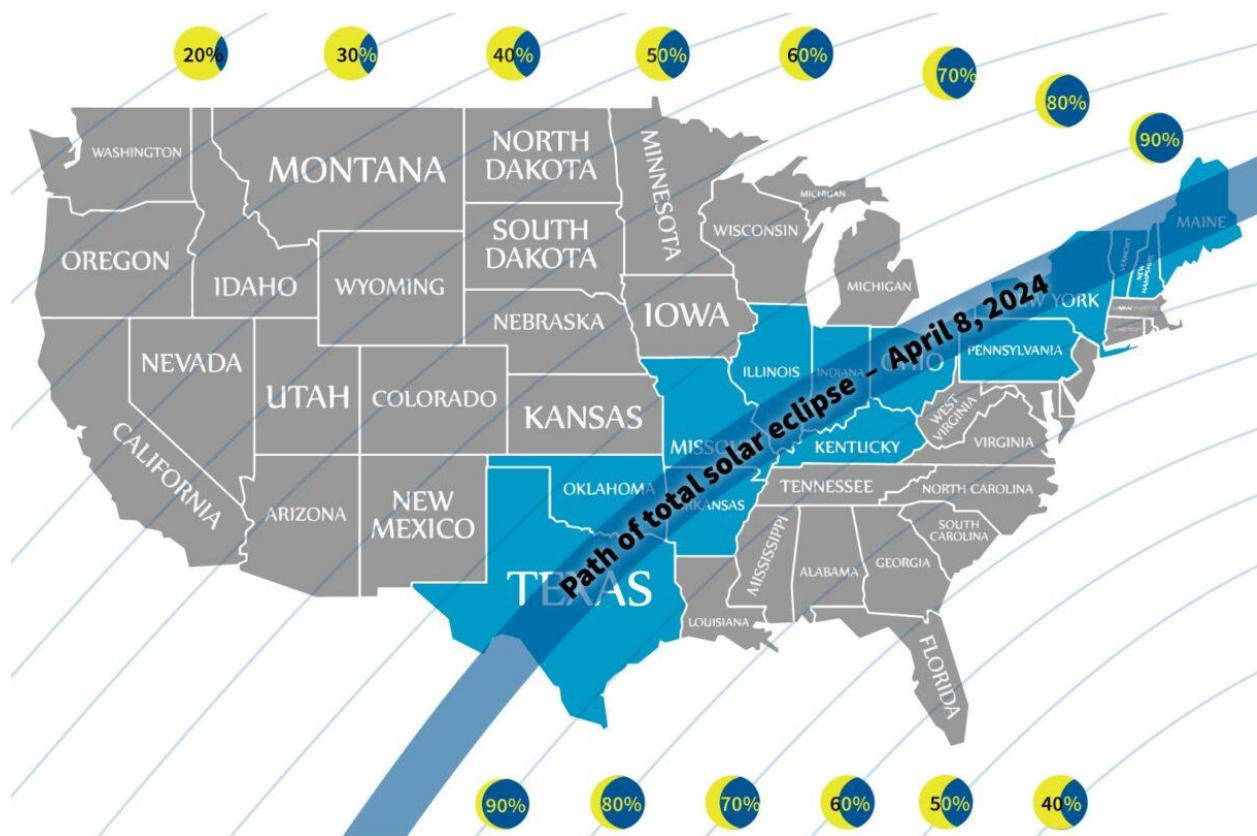


When Day Turns to Night: The solar eclipse on Apr 8th

Is it a shocking spectacle, or the end of the world for us?

Recently, there has been a topic discussed by plenty of people, and you noticed it everywhere, in Walmart, in libraries, and in the news. Yes, as you already know, it's about the solar eclipse in North America on Apr 8th, the duration of the total solar eclipse was the longest since 2009, exceeding 4 minutes and 28 seconds. What's more, it covered plenty of areas in the US, including Dallas, Little Rock, Carbondale, Buffalo, Burlington, and Caribou, and the partial eclipse covered the most of states. When it comes to this, there is a wave of people who believe that this eclipse will be the end of the world and the gates of hell will open; Others lie awake all night, excited and screaming in anticipation of the wonders of the world.



Yes, I am the second type of person, even though I am living in Connecticut where we only got 95% covered, I was still feeling thrilled about this event. I've been preparing for this day for over a month when we heard about this solar eclipse a month ago, the school told the members of the astronomy club including me to choose a spot on campus to invite the whole school to enjoy and assigned me to do a presentation for giving a brief introduction of the solar eclipse to my astronomy club and the school.

Before the solar eclipse, the school ordered more than **300** solar viewing glasses, to prepare for this event and provided them to students and faculty members. Solar viewing glasses are one of the most significant things that are required to look at the solar eclipse for safety, or it will instantly cause severe eye injury, A safe handheld solar viewer is also available, but viewing the eclipse through a camera lens without them is also extremely harmful to the eyes.

After the event, we collected some solar viewing glasses after the event, and the school will mail them to Eclipse Glasses USA, where will send them to Latin America for children to enjoy the October 2024 eclipse.



(science department teachers with solar viewing glasses)

We humans have our solar viewing glasses, and of course, the telescope has its own, which is called the solar filter. If the solar viewing glasses can prevent 95% of the light from going through, then the solar filter can filter out 99.999% of the solar energy. The solar filter is quite different than other filters like the moon filter, blue star, or red star filter, which are placed in front of the eyepieces. Due to the fact that the intensity of the light from the sun is 40,000 times of the moon, so the regular type of filter couldn't satisfy this requirement, and although we have the powerful filter on the eyepiece, it will also damage the sophisticated parts in the telescope, which the amount of energy and heat produced by the convergence of light into a single point will also spoil the lens or melt the plastic components. Therefore, we need a solar filter that covers the front of the lens of the telescope. The solar filter is actually a piece of paper that has two sides, black and metallic, and the metallic side must face the Sun, which is used for reflecting most of the solar radiation, including visible light, ultraviolet light, and infrared radiation. The black side further reduces light entry and prevents the light from reflecting inside the telescope.



On the day of Apr 8th, the solar eclipse started at 2:11 pm and ended at 4:44 pm, and the maximum stage of solar eclipse was 3:31 pm in Connecticut. Nevertheless, when it was 3:31 pm on that time, a cloud covered the entire sun!!!

Yes, but sure, it just mentioned it's the solar eclipse, but it didn't say what made it eclipsed, it can be the Moon, or it can be the cloud....



(the covered solar eclipse by the cloud)

However, we still have some stunning pictures of the eclipse from phones and imaging eyepiece of the telescope, including a video record of the entire event:

<https://youtube.com/shorts/sWfuKwAgYYI?si=QZPedH8JWW4Va1v3>



In addition, thankful to my friends in other states, I am able to get some views of the solar eclipse from other areas.



(Rhodes Island)



(California)



(MA)



(Dallas, TX)



(Hamilton)

Citing:

Eclipse Path," last modified January 2023, accessed April 12, 2024, <https://preventblindness.org/wp-content/uploads/2023/01/eclipse-path-1.jpg>.