

SAFELY OBSERVING THE SUN

WARNING!

Except during the total phase of a total solar eclipse, do not look at the Sun without special eye protection. BEFORE EACH USE: Check the front and back of each lens for damage such as scratches, pinholes, or separation from the frame.

DO NOT USE IF DAMAGED! Cut glasses into small pieces and discard.

DO NOT attempt to clean or disinfect eclipse glasses except with a soft, dry, nonabrasive tissue or cloth.

View the eclipse with special eclipse glasses

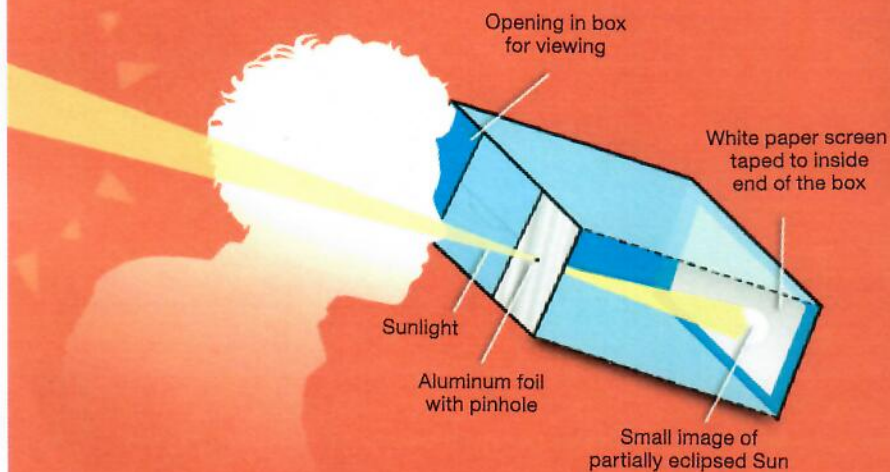


YES!



NO!

Sunglasses are not safe to view the eclipse



Make Your Own Eclipse Projector

You can make this simple eclipse projector with almost any cardboard box, paper, tape, and foil. The longer the distance from the pinhole to screen, the larger the image of the Sun will be.

More Ways to Experience the Eclipse

You can access more exciting information about this eclipse, including downloadable activities, information about our Sun, and alternative ways to view the eclipse at solarsystem.nasa.gov/eclipses.



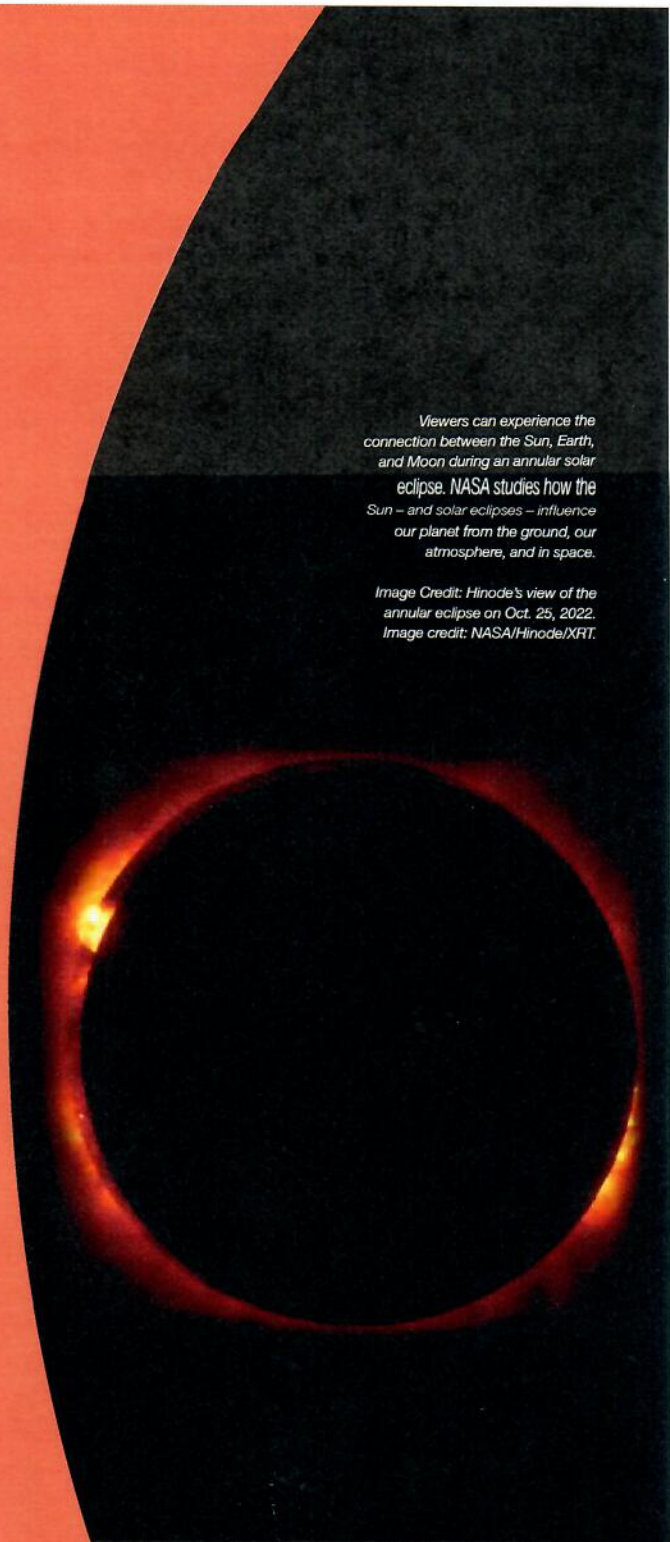
Eclipses in the United States

The next solar eclipses that cross the United States are on Saturday, October 14, 2023 (annular solar eclipse) and Monday, April 8, 2024 (total solar eclipse).

This product is supported by the NASA Heliophysics Education Activation Team (NASA HEAT), part of NASA's Science Activation portfolio.

Viewers can experience the connection between the Sun, Earth, and Moon during an annular solar eclipse. NASA studies how the Sun – and solar eclipses – influence our planet from the ground, our atmosphere, and in space.

Image Credit: Hinode's view of the annular eclipse on Oct. 25, 2022. Image credit: NASA/Hinode/XRT.



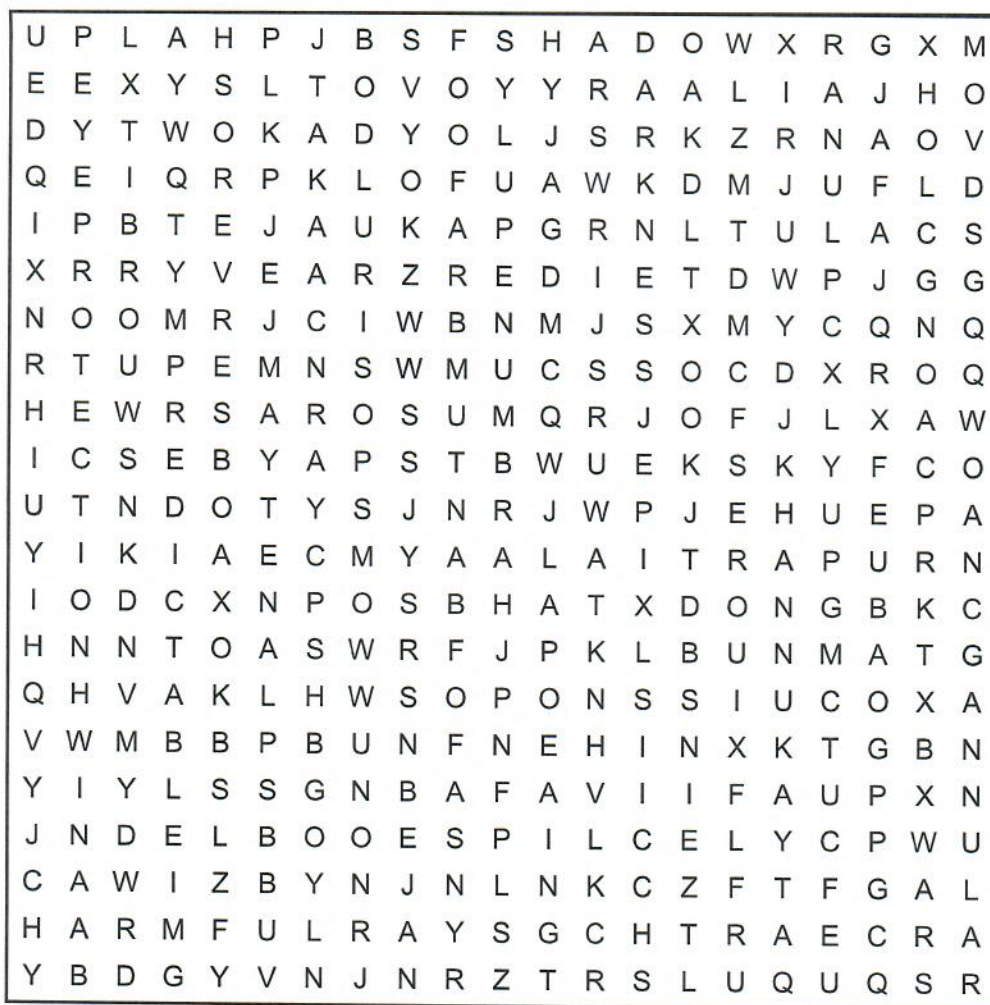
ECLIPSE
2023 THROUGH THE EYES OF NASA

NP-2022-7-807-GSFC

Name: _____ Date: _____

Eclipse Word Search

DIRECTIONS: Find and circle the vocabulary words in the grid. Look for them in all directions including backwards and diagonally.



ANNULAR
ANTUMBRA
BLOCK
CORONA
DARKNESS
EARTH
ECLIPSE
EYE PROTECTION

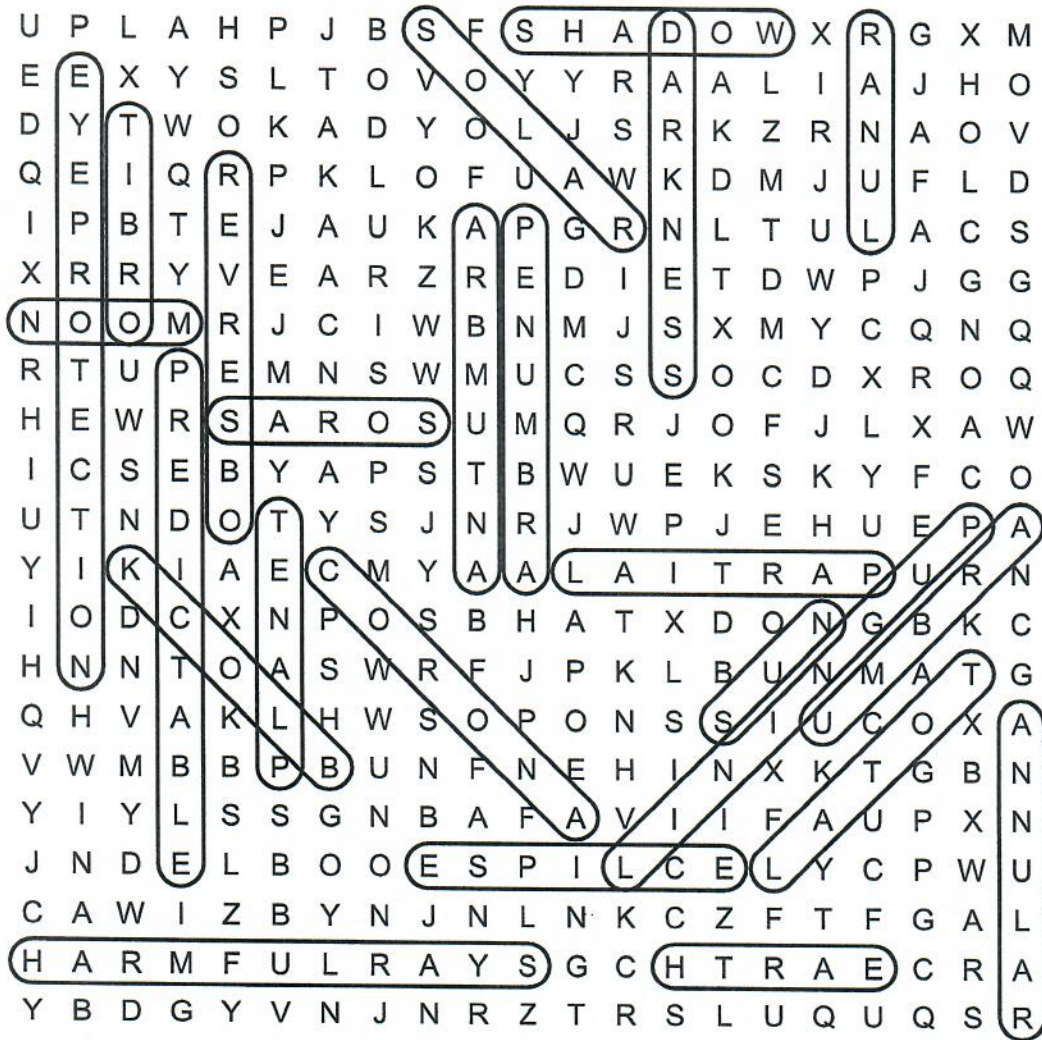
HARMFUL RAYS
LINING UP
LUNAR
MOON
OBSERVER
ORBIT
PARTIAL
PENUMBRA

PLANET
PREDICTABLE
SAROS
SHADOW
SOLAR
SUN
TOTAL
UMBRA

Eclipse

Word Search

SOLUTION



How to Make a Solar Eclipse Viewer



WHAT IS A SOLAR ECLIPSE VIEWER

Everyone knows that staring directly at the sun is a bad idea, but why is it such a big deal during a solar eclipse? To put it simply, when the eclipse occurs, it gets dark outside. Your eyes dilate to let in more light, and if you're looking at the sun when it is exposed again, it can burn your retinas. When the eclipse ends, it's instantly brighter and that is when the danger occurs.

A solar eclipse viewer solves this problem by using a pinhole to project the image of the sun onto a surface. You can watch the sun's projection as the eclipse occurs with no fear of damage to your eyes.

If you haven't been able to find solar eclipse glasses, this is a simple, inexpensive option that kids can help build!

SUPPLIES NEEDED TO MAKE A SOLAR ECLIPSE VIEWER

Cereal Box, White Paper, Scissors, Tin Foil, Nail, Pencil, Tape

DIRECTIONS TO MAKE A SOLAR ECLIPSE VIEWER FROM CEREAL BOX

STEP 1

Trace the bottom of the cereal box onto the white paper. Cut out the paper and tape it to the inside bottom of the box.

STEP 2

Cut off the side tabs on the top of the box. Cut part of the remaining tabs to create two holes on either side of the top of the cereal box. Tape closed.

STEP 3

Fold the tin foil in half and form it over the hole on the right. Tape it into place.

STEP 4

Use the nail to create a pin hole in the center of the tin foil.

Now, your solar eclipse viewer is ready!

HOW TO USE A SOLAR ECLIPSE VIEWER SAFELY

- During the eclipse, turn your back to the sun and look through the hole on the left.
- Adjust angle of the box until you see the sun's projection through the pinhole onto the white paper inside the box.

For more info: <https://science.nasa.gov/eclipses/future-eclipses/eclipse-2023>

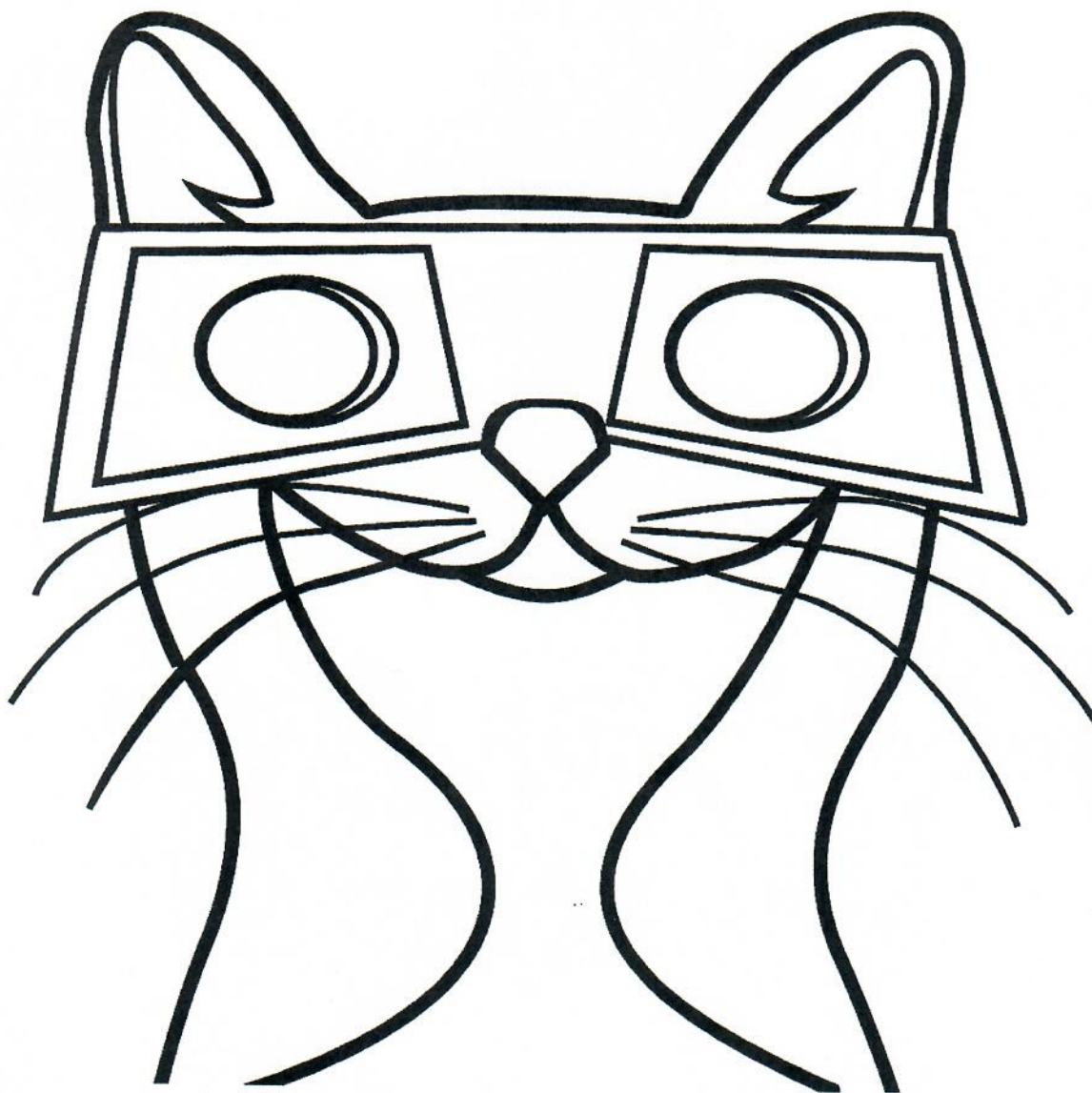
Compliments of the Runnemede Public Library





Solar Eclipse April 8, 2024

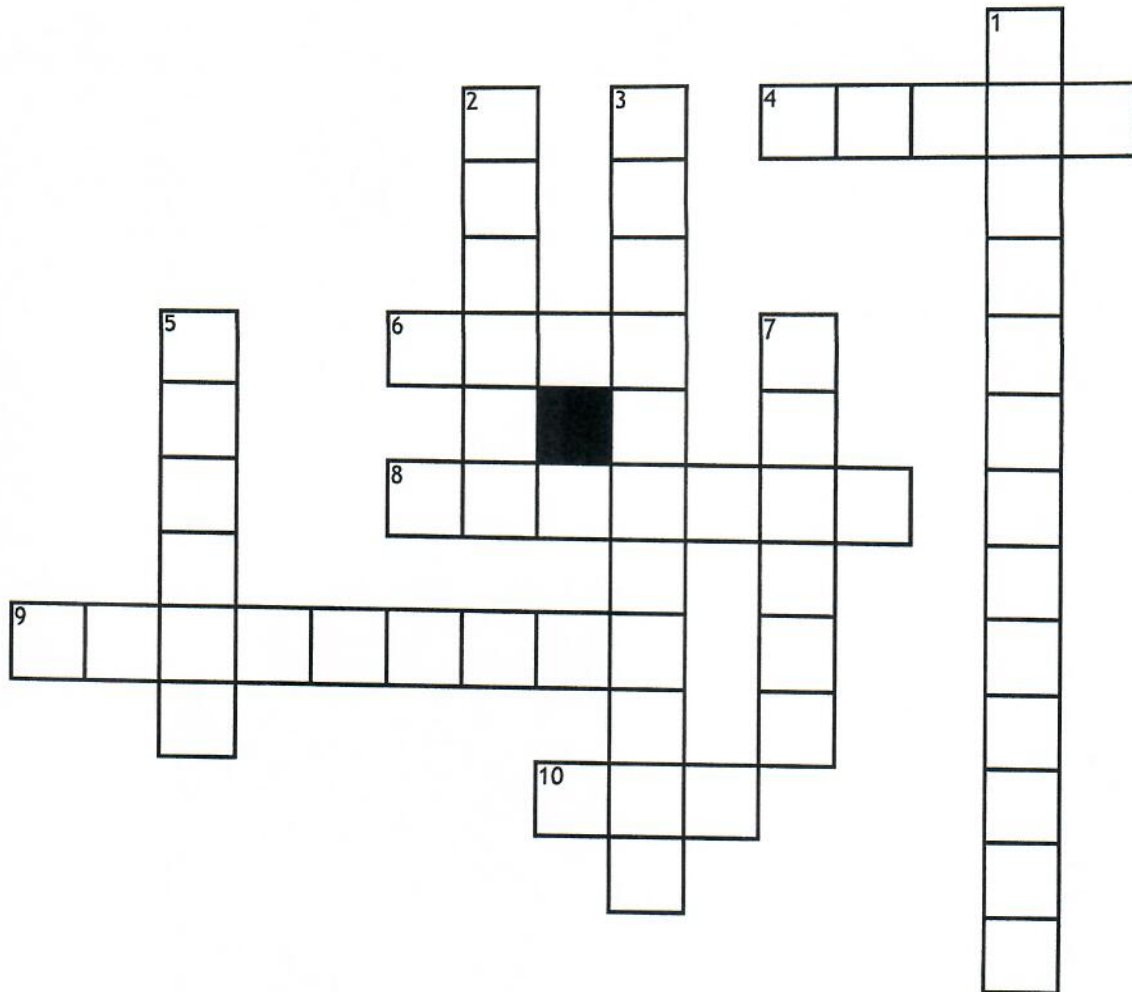
KEEP
LOOKING
UP



Name: _____

Date: _____

Solar Eclipse

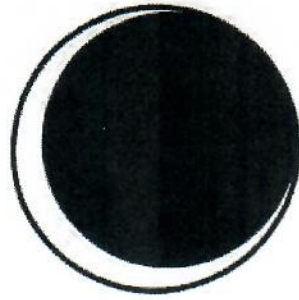


Across

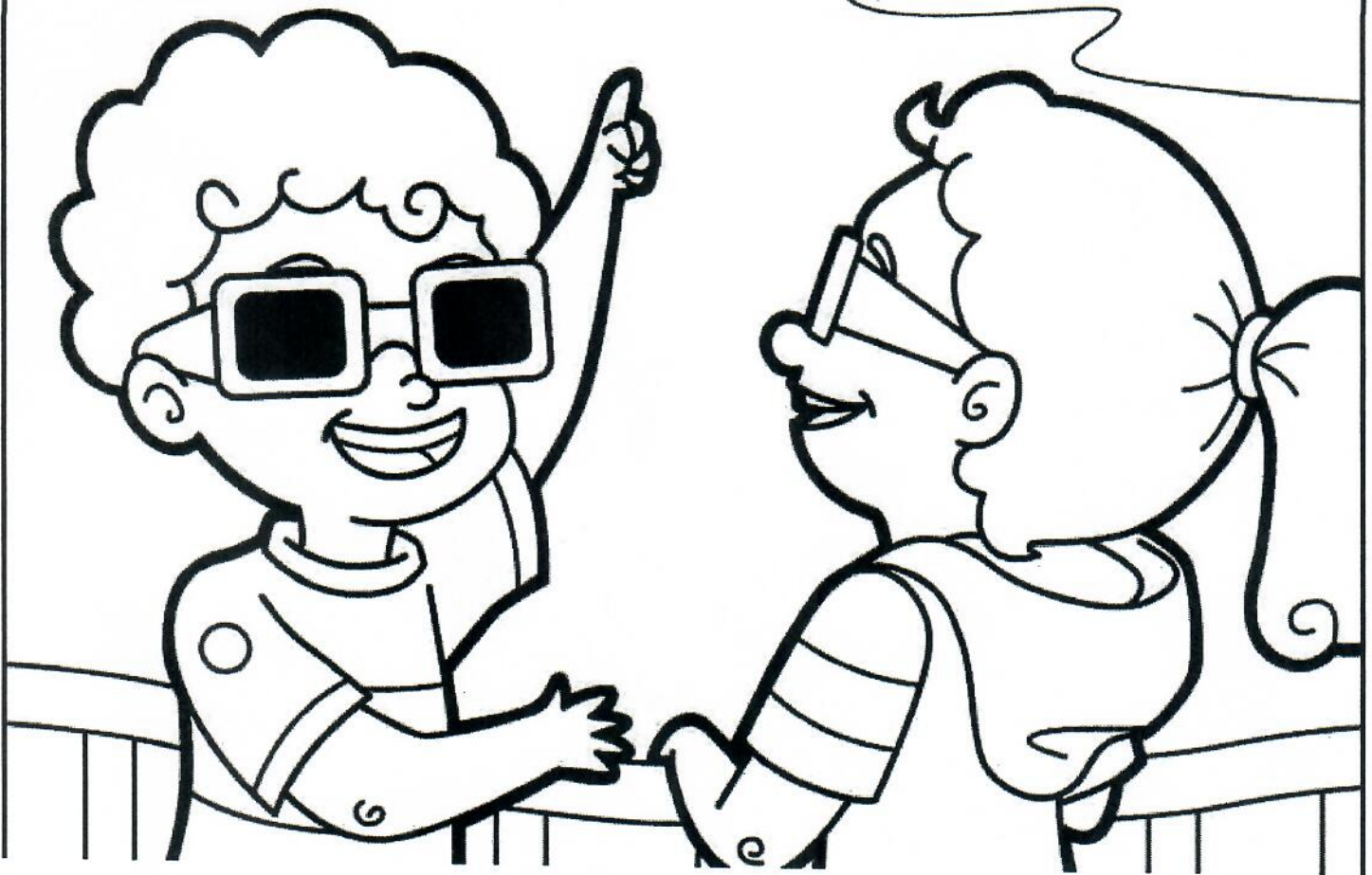
4. What constellation is famous for his belt of three stars?
6. A body that goes around the Earth
8. In Michigan we can see a _____ eclipse.
9. Who is the "great bear"? (2 words)
10. Don't look directly at this without special glasses!

Down

1. What is another name for a group of stars?
2. What is the aura of plasma that surrounds the sun and other stars?
3. What did the Curious Kids Museum bring to the library so we could see the stars indoors?
5. What month will the total solar eclipse occur during?
7. The moon causes a _____ during a total eclipse.



ECLIPSE



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Solar Eclipse!

L L N E G E K A A F W S Y B N
L E A K D Q C N O O M E T Q U
W A Y I V I T L D I R D I N S
X M I E T U A A I E R O L O D
Y V S T M R H M H P P N A I R
E P O B R S A P O A S D T T I
C O R O N A S P N N U E O A N
L A A C Y O P O O R D B T R G
I P S R M D O S A A R B M U D
P G H O I M A T T N E E M C A
T P R S I E I H L N S W L S R
I H K C S O A L D U M T U B K
C K N R N T O T A L I T Y O D
E A R T H U M B R A P H I L E
E D U T I N G A M R B A N D S

annular
Chromosphere
Diamond
earth
eye
Moon
obscuration
ring
shadow
Totality

Antumbra
Corona
disk
eclipse
magnitude
New
partial
Saros
sun
umbra

Find the word in the puzzle. Words can go in any direction.
Words can share letters as they cross over each other.