

# Solar Eclipse FAQ

Prepared for: EarlyON and Childcare Centres

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## Questions & Answers

Q1: What type of window covering should be used?

- To safeguard children’s eyesight during a solar eclipse, it is recommended to use window coverings to block out the sun to prevent accidental direct viewing of the sun during the solar eclipse.

Q2: What type of eclipse glasses should be used?

- Glasses with specialized filters adhering to the International Organization for Standardization (ISO) certified (ISO 12312-2) eclipse glasses, which block over 99.997% of the sun’s light can be worn to prevent eye damage. Regular sunglasses will not protect people’s eyes<sup>3</sup>.
- It is not safe to look at the sun through a camera lens (including phone camera), telescope, sunglasses, binoculars, or any other optical device.

### Q3: Map of Eclipse path

- Refer to the two figures below to see the path of totality.

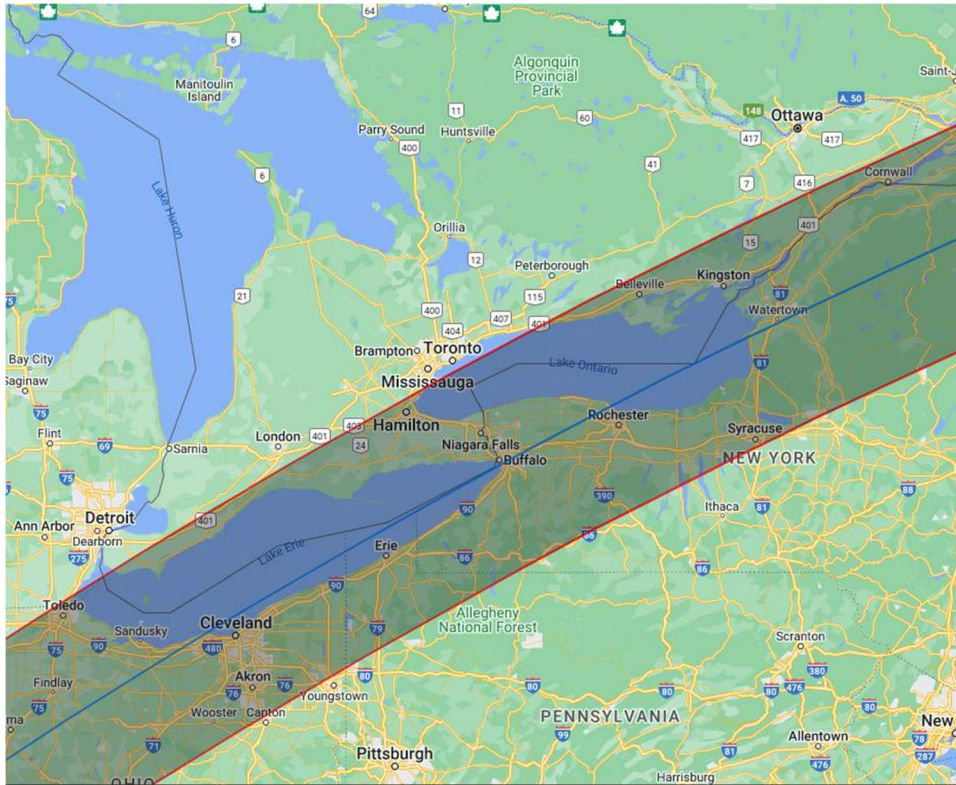


Figure 1: The 2024 total eclipse path through parts of Canada and the US.

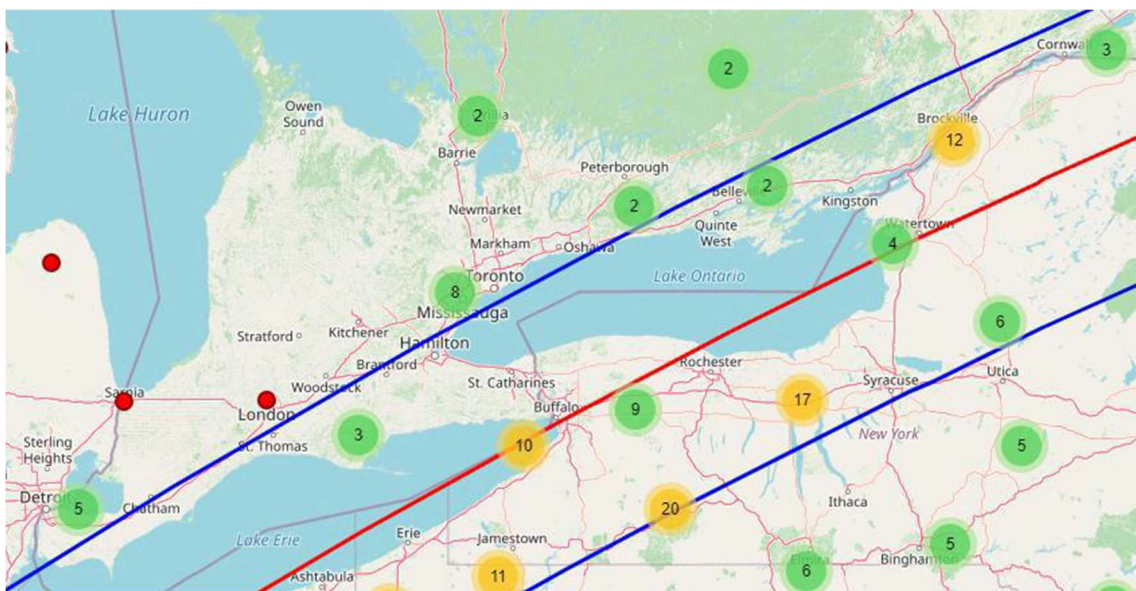


Figure 2: The 2024 total eclipse path through Ontario indicating that the areas within the blue lines will experience a total solar eclipse.<sup>1</sup>

Q4: At what time will the eclipse occur?

- The solar eclipse event in Peel Region will last a few hours beginning just prior to 2 pm and concluding around 4:30 pm<sup>1,2</sup>. In Peel, we will experience a partial solar eclipse where the maximum Sun coverage (99%) will be around 3:19 pm<sup>1</sup>. The duration of the maximum coverage of the partial eclipse will last only a few minutes.

Q5: What are the health risks associated with the eclipse?

- Looking directly at the Sun without appropriate eye protection can lead to serious problems like retinal burns, temporary visual loss, blurred vision and eyesight loss (immediate or delayed onset). The retinas do not have pain sensors to signal that one's eyes are being damaged by the sun. Eye damage may not be immediately apparent, and symptoms can take 12-48 hours to appear.
- It is not safe to look at the sun without eye protection, as looking at even a small sliver before or after totality can be harmful to vision<sup>3</sup>.

Q6: How can we protect children from the health risks of the eclipse?

- Children should be kept indoors during the solar eclipse with window coverings pulled down if they do not have proper eye protection or are not viewing the solar eclipse with a projector.
- Many agencies have guidance for educators and for students on the safe observation of eclipses, including creative methods for indirect observation, such as through a home-made eclipse projector, or through a colander with circular holes<sup>4,5,7</sup>.
- For eclipse planning:
  - Children should always be supervised during solar viewing activities.
  - Short activities should be considered in addition to observing the eclipse (which will only last a few minutes).
  - Alternate planning should be considered in case of cloudy weather.
- Ensure infants are kept indoors with windows covered or have heads and eyes covered if outdoors during the solar eclipse.
- If possible, avoid child pick up during the solar eclipse event expected to start just prior to 2 pm and end around 4:30 pm.

Q7: Recommendations for outdoor play time

- Eclipse glasses with specialized filters adhering to the ISO 12312-2 international standard can be worn to prevent eye damage. Eclipse glasses must be worn during all times of the eclipse, including before and after partial totality to avoid eye injuries. The eclipse can be safely viewed through an eclipse box, or pinhole projector that can be readily assembled using common household materials.
- Consider rescheduling outdoor playtime for another time of day that does not coincide with the solar eclipse if safe viewing of solar eclipse is not ensured.
- For eclipse planning:
  - Children should always be supervised during solar viewing activities.
  - Short activities should be considered in addition to observing the eclipse (which will only last a few minutes).

- Alternate planning should be considered in case of cloudy weather.
- Ensure infants are kept indoors with windows covered or have heads and eyes covered if outdoors during the solar eclipse.

#### Q8: What are the health risks for younger children?

- Children are especially at risk, as young eyes transmit more light through to the retina than adult eyes. This makes children's eyes more susceptible to damage from intense light<sup>6</sup>.
- Children should always be supervised during solar viewing activities whether indoors or outdoors. When outdoors, ensure children are using appropriate eye protection to view the solar eclipse. When indoors, ensure window coverings are pulled down and children do not go near the window until the solar eclipse is over.

#### Q9: What are some eye safety tips?

- Eclipse glasses with specialized filters adhering to the ISO 12312-2 international standard can be worn to prevent eye damage. Eclipse glasses must be worn during all times of the eclipse, including before and after partial totality to avoid eye injuries. Regular sunglasses will not protect people's eyes<sup>3</sup>.
  - Glasses should be inspected for wrinkles or scratches ahead of use and should not be used if damaged.
  - Ensure that eclipse glasses fully cover your field of vision.
  - Put on glasses when looking away from the sun, then look at the eclipse. Look away from the sun before taking glasses off.
  - Order as soon as possible as arrival may be impacted.
- If appropriate eye protection is not available, stay indoors and away from windows or consider alternate viewing strategies:
  - The eclipse can be safely viewed through an eclipse box, or pinhole projector that can be readily assembled using common household materials. Instructions are available from a variety of agencies<sup>4,6,8,9</sup>.
  - The event will be Live-Streamed. This is an excellent indirect viewing option, particularly if the day is cloudy.
- It is not safe to look at the sun through a camera lens (including phone camera), telescope, binoculars, or any other optical device

## References

1. Eclipse 2024. Available from: <https://eclipse2024.org/eclipse-cities/city/61881.html?searchqry=Mississauga+%28Peel%29+Ontario%2C+Canada>
2. Time and Date. (2024). [Eclipse Path of Total Solar Eclipse on April 8, 2024 \(timeanddate.com\)](https://timeanddate.com).
3. Public Health Ontario (PHO). Response to scientific/technical request: Health protection and planning resources for a total solar eclipse. Feb 6, 2024.
4. Canadian Space Agency. Toolkit for educators and youth – Solar and lunar eclipses. Dec 5, 2023. [Toolkit for educators and youth on lunar and solar eclipses | Canadian Space Agency \(asc-csa.gc.ca\)](https://www.asc-csa.gc.ca)
5. Royal Astronomical Society of Canada (RASC). 2024 Total Solar Eclipse. 2023. Available from: <https://rasc.ca/eclipse2024>
6. Australia Radiation Protection and Nuclear Safety (ARPANSA). Solar eclipse and health | ARPANSA. Jan 31, 2024. Available from: <https://www.arpansa.gov.au/understandingradiation/radiation-sources/more-radiation-sources/solar-eclipse>
7. American Astronomical Society (AAS). Eclipse Planning Resources. Eclipse Planning Resources. Jan 31, 2024. Available from: <https://eclipse2024resources.com/>
8. NASA. Eclipse Safety. Jan 2024. Available from: <https://science.nasa.gov/eclipses/safety/>
9. McMaster University Planetarium. 2024 Eclipse [Internet]. W.J. McCallion Planetarium. Jan 31, 2024. Available from: <https://planetarium.physics.mcmaster.ca/2024-eclipse/>