



Welcome to Space!

Get ready to crack the mystery of solar eclipses!

Today we're going to space to discover how the Sun, Moon and Earth line up to create this amazing shadow in the sky.

Let's begin our cosmic adventure!



Archie from the
Intrepid Explorers



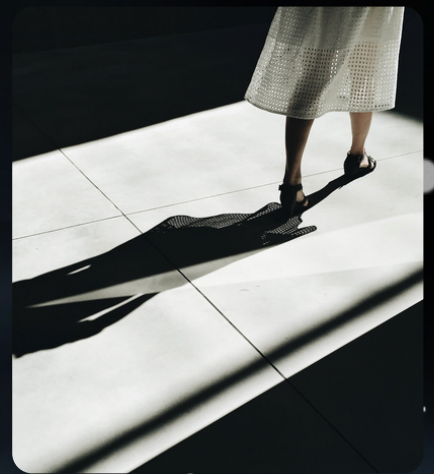
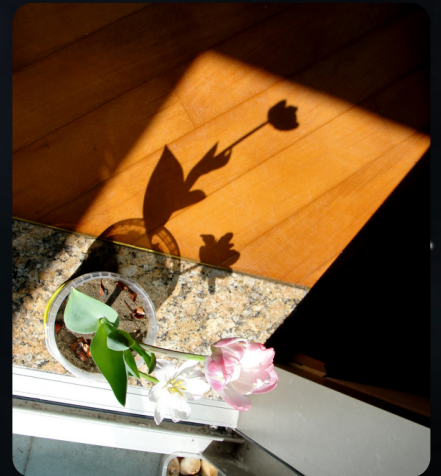
LET'S TALK ABOUT SHADOWS



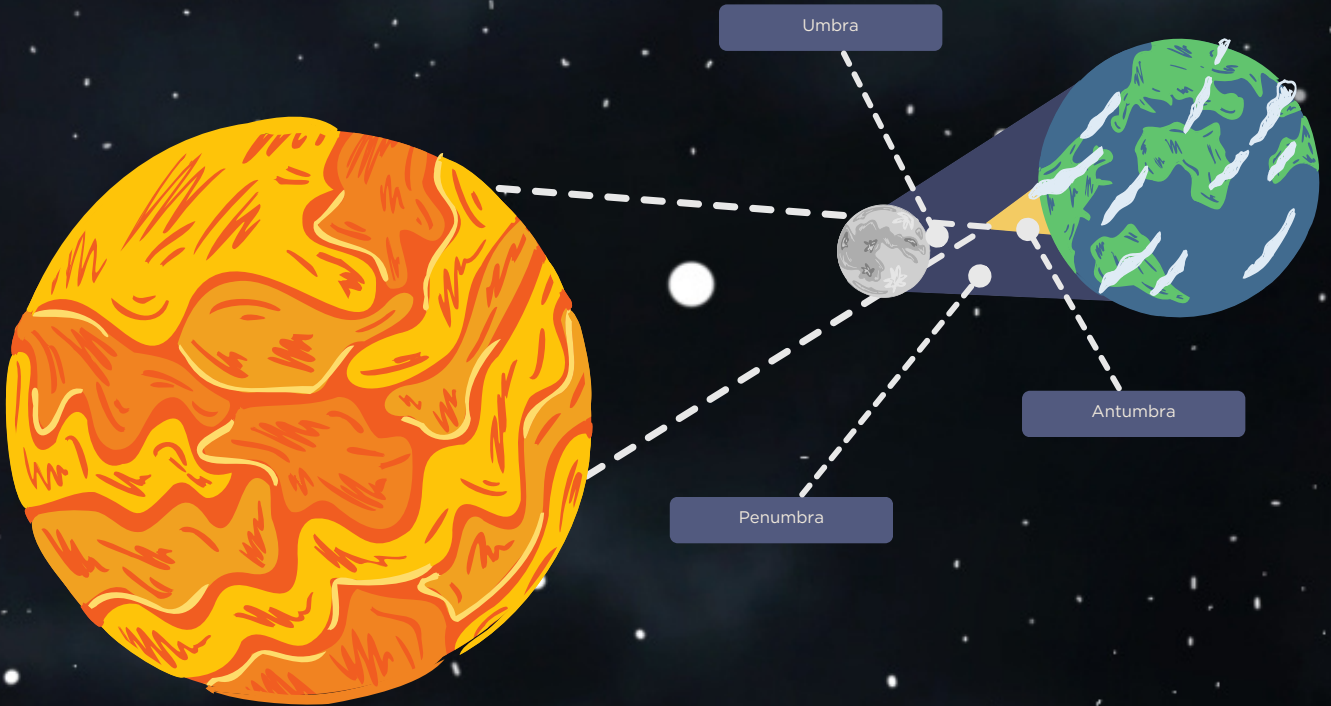
A SHADOW IS FORMED WHEN AN OBJECT OBSTRUCTS THE PATH OF LIGHT.

Shadows are the dark shapes that are made when something blocks the light from a bright source, like the Sun or a lamp.

When an object gets in the way of the light, it creates a shadow on the surface behind it. Shadows look darker because they don't have as much light as the areas around them.



TYPES OF SHADOWS



01

UMBRA

The darkest part of a shadow where the light source is completely blocked.

02

ANTUMBRA

A lighter shadow surrounded by a darker region, is observed during certain conditions like solar eclipses.

03

PENUMBRA

The penumbra can be seen as the partially shaded area surrounding the umbra.



Ruby from the
Intrepid Explorers

WHAT'S AN ECLIPSE?



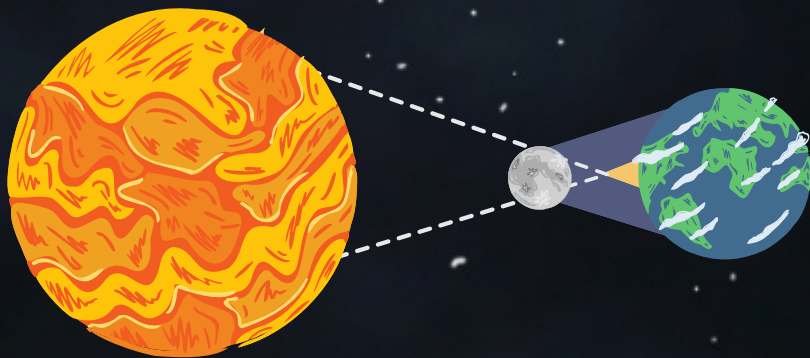
AN ECLIPSE OCCURS WHEN ONE CELESTIAL BODY PASSES THROUGH THE SHADOW OF ANOTHER CELESTIAL BODY.

An eclipse is a celestial event in which one astronomical body, such as a planet or moon, passes into the shadow of another celestial body, causing a temporary reduction or complete obstruction of light.

On Earth, the most common types of eclipses are solar eclipses, where the Moon passes between the Sun and Earth, and lunar eclipses, where Earth comes between the Sun and the Moon.

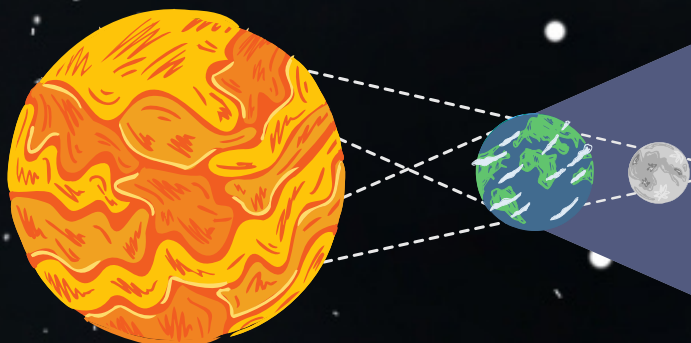


TYPES OF ECLIPSE



SOLAR ECLIPSE

A solar eclipse occurs when the Moon passes between the Sun and Earth, blocking or partially blocking the Sun's light. This can result in a partial or total obscuration of the Sun as seen from Earth.

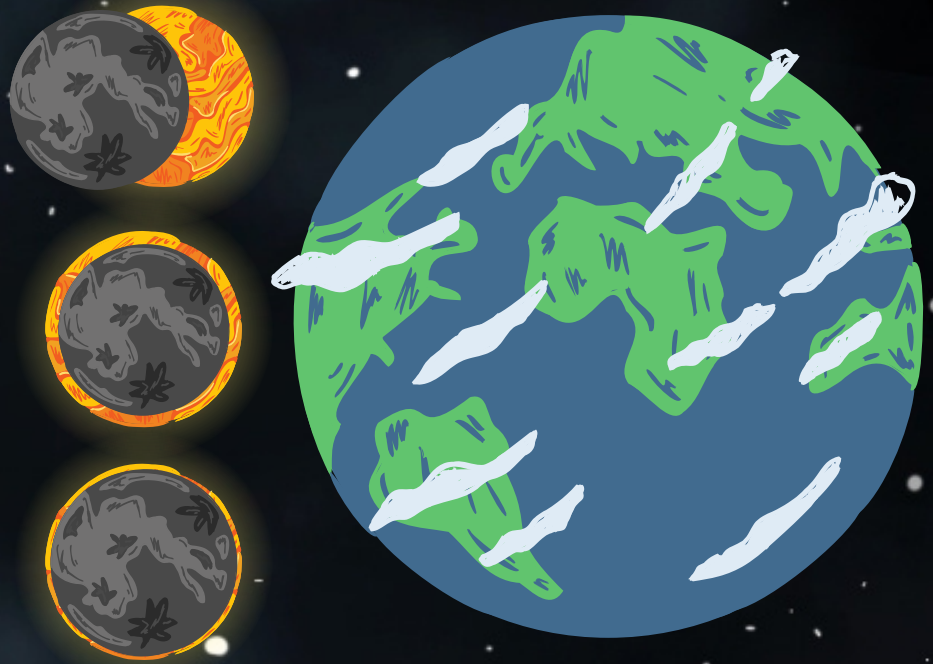


LUNAR ECLIPSE

A lunar eclipse takes place when Earth comes between the Sun and the Moon, causing Earth's shadow to be cast on the lunar surface. This results in a darkening or reddening of the Moon.



SOLAR ECLIPSE



A SOLAR ECLIPSE OCCURS WHEN THE MOON PASSES BETWEEN THE SUN AND EARTH.

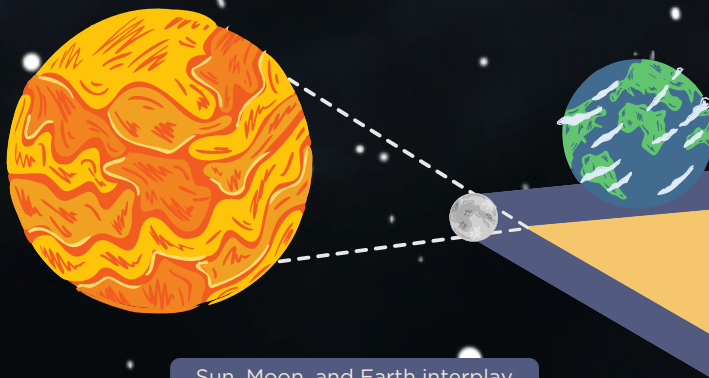
This can result in a partial or total obscuration of the Sun as seen from Earth. During a total solar eclipse, the Sun is entirely covered by the Moon, casting a shadow on a specific region of the Earth.

There are three types of solar eclipses: partial solar eclipses, annular solar eclipses, and total solar eclipses.

PARTIAL SOLAR ECLIPSE

MOON PARTIALLY COVERS THE SUN, CASTING ONLY A PORTION OF ITS SHADOW ON EARTH.

From the perspective of an observer, it appears as if a bite has been taken out of the Sun. Partial solar eclipses are more common than total eclipses and can be seen from a broader geographic area.



Sun, Moon, and Earth interplay

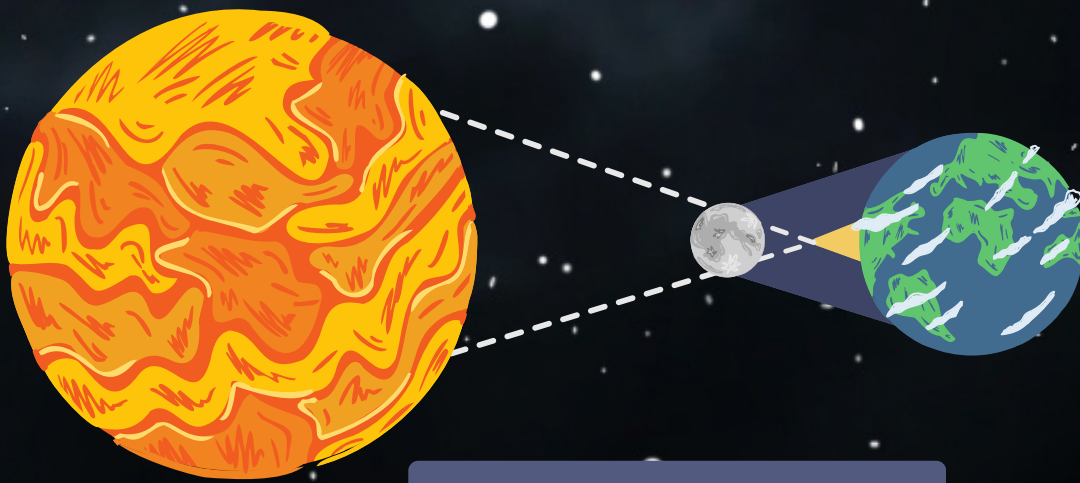


This is what you see from earth.

ANNULAR SOLAR ECLIPSE

ANNULAR ECLIPSES HAPPEN WHEN THE MOON IS NEAR ITS APOGEE.

An annular solar eclipse occurs when the Moon is too far away from Earth to completely cover the Sun's disk. As a result, a ring-like appearance, known as the "ring of fire," is visible around the edges of the Sun.



Sun, Moon, and Earth interplay



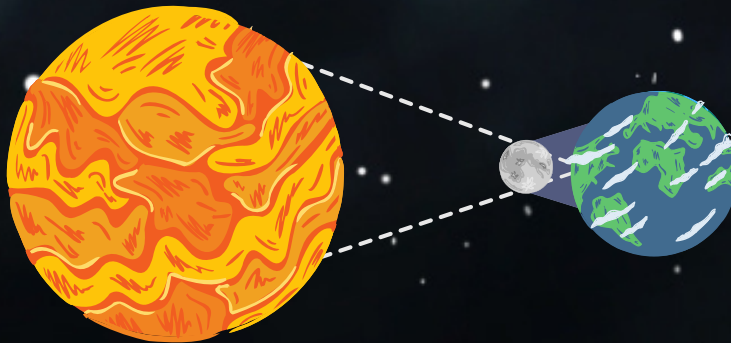
This is what you see from earth.

TOTAL SOLAR ECLIPSE

THE MOON COMPLETELY COVERS THE SUN, BLOCKING ITS ENTIRE DISK.

This results in a brief period of darkness known as totality, where the Sun's outer atmosphere, the corona, becomes visible. Total solar eclipses are mesmerising celestial events but are visible only within a narrow path on Earth.

The Moon completely covers the Sun, blocking its entire disk.



Sun, Moon, and Earth interplay



This is what you see from earth.

ECLIPSE SAFETY



SOLAR VIEWING GLASSES

Use certified solar viewing glasses that meet the international safety standard. These glasses block harmful ultraviolet, visible, and infrared radiation.



QUIZ TIME!



1. What happens during a solar eclipse?

- A. Earth passes between the Sun and Moon
- B. The Moon passes between the Sun and Earth
- C. The Sun passes between Earth and the Moon

2. What is a lunar eclipse?

- A. When Earth's shadow falls on the Moon
- B. When the Moon's shadow falls on Earth
- C. When the Sun disappears



3. During a total solar eclipse, what can become visible?

- A. The Moon's surface
- B. The stars at midday
- C. The Sun's outer atmosphere, called the corona

4. Which type of solar eclipse can be seen from the largest area?

- A. Partial
- B. Total
- C. Annular

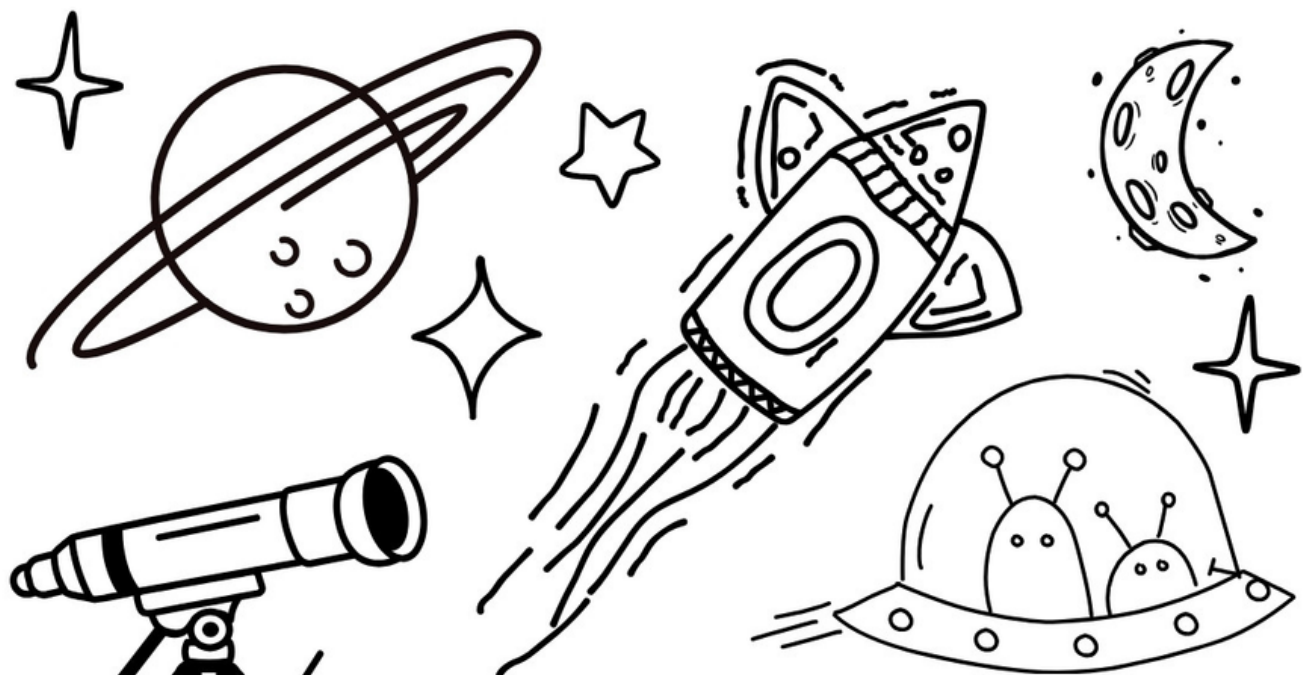


5. What is the darkest part of a shadow called?

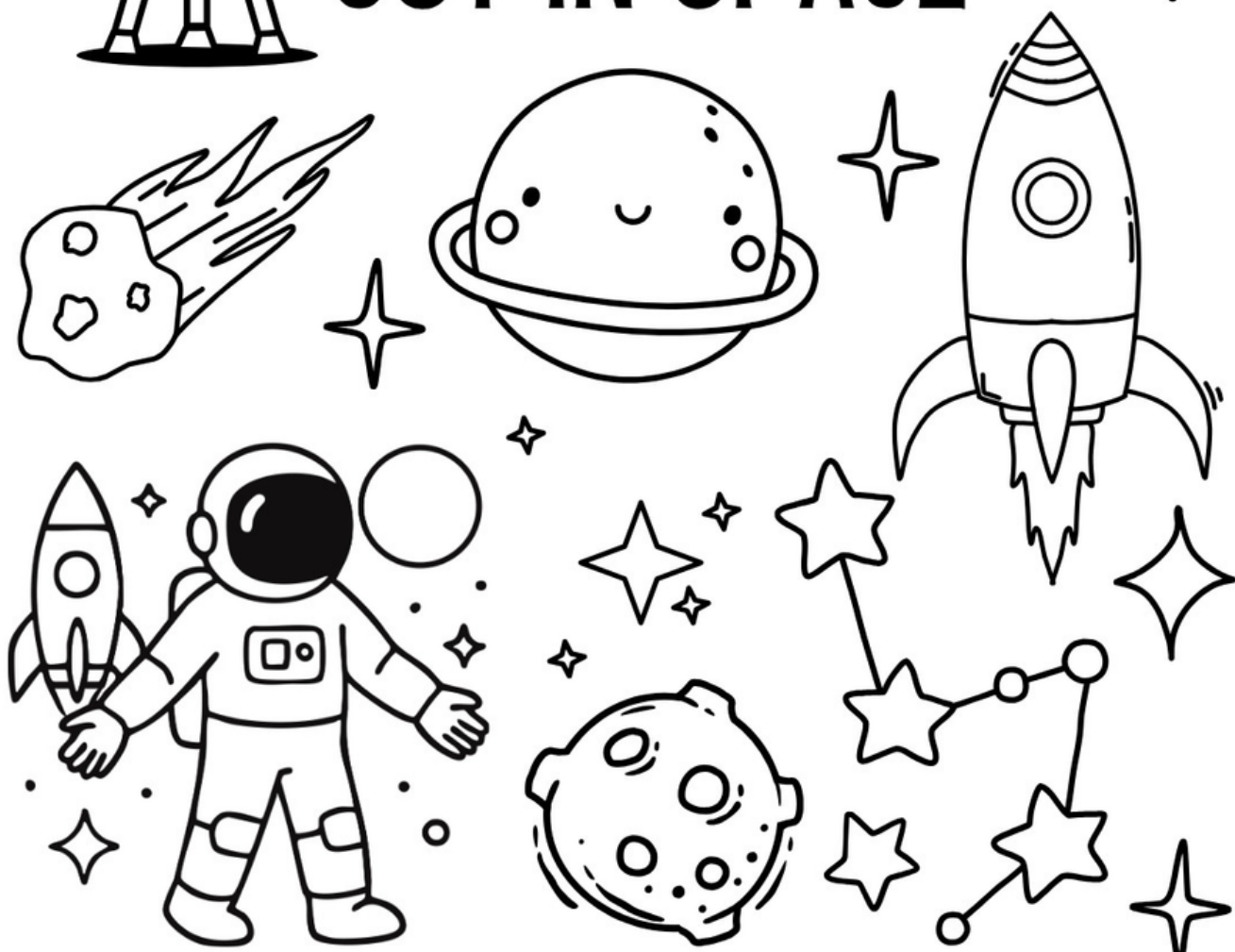
- A. Penumbra
- B. Umbra
- C. Corona



COLOURING ACTIVITY



OUT IN SPACE





EXPLORING SPACE WORD SEARCH



Can you find the words hidden in the puzzle?

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

ASTRONAUT

LAND

TAKE OFF

EARTH

SPACE SUIT

FLOAT

DO EXERCISE

MOON

ROBOT ARM

GRAVITY

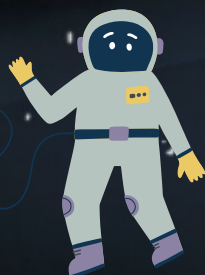
SPACE SHUTTLE

SUN



SPACE MAZE GAME

Help the Rocket Get to the Moon



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SCAN FOR
MORE
INFORMATION



FINLAND!

