The Great American Total Eclipse

Dr. Doug Duncan
How many of you have seen a TOTAL solar eclipse?

It has been almost 40 years since a TOTAL eclipse came to the US…
Young Tom Edison...
May 7, at Fiske Planetarium, CU
What you will see…

Outside of totality

In the total eclipse band
Think of it as 10% of the Sun still there!

Don’t think of this as 90% eclipse
Make a “pinhole camera”

- Place two cards or sheets of paper with a small hole in one of them.
- Ensure the cards are at least 1 meter apart.
- The hole in the card should be aligned with the opening in the other card.
- Face the cards towards the Sun, and you will observe an image of the Sun through the hole.

**Source:** ROYAL ASTRONOMICAL SOCIETY
Leaves making “pinhole cameras”
If there are mountains in the distance...
Baily’s beads
Prominences...
The outer layers of the sun are the photosphere, the chromosphere, and the corona...
Normally, you see the photosphere...
Above the photosphere is the *chromosphere*, which astronomers study using satellites that have ultraviolet sensitive cameras...
And above the chromosphere is the *corona*, that can be seen by X-ray sensitive cameras...
Watch what animals do! Birds. Cows. Buffalo?!

..\eclipsevideo+still\Animals at Total Eclipse.mp4
The unedited video
30s in
Help people view and make $5,000 for your school or yourself…!

-McGuckin
Science at eclipses
Distance from the Earth to the Sun is more than 93,000,000,000,000 miles.

This diagram shows the proportional displacement of the stars in relation to the distance from the Sun. The amount of displacement is exaggerated about 500 times.

Showing path of total eclipse of May 29-30, 1919, and positions of the two observation stations.

The observation station at Sobral, in Brazil.
Testing General Relativity

New York Times,
November 10, 1919

LIGTHS ALL ASKEW
IN THE HEAVENS

Men of Science More or Less Agog Over Results of Eclipse Observations.

EINSTEIN THEORY TRIUMPHS

Stars Not Where They Seemed or Were Calculated to be, but Nobody Need Worry.
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