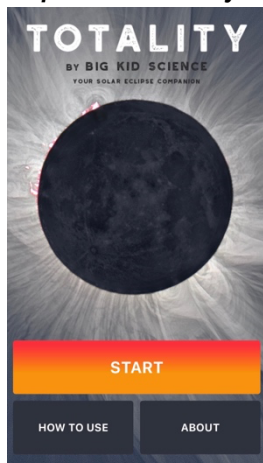


# Q&A with Dr. Jeffrey Bennett

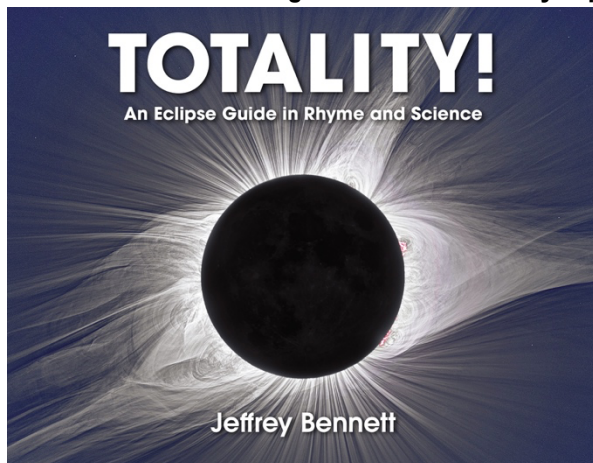
Creator of the FREE Totality App and Author of *Totality! An Eclipse Guide in Rhyme and Science*

## Don't Miss the Great American Eclipse: Monday, April 8, 2024

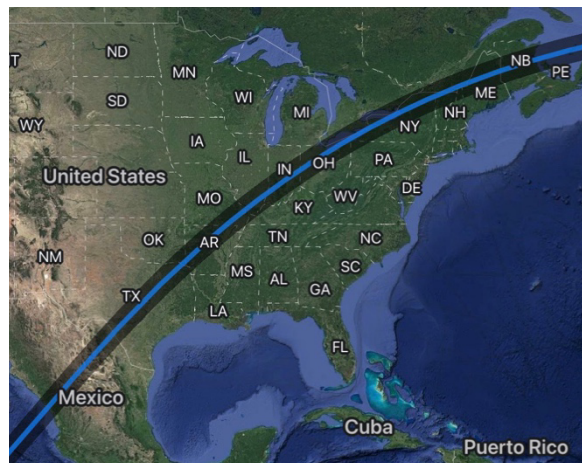
More than 30 million people live directly within the path of totality for the 2024 total solar eclipse, many more live within a short drive of it, and the rest of the mainland United States (and Canada/Mexico) will experience a partial solar eclipse. You don't want to miss this awe-inspiring spectacle of nature, especially if you live in or can travel to the path of totality. To help you prepare, download the FREE app "Totality by Big Kid Science" (sponsored by the American Astronomical Society) and read the book *Totality! An Eclipse Guide in Rhyme and Science*. The following Q&A offers a brief synopsis.



App opening screen.



Cover of the book.



The path of totality for April 8, 2024.

### Q: What is a total solar eclipse?

A: A total solar eclipse occurs when the Moon passes directly in front of the Sun (from your vantage point), blocking the Sun from view so that it becomes dark enough to see the Sun's faint atmosphere (the *corona*) along with planets and bright stars.

### Q: What does it mean to be on the "path of totality"?

A: The path of totality is the narrow path (see map above) in which a total solar eclipse will occur on eclipse day. If you are within the path, you'll first see a partial eclipse in which the Moon will gradually (over about an hour) appear to take a larger and larger "bite" out of the Sun until totality begins. Depending on exactly where you are, totality will last for up to about 4½ minutes, and then a partial eclipse will resume as the Moon gradually appears to move off the Sun.

### Q: What if I'm not on the path of totality?

A: The rest of the mainland US — and most of the rest of North America — will experience a partial solar eclipse. But if at all possible, you should try to get to the path of totality (for the reasons described below).

### Q: How do I know exactly what I'll see and when the eclipse will occur at a particular location?

A: Use the [free app, Totality by Big Kid Science](#). Tap any location to bring up a box of local eclipse circumstances. If the location is in the path of totality, the box will tell you how long totality will last. If the location is not in the path, it will tell you the maximum percentage of the Sun that will be blocked from view. The box will also tell you the local times at which the eclipse begins, reaches maximum (or totality), and ends. Buttons at the bottom offer more details and driving directions to the selected location.

### Q: Is it really worth experiencing totality?

A: Yes! Imagine the day suddenly turning into night, even while the Sun is still high in the sky. For most of human history, such an event — a total solar eclipse — would have surely been frightening. Today, however, we can predict the exact times and locations of total solar eclipses centuries in advance, which means there's no more fear, just an awe-inspiring spectacle of nature. Ask anyone who witnessed totality in 2017 (or any other total solar eclipse), and I guarantee they'll tell you that it is worth your time and effort to get to the path of totality.

### Q: Is there a "best" place to go along the path of totality?

A: The only major difference from one place on the path to another is the length of totality, and while longer is nice, anything with about a minute or more of totality will provide an unforgettable experience. Of course, you'll also want clear skies (so that clouds don't block your view of the Sun), but weather is hard to predict. That said, based on historical data for April 8, the best weather prospects are on the more southern parts of the path (e.g., in Texas). Note: While you can easily watch the eclipse on your own, it's often more fun to watch with a group, so you may wish to look for eclipse events in the area where you plan to be.

### Q: I may be busy that day; can't I just wait for the next one?

A: After April 8, the next total solar eclipse to cross a large portion of the United States won't occur until 2045! (A 2033 eclipse will touch northern Alaska, and one in 2044 will touch Montana and North Dakota.) So don't miss this great opportunity.

**Q: What will I need to view the eclipse safely?**

A: An inexpensive pair of eclipse glasses makes it possible to look up at the Sun throughout the eclipse. (In fact, you can use eclipse glasses to look safely at the Sun at any time.) Just remember two key points: (1) Be sure that you get your eclipse glasses from a reputable source, such as those available through the [Totality app Shop](#) or any vendor listed at [eclipse.aas.org/resources/solar-filters](http://eclipse.aas.org/resources/solar-filters); (2) you should never look up at the Sun without your eclipse glasses except during totality, when you can and should remove them.



**Q: I live on the path; what do I need to do?**

A: Make sure that you: (1) won't be traveling away from the path that day; (2) will have a clear view of the Sun during the eclipse; and (3) have eclipse glasses and follow safe viewing instructions as above. Note: You may wish to drive closer to the centerline, but as noted earlier, you should be fine staying put if you have a minute or more of totality.

**Q: I live really close to the total path (e.g., I'll have more than a 90% partial eclipse); should I still go to the path?**

A: YES!!! You may be tempted to think that a 90% or 99% or even 99.9% partial solar eclipse will give you an “almost” total experience — *but it won't*. Even at 99.9% partial solar eclipse, the sky is still hundreds of times brighter than it is during totality. That means you'll miss the most incredible parts (like seeing the corona and stars/planets) unless you make the short drive to the full path. So be sure to check your location in the Totality app, and if you are within a reasonable drive of the path, plan ahead to make that drive.

**Q: The April 8 eclipse day is a Monday; what can schools do?**

A: First, check whether your school is on or near the path of totality; if it is “near,” then for the reasons above, try to find a way to get everyone to the path of totality on eclipse day. Beyond that, make sure that: (1) your school will allow all kids to be outside watching the eclipse, no matter whether the school is on the path of totality or will have only a partial eclipse; (2) the school has eclipse glasses on hand for all students; and (3) the school will excuse absences for kids who have an opportunity to travel to the path of totality. Note: You might wish to invite parents and community members to come to the school's eclipse watching event, and suggest that those who have them bring binoculars or telescopes with safe solar filters.

**Q: How can I learn more about eclipses and the science behind them?**

A: There's lots of eclipse information out there on the web, but I suggest starting with the information available on the [Totality app Learn screen](#) or by reading my book, *Totality! An Eclipse Guide in Rhyme and Science*. Note that both of those include sets of activities that parents or teachers can do with children.

**Q: Can you tell us a little more about the book?**

A: *Totality! An Eclipse Guide in Rhyme and Science* is a 32-page, full color book. Although aimed primarily at children (especially those in about grades 3 and up), the book can serve as a fairly complete introduction to eclipse science for readers of any age. Each page features a rhyming couplet that has been carefully constructed to serve as a mnemonic device for the science that is then explained through illustrations and “Big Kid Box” sidebars. The book concludes with a glossary, suggested activities, and an eclipse science summary. It retails for \$19.99 (e-book \$8.99); bulk discounts are available for schools or school districts.

**Q: Are you available to come talk to our community?**

A: Yes. I frequently visit schools and speak to the public on a variety of science topics, and offer a “free visit program” to a limited number of communities. You can find details at [www.jeffreybennett.com/events/](http://www.jeffreybennett.com/events/).

**Q: Regarding your book: any chance you could get an astronaut to read it to us from the International Space Station?**

A: So glad you asked! The amazing Story Time From Space program ([storytimefromspace.com](http://storytimefromspace.com)) has posted three videos in which astronaut Steve Bowen reads the rhyme from my book and conducts related science demos from the International Space Station (photo at right). Be sure to check them out, and if you are a teacher, consider sharing the videos with your students prior to April 8!



Questions? Email author Jeff Bennett,  
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