TOTALITY, MINUTE BY MINUTE

(Time stamps are for Bloomington, IN; other cities may vary by a few minutes.)

- **1:48 pm-3 pm--Partial Phase**--While you are waiting for Totality, watch the sky gradually darkening, the temperature cooling, and the pinhole shadows changing their shapes into thinner crescents. Take the time to observe sunspots, if you have the proper equipment. REMEMBER: Do not look at the Sun during the partial phase unless you are wearing solar glasses or binoculars/telescope with the correct filters! And do not take photographs unless your camera or smartphone is protected with a filter! (You may hold up your solar glasses as a filter for your smartphone--but be careful not to look at the Sun while you are lining up the shot.)
- **2:49 pm--Silvery Light**--10 minutes before totality, the light will become increasingly dim and silvery. Everything will begin to look very strange.
- **2:59 pm--Shadow Bands**--A few minutes before totality, when less than 1% of the Sun remains, that last bit of sunlight will ripple through the atmosphere, forming Shadow Bands on the ground. As the sliver of the Sun gets smaller and smaller, the bands will become tighter and easier to see. You'll want to bring a white sheet or poster board to spot them. Don't bother trying to photograph them--they won't show up in your pictures.
- **3:04 pm--Nature Gets Confused**--In the last 30 seconds before totality, the sky will become as dark as twilight. Shadows will become sharp and strange. You may feel a cool breeze as the temperature drops. Nature becomes confused! Birds will sing their goodnight songs and go to bed. Cicadas will fall silent, and crickets and frogs will begin to sing in their place. Flowers will close their petals. Watch for the Moon's umbra approaching you from the west as a wall of shadow traveling along the ground!
- **3:04 pm--Diamond Ring**--15 seconds before totality, the last bit of the Sun's light will seem to flash out from the mountains of the moon, forming the "diamond ring." This is your cue that it's time!
- **3:04 pm--Baily's Beads**--The diamond ring will fade into Baily's Beads, little spots of light between the mountains of the moon. You may catch a brief glimpse of the chromosphere. As soon as you can't see anything in your solar glasses anymore, take them off!
- **3:04-3:08 pm--TOTALITY! Glasses off!** Look at the corona with your naked eye. You may take photographs without a filter now. Look for planets and stars. Turn in a circle and observe a 360* sunset.
- Totality will last anywhere from 1 minute to 4.5 minutes depending on your location. Then everything reverses:
- **3:08 pm--**Baily's Beads return. **Put on your glasses and filters** before the Diamond Ring flashes!
- **3:08-3:09 pm**--Begin looking for shadows bands again. Birds sing the dawn chorus, crickets stop singing and cicadas resume. Watch the umbra exit to the east.
- **3:09-4:22 pm**--Watch as much of the partial phase as you like before heading home. If you are in a good location, there will probably be mega traffic, so make sure to have food, water, and plenty of gas, and go to the bathroom before you get on the road.

RECOMMENDED APPS

Solar Eclipse Timer by Foxwood Astronomy (free for practice mode, $2 to unlock each eclipse) --This app will time the eclipse for you and give audio prompts to remind you what to look for at each moment. It will even calculate the best times to take photographs so that you will have the right shots to make a symmetrical eclipse collage. If you are planning to go to the path of totality, this app is highly recommended. I used it in 2017 to great success.

Totality by Big Kid Science (free)--This app shows a map of the path of totality. Click anywhere on the map to see how long totality will last for that location, and what time each phase will occur.

Stellarium (free, has in-app purchases to download extra content, but you won't need it)--This is a general astronomy app that you can use to identify stars and other celestial objects. You can set it to the day and time of the eclipse to simulate what you will see. On eclipse day, it can help you identify the stars and planets that appear during totality.