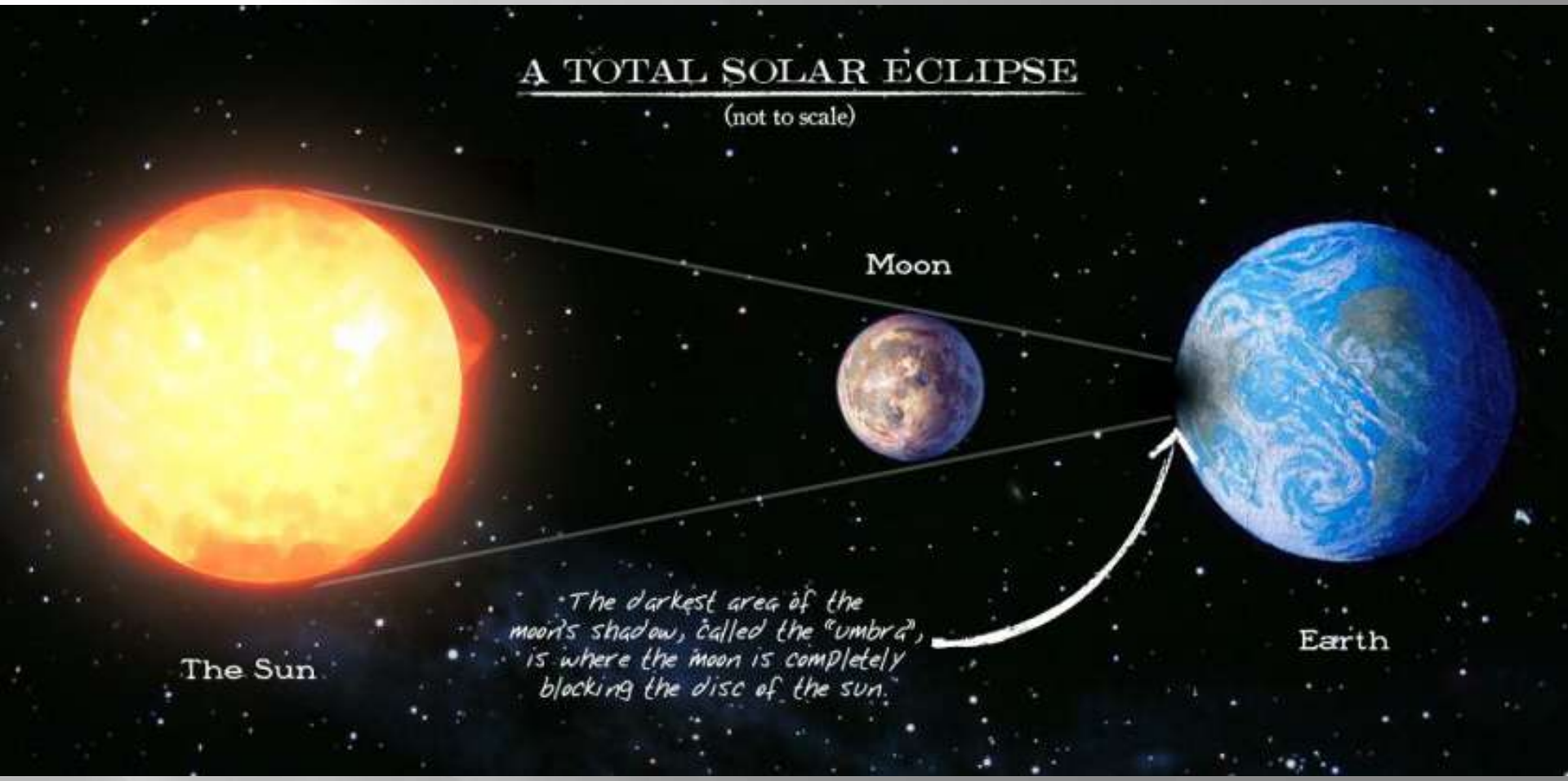
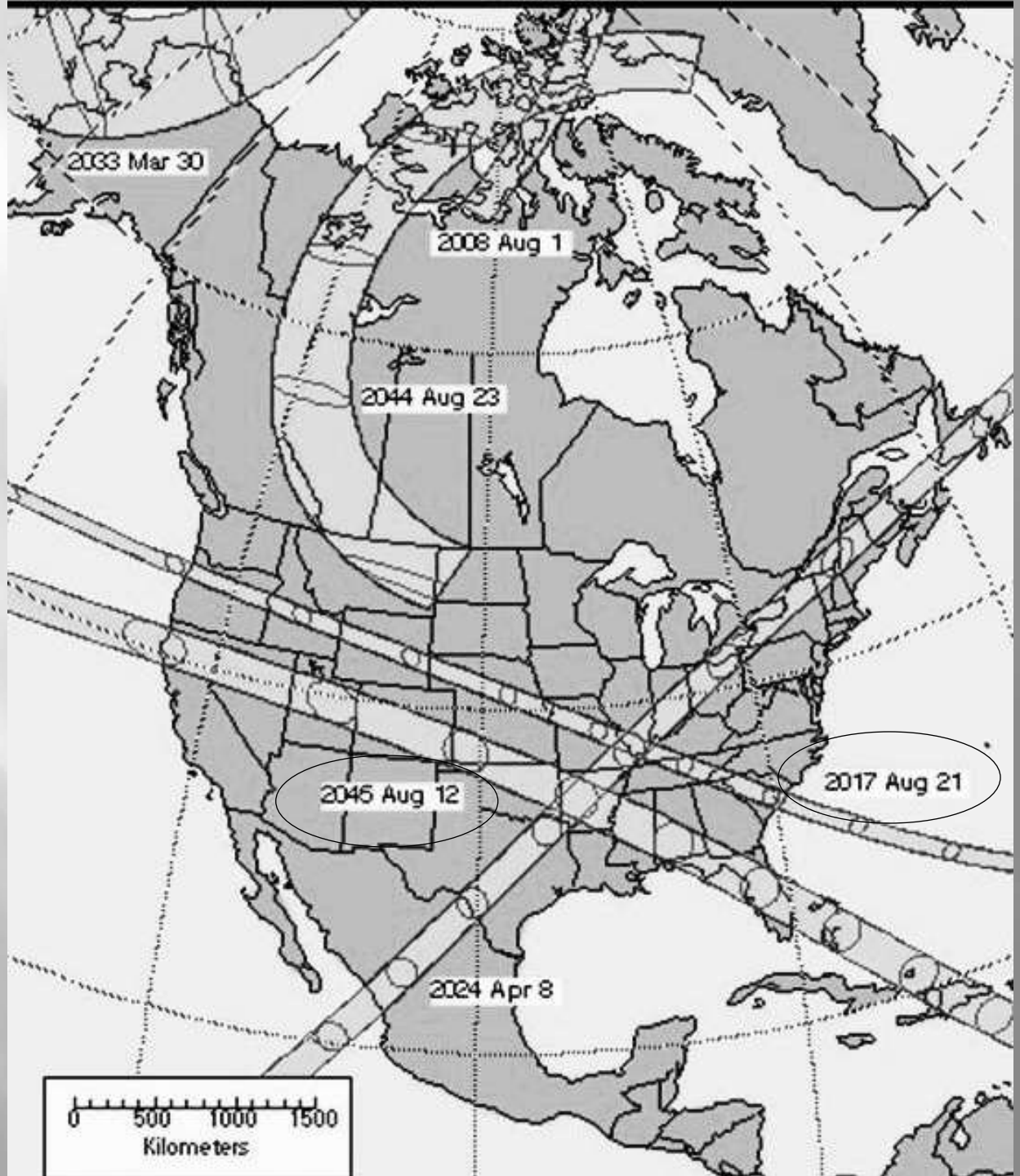
# TOTAL SOLAR ECLIPSE 2017


A TOTAL SOLAR ECLIPSE
(not to scale)
Moon
The Sun
"The darkest area of the moon's shadow, called the "umbra", is where the moon is completely blocking the disc of the sun."
Earth

# Why is it special?

- It's a fairly rare celestial event – especially to be in the path of totality! (We are at ~93% coverage)
- The last total solar eclipse seen in the continental U.S. was on September 10, 1923
- The last total solar eclipse to follow a similar path across the continental U.S. was on June 8, 1918.
- The next total solar eclipse to follow a similar path through the continental U.S. will occur on August 12, 2045


2033 Mar 30
2008 Aug 1
2044 Aug 23
2045 Aug 12
2017 Aug 21
2024 Apr 8
0
500
1000
1500
Kilometers


Eclipse Glas
Flip your ph e's
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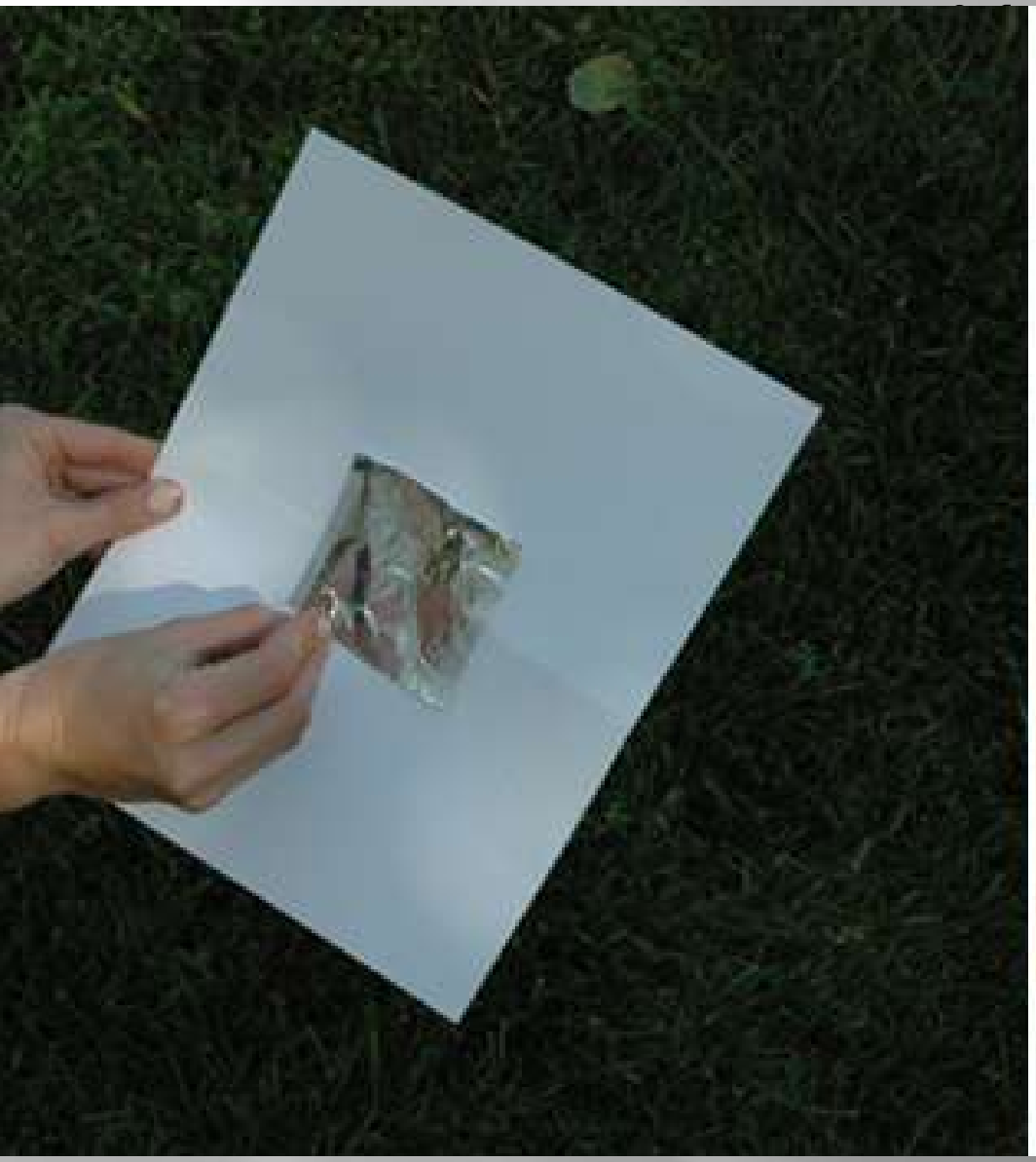

# When does the eclipse begin?

| Time | Phase | |
|---|---|---|
| 10:23 am<br>Mon, Aug 21 |  | Partial Eclipse begins<br>The Moon touches the Sun's edge. |
| 11:47 am<br>Mon, Aug 21 |  | Maximum Eclipse<br>Moon is closest to the center of the Sun. |
| 1:14 pm<br>Mon, Aug 21 |  | Partial Eclipse ends<br>The Moon leaves the Sun's edge. |

| | |
|---|---|
| Period 1 | 7:30 to 8:28 |
| Period 2 | 8:33 to 9:31 |
| Period 3 | 9:36 to 10:34 |
| Lunch A - Grade 9/12<br>Period 4 | 10:39 to 11:09<br>11:14 to 12:12 |
| Period 4<br>Lunch B - Grade 10/11 | 10:39 to 11:37<br>11:42 to 12:12 |
| Period 5 | 12:17 to 1:15 |
| Period 6 | 1:20 to 2:18 |
| Period 7 | 2:23 to 3:21 |

- Begins at the end of 3rd Period.
- Peaks during Lunch B or 4th Period (if you have Lunch A).
- Ends at the end of 5th Period.

# Today…

- We will create our pinhole projectors with thick paper, tin foil, foam-core and a pin.
- Follow the steps below:
  1. Fold the paper in half and cut a small square hole in the center.
  2. Unfold the paper and tape a square of tin foil over the square opening. Make sure the edges are all taped down.
  3. Place your foil on top a piece of foam-core and use a pin to poke a hole in your tin foil square. Make sure you hole is even and smooth.
  4. If you complete one projector, create a second one… this time use the pin to punch multiple holes and create a design in the tin foil.

# Pinhole Projector Demo &Exemplars

# Before we go outside…

## Remember:

- We will set up a piece of paper on the ground and use our pinhole viewers to create an image of the sun on the ground.
- We will view and photograph the eclipse by looking at our projections on the ground – **we will <u>NOT</u> look at or photograph the sun.**

# Your photographs will look something like this…

- Take a photograph every 5-10 minutes and I'll show you how to create an animation!

**Remember:**

- NEVER LOOK AT THE SUN, EVEN DURING AN ECLIPSE!
- NUNCA MIRA EL SOL, INCLUSO DURANTE UN ECLIPSE!