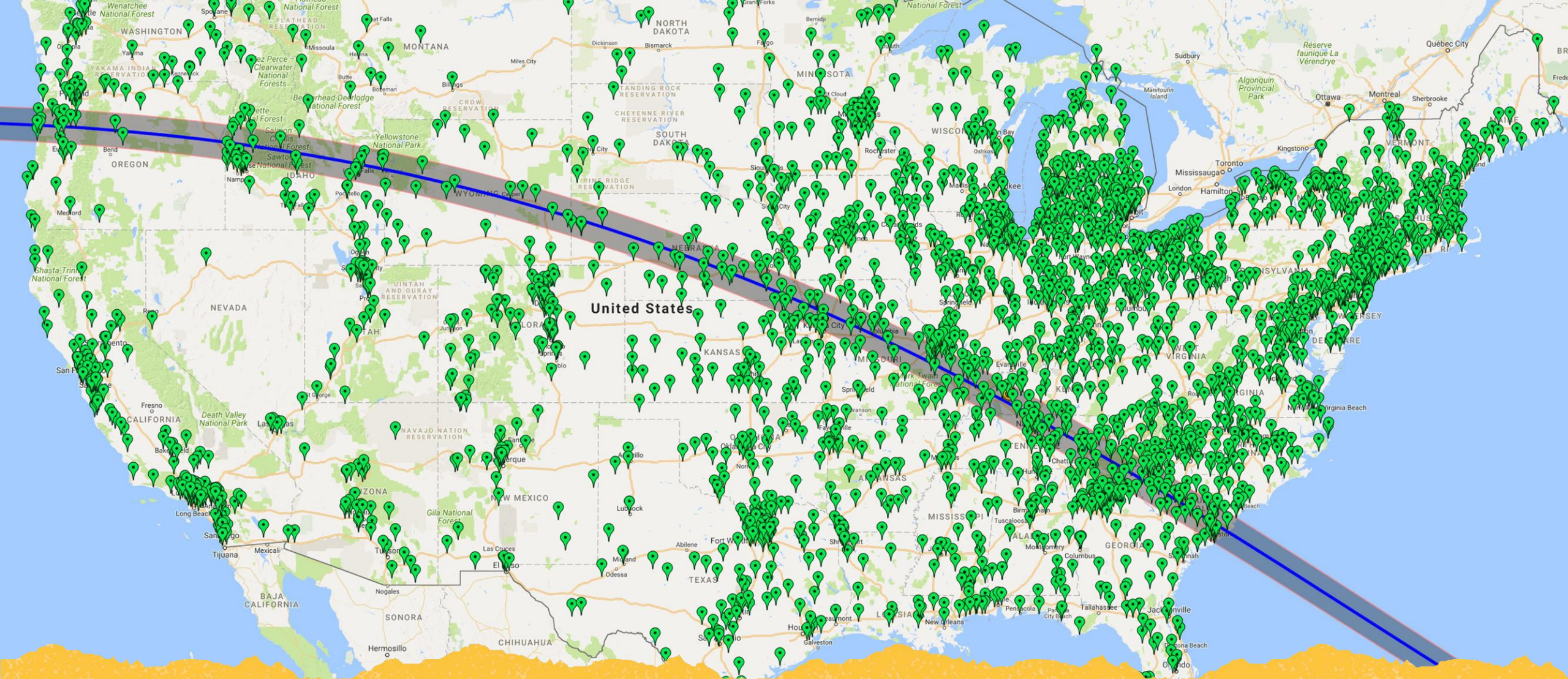
NASA@
My Library

STARnet
Science-Technology Activities &
Resources For Libraries

The webinar will begin at 11 am M.T. and will be recorded



The 2017 Great American Eclipse



Libraries that Participated

Photo Credit: Cerritos Library



- ◆ **2.1 million** glasses distributed
- ◆ More than **7,000** individual library locations participated through **STAR Net**
- ◆ This included public library branches, book mobiles, tribal libraries, library consortia and state libraries

By the Numbers



Libraries had some of the biggest programs they had ever seen, and were able to make lasting partnerships for STEM programs in the future.

What Libraries Said

Photo Credit: Longview Public Library



Image Credit: Space Science Institute/NCIL



What's Next?

Sun...Moon...You!

OCTOBER 14, 2023
ANNULAR SOLAR ECLIPSE



APRIL 8, 2024
TOTAL SOLAR ECLIPSE



The 2023 and 2024 Eclipses

Photo Credit: American Astronomical Society



Eclipse 101

Slide deck created by Dr. James Harold, NCIL's
resident space plasma physicist



Very constant, very predictable.



**And then every now and then,
this happens...**



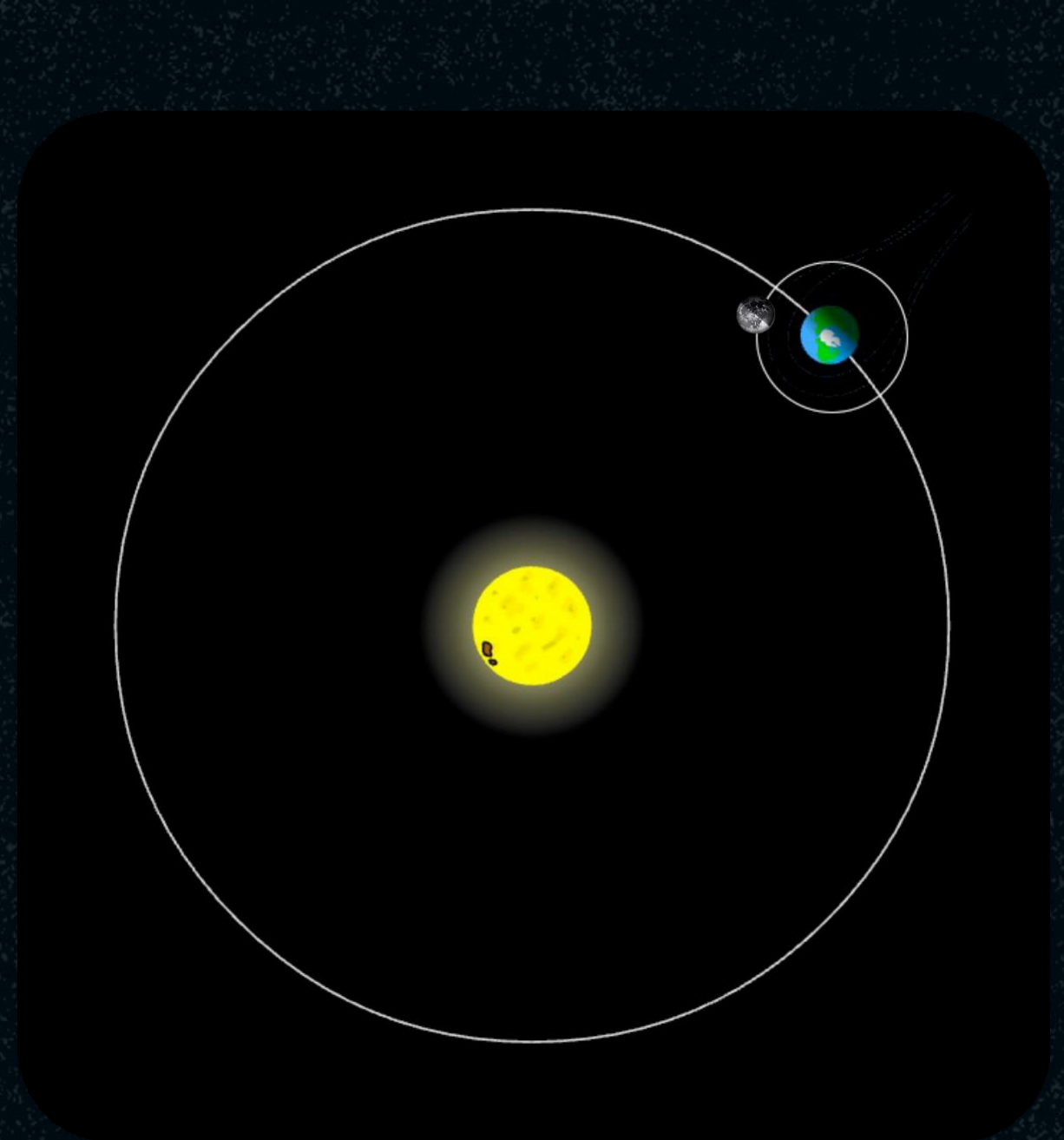
**And very, very
rarely this...**



**Or maybe
this.**

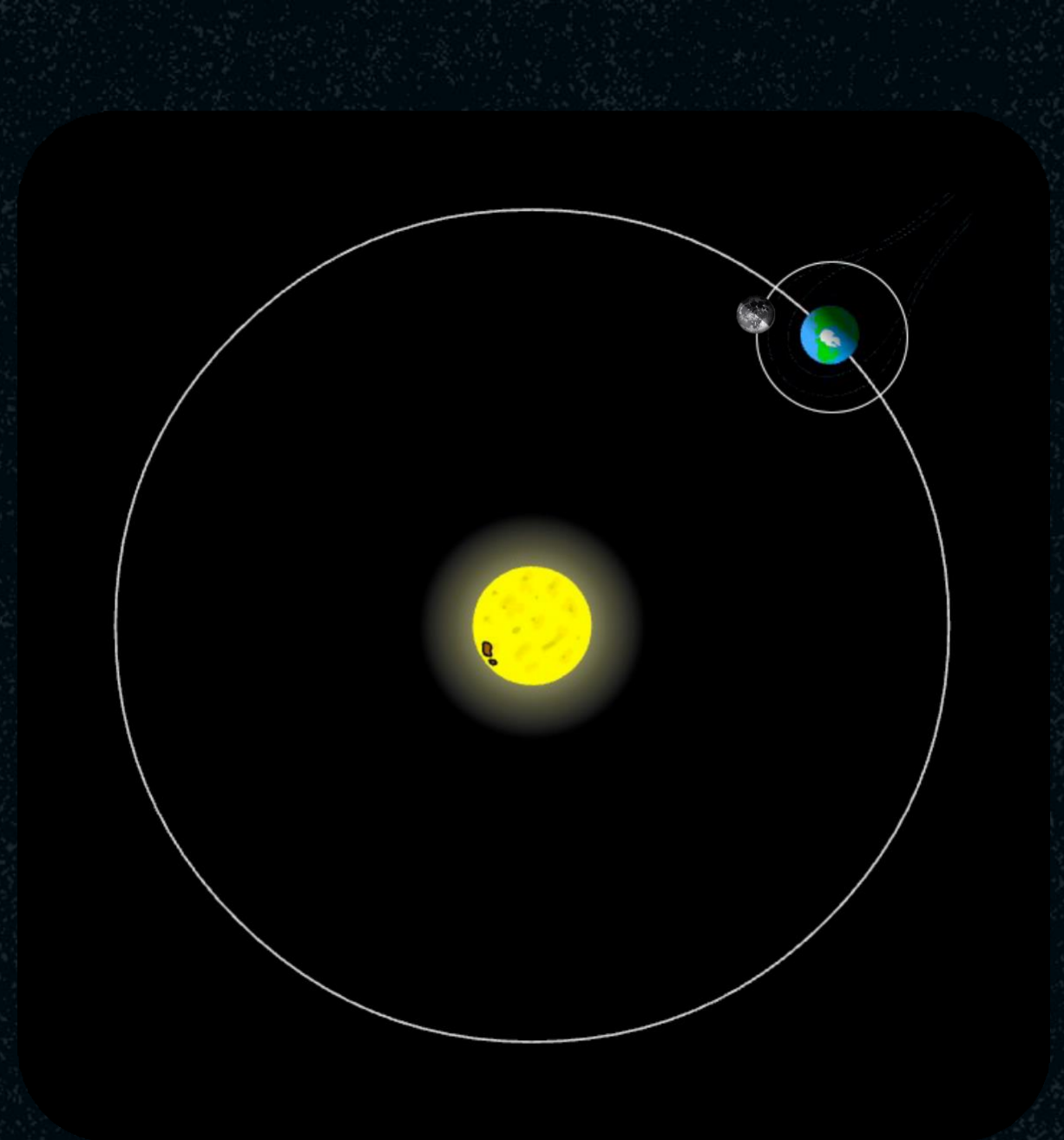
So what's going on?

The Moon gets in front of the Sun, casting a shadow on the Earth. The end.



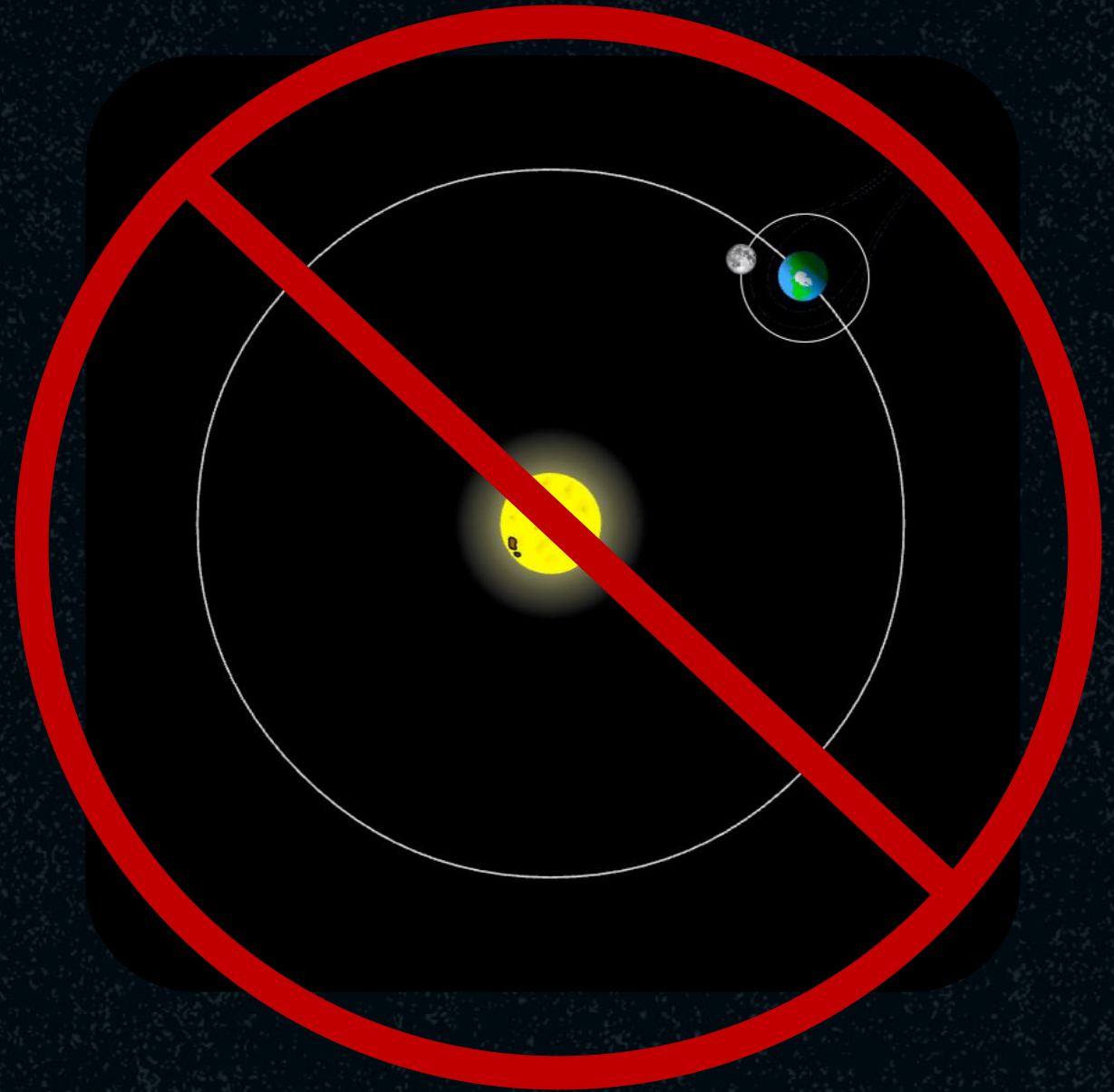
Not so fast. We have questions!

- ◆ Why are solar eclipses rare?
- ◆ Why are there different kinds of eclipses?
- ◆ What's the big deal with "totality"?
- ◆ Is this entire exercise fraught with danger?!



Why so rare?

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- ◆ Why are there different kinds of eclipses?
- ◆ What's the big deal with "totality"?
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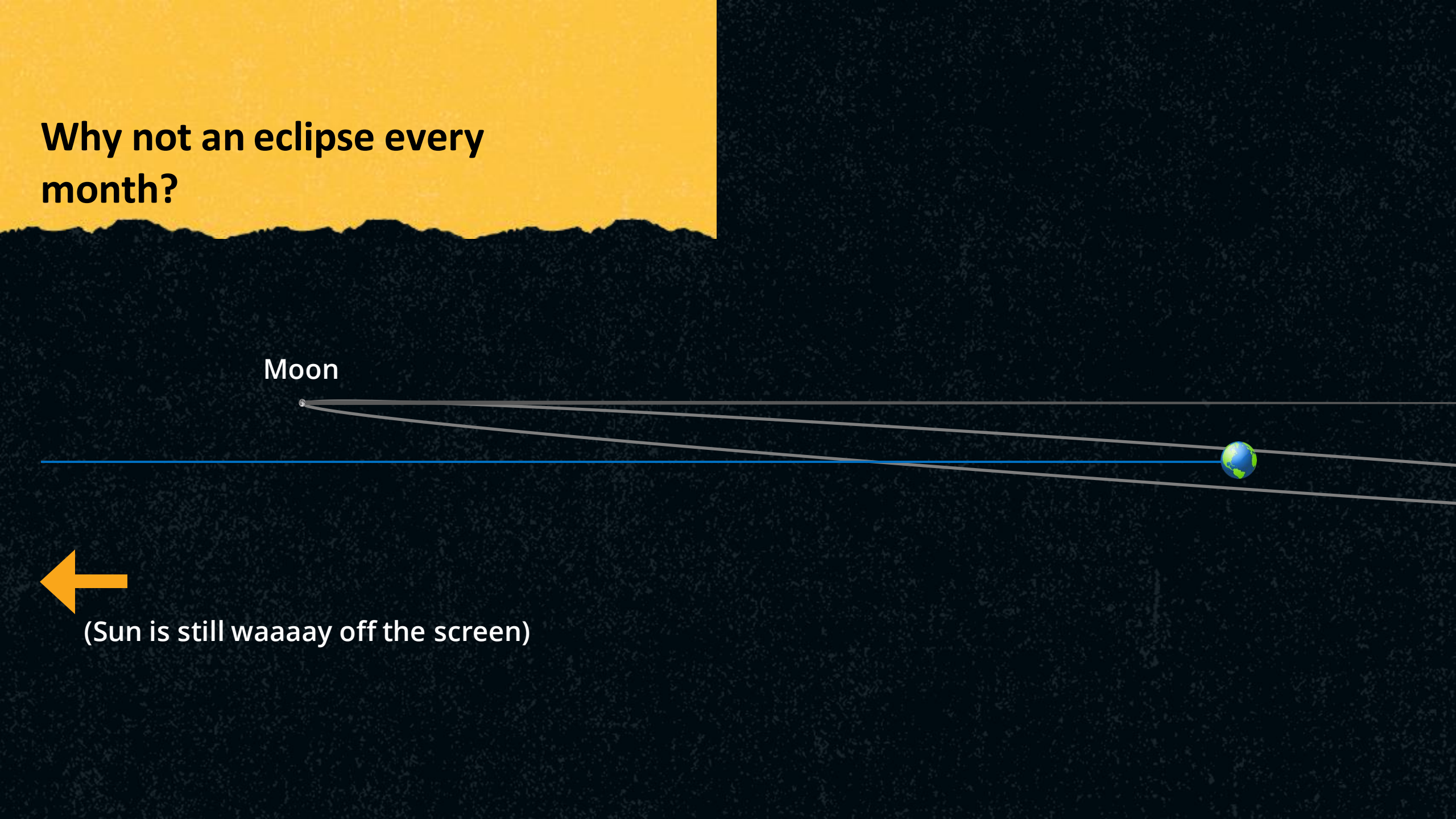


Why not an eclipse every month?

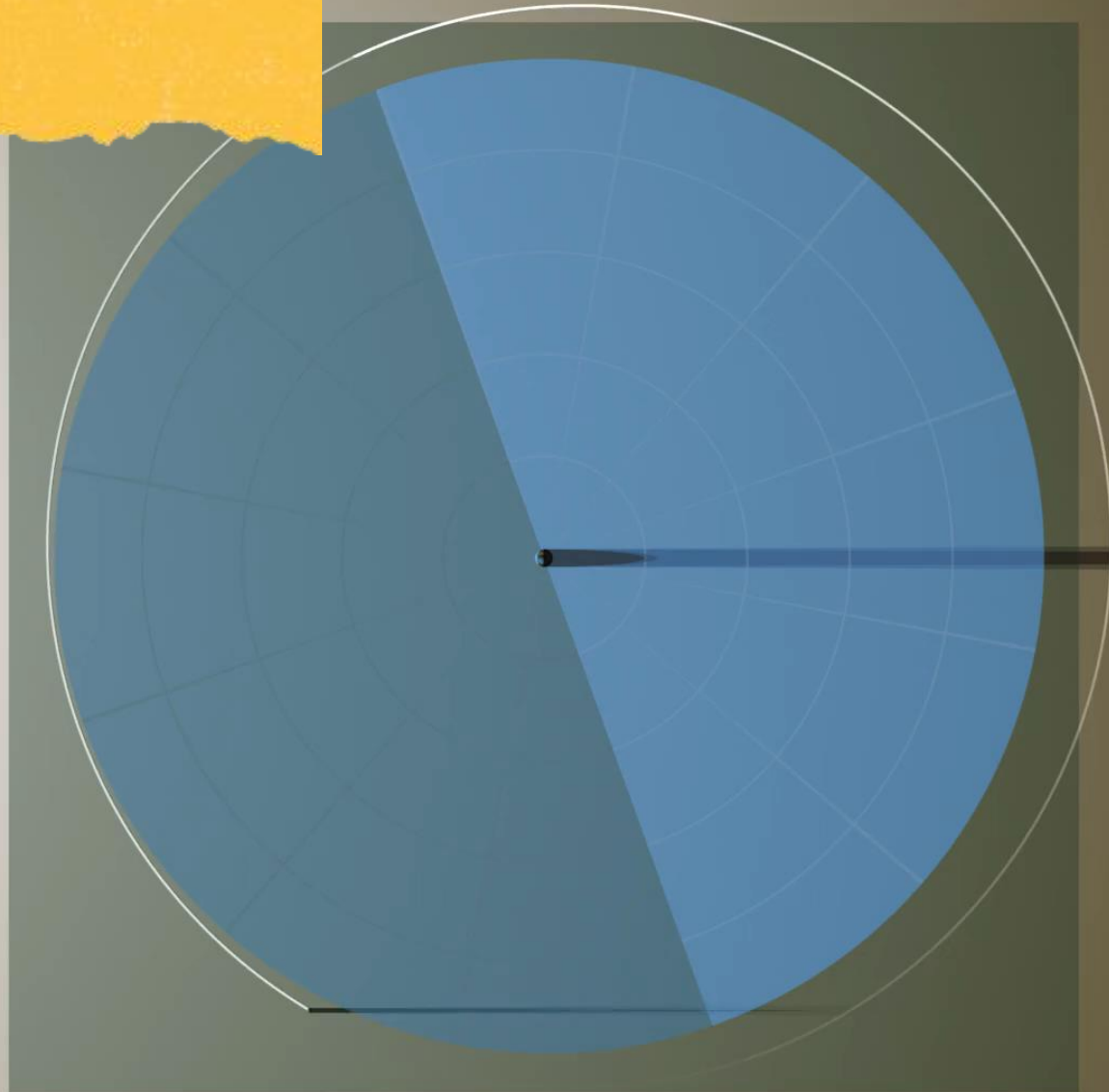
Moon



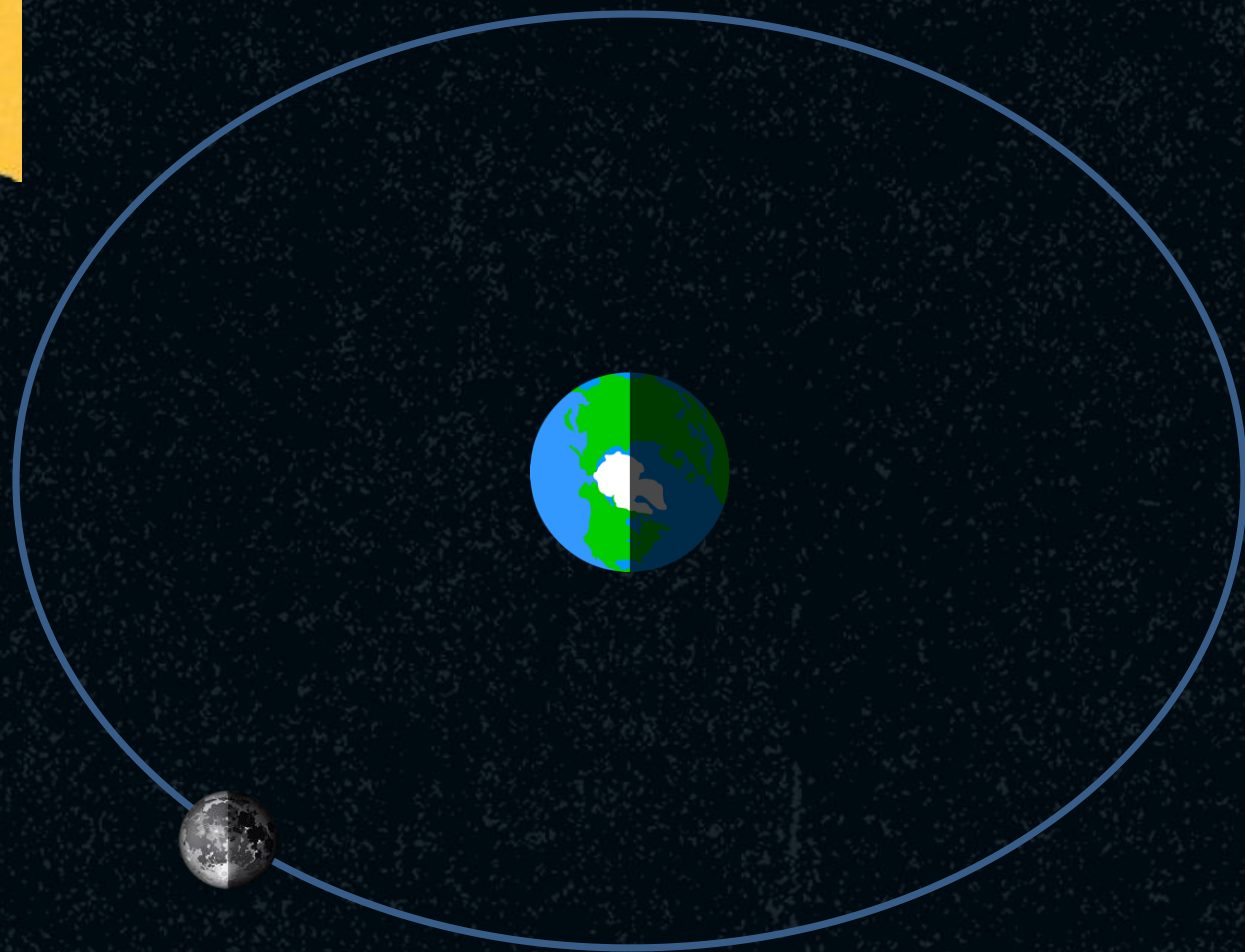
(Sun is still waaaay off the screen)



The animated version



And... "Annular Eclipses"?



(Sun is always going to be way off screen)

What will we see on October 14th, 2023?

- ◆ Partial (with sunspots?)
- ◆ Totality, with a ring on it.
- ◆ *You will need your eclipse glasses on through the entire event!*



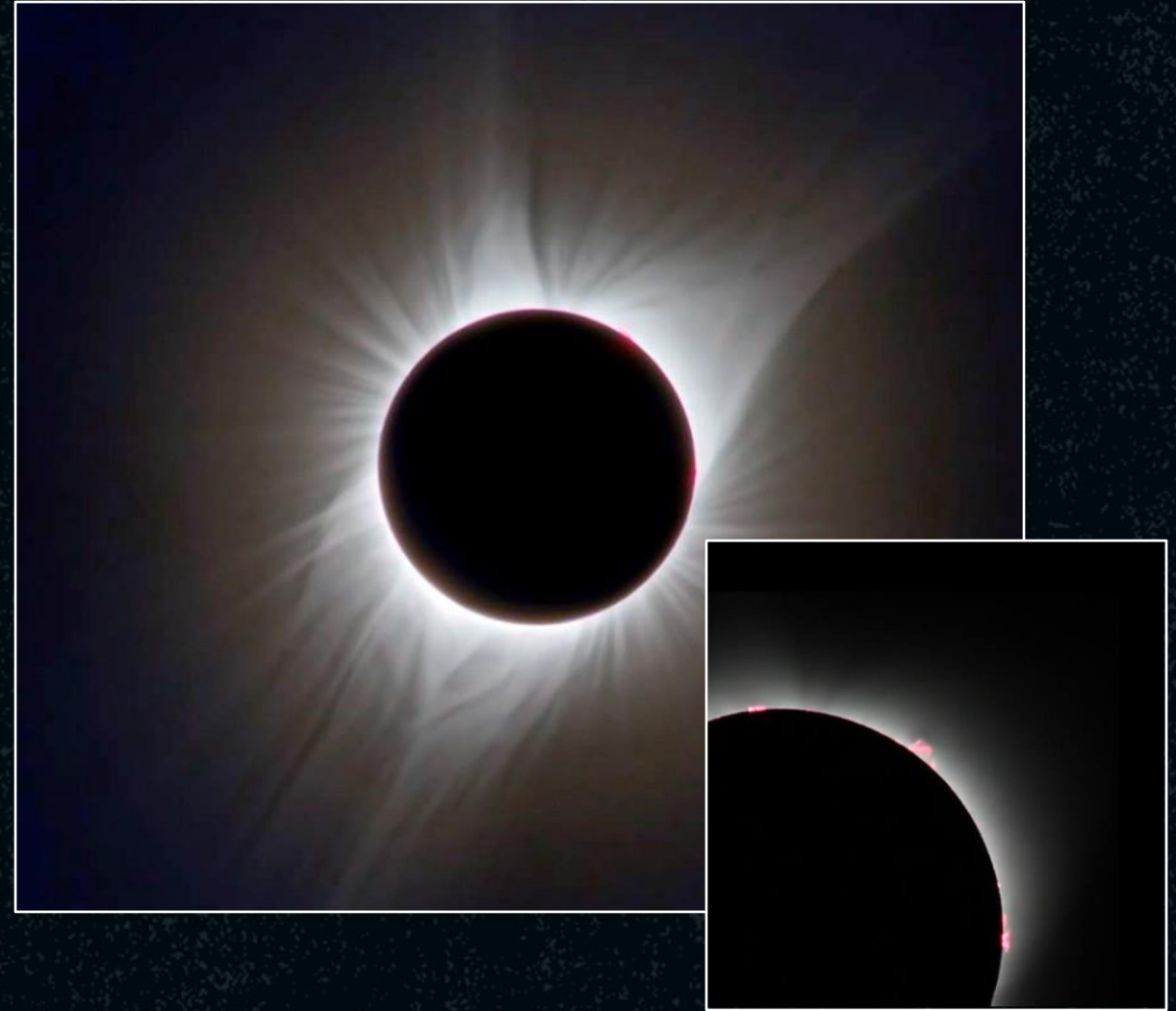
What will we see on April 8th, 2024?

- ◆ Partial (with sunspots?)
- ◆ Diamond Ring
- ◆ Bailey's Beads
- ◆ ***Totality... glasses off!***



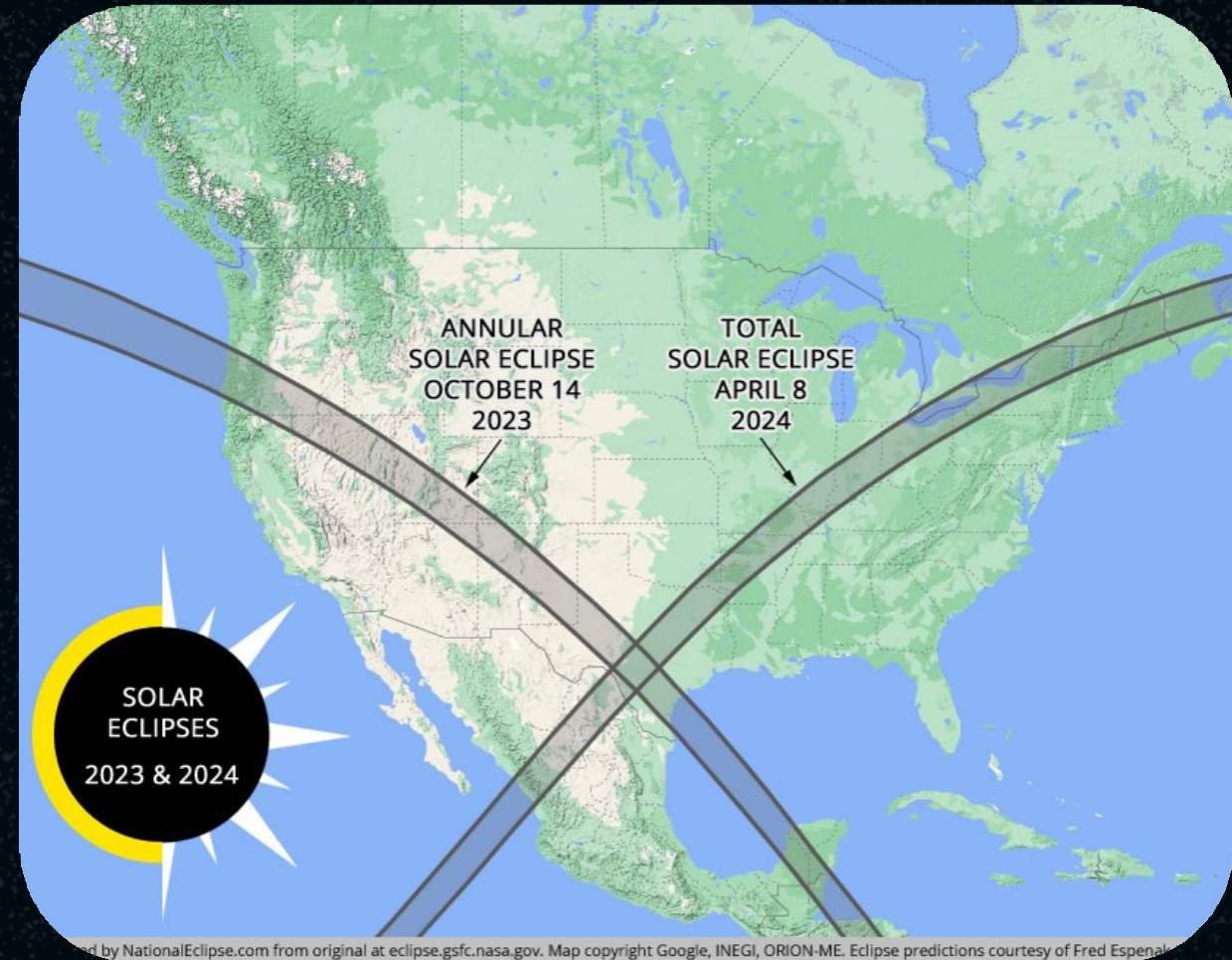
What's so special about totality?

- ◆ See the Sun's atmosphere: the solar corona.
- ◆ The Sun is 400,000 times brighter than the corona. (Even 99% of an eclipse is too bright to see the corona)
- ◆ Totality is the only time you can (and should!) take off your eclipse glasses to look at the Sun.
- ◆ Hot gases move along the Sun's magnetic field, tracing its complex structure.
- ◆ Solar prominences arch above the Sun's surface.



The 2023 and 2024 North American Eclipses

- ◆ GreatAmericanEclipse.com for maps;
TimeAndDate.com for specifics.
- ◆ 4 min is about the maximum for totality
- ◆ www.scigames.org/eclipse/



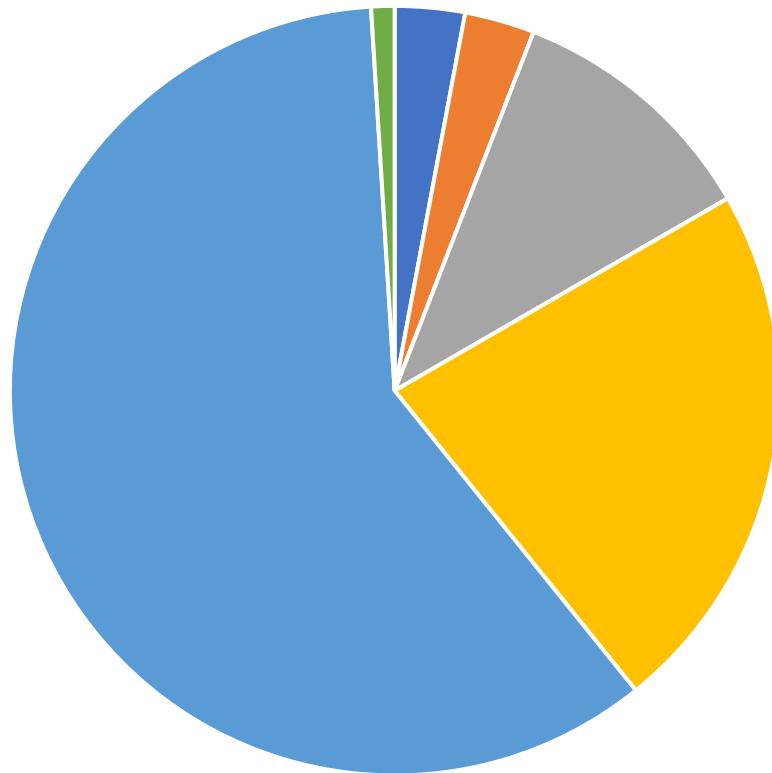


Survey Overview

- 102 anonymous responses.
- Likert scale ratings on overall feelings toward the 2017 solar eclipse and levels of preparedness for the 2017 eclipse and upcoming 2023/24 eclipses.
- Qualitative and anecdotal responses shared about successes, surprises, and advice for the future.

How people felt about the programs in 2017

2017 Eclipse Programming



■ Neither positive nor negative ■ Very negative ■ Somewhat negative ■ Somewhat positive ■ Very positive ■ No Response

Neither positive nor negative	3
Very negative	3
Somewhat negative	11
Somewhat positive	23
Very positive	61
No Response	1

Negative Responses

We had prepared intergenerational programming--crafts, snacks, viewing options--and expected 50-100 people, but instead had 800 people show up. Everything was mania and overwhelming, so the day was not the positive, fun one we had planned.

It was a mad house. Our library was using the glasses for our program instead of just handing them out. The local news said all libraries were handing out glasses.

Positive Responses

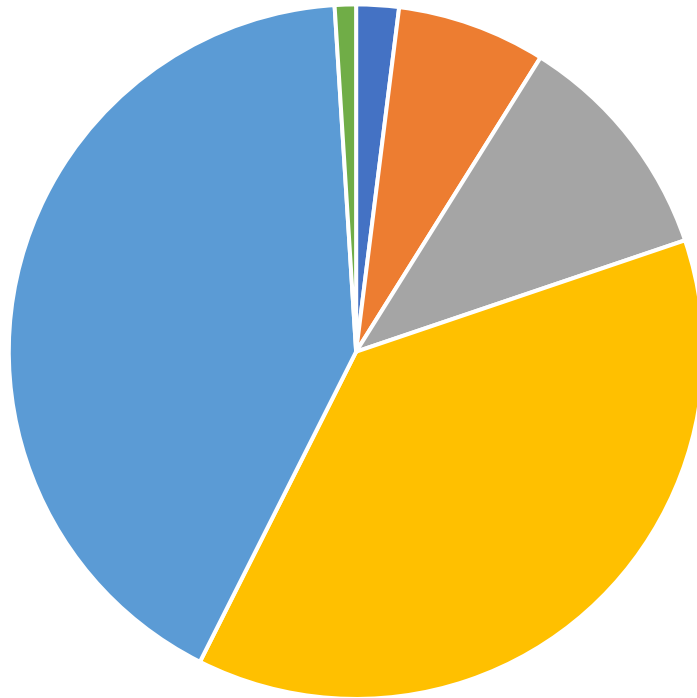
The eclipse program turned out to be the library's most well attended program of that year. It was standing room only in our meeting room. Final count was 300 people attending (all ages).

I just love the public enthusiasm for lunar, solar, and all things related to space science! It brings me real joy to engage to public and provide programming to feed their hunger for knowledge.

With the donations of the eclipse glasses, our library's door count increased by 50%! We could tell when new folks walked in. They just stood and stared around the library. This gave us the opportunity to welcome them. Our door count has continued to stay up!

How prepared people felt in 2017

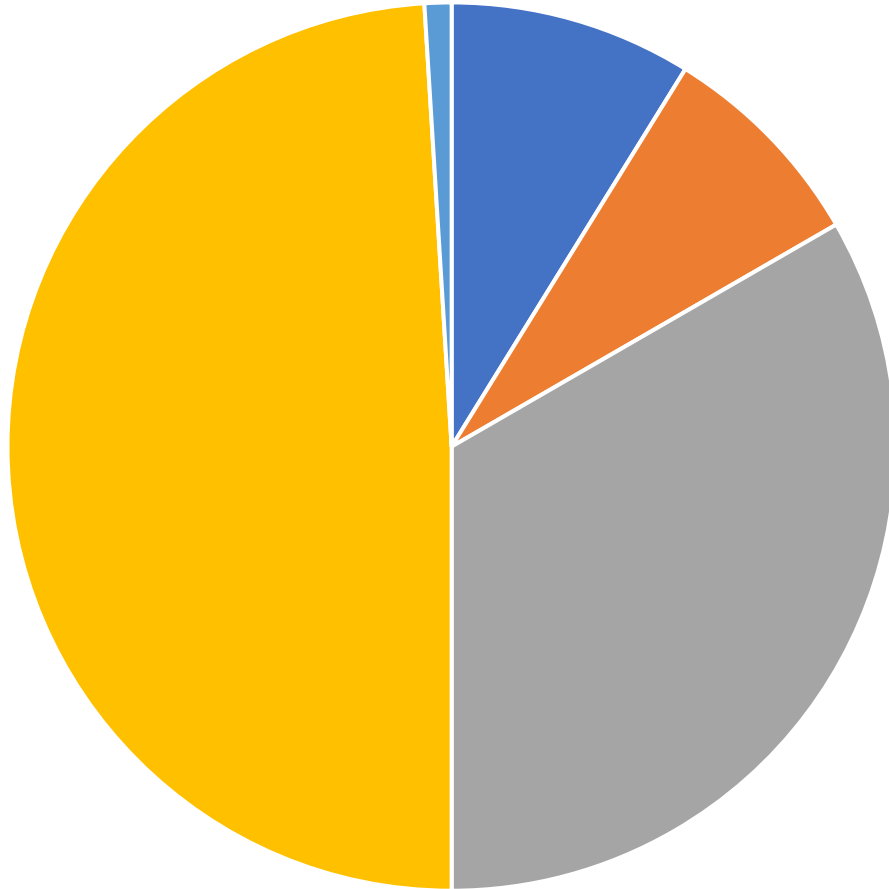
On the day I hosted eclipse programming I felt...



■ Neither prepared nor unprepared ■ Very unprepared ■ Somewhat unprepared
■ Somewhat prepared ■ Very prepared ■ No response

Neither prepared nor unprepared	2
Very unprepared	7
Somewhat unprepared	11
Somewhat prepared	38
Very prepared	42
No response	1

For the upcoming eclipses, I feel...



■ Less prepared ■ I haven't started preparing yet ■ About the same level of prepared ■ More prepared ■ No response

Less prepared	9
I haven't started preparing yet	8
About the same level of prepared	34
More prepared	50
No response	1

Success Stories from 2017

We used our 3d printer to make the Texas eclipse projectors to hand out, space decorations, moon walk items, a Saturn V model rocket, and a NASA spaceship-themed chess set (which is still very popular). We had a large TV tuned to the eclipse as it happened and to other relevant programs, and all kinds of activities before and during the eclipse.

We managed over 800 people in our space - including parking. We had crafts & activities, local astronomers with their telescopes, we streamed live inside (due to the heat), and handed out glasses.

Lessons Learned

Always have a backup plan. When we ran out of eclipse glasses to give out, we helped patrons make a pinhole eclipse viewer. We also held back about 50 pairs of glasses to have at the library during the eclipse, and people took turns sharing and using them.

Make your program promo very transparent about what to expect and keep your chin up for the inevitable challenges of not being able to make every member of the public completely happy.

If the weather is not cooperating during either of the next two eclipses, we will have a livestream from an area where the weather is more cooperative and project it on the big screen in our multipurpose room.

Lessons Learned

I would suggest - all staff wore the same shirt on the day of the event - with so many people - super helpful for us to be able to see where staff were.

Glasses are not entirely essential. Watching the patterns the leaves on the maple tree made on the pavement was cool. So was the pattern of everyday items like big kitchen slotted or perforated spoons and colander!

Do advance programming so patrons can view safely on their own.
Start Early!

Popup Tents, bottled water and chairs for seniors to sit and wait for the viewing. They were so grateful that we accommodated them and their needs.





Open forum

- What are you nervous about?
- What are you excited about?
- Share your ideas!



Parting Words of Wisdom



And don't forget to LOOK UP!