



TOPIC- OUR EARTH'S NATURAL SATELLITE

SUB-TOPIC: - THE CONDITIONS ON MOON

NAME - _____ CLASS V/ SEC _____ Week – 14/12/2020 to 18/12/2020

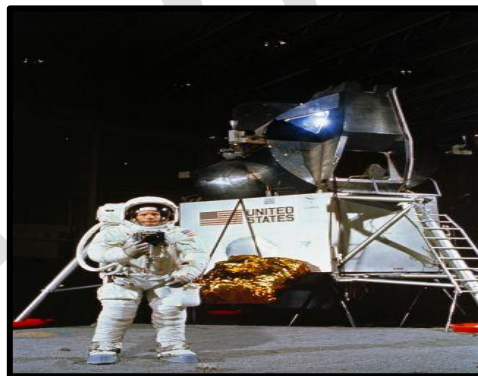
LEARNING OUTCOMES:-

EACH CHILD WILL BE ABLE TO:

- 1. DESCRIBE AT LEAST THREE CONDITIONS PREVAILING ON MOON.**
- 2. GIVE AT LEAST THREE REASONS WHY LIFE IS NOT POSSIBLE ON MOON.**

Man has always been fascinated by the MOON and has always dreamt of travelling to moon.

It is a long way indeed to the moon, but man has made that historical trip. The first men to land on the moon were the crew of the American space mission, **Apollo 11**. It was launched from the Kennedy Space Centre at Florida, on July 16, 1969. Apollo 11 carried three American astronauts- **Neil Armstrong, Edwin Aldrin, and Michael Collins**.



Armstrong was the first to step out, and thus became the first man to set foot on the moon on July 20, 1969.

His first words on taking his first step on The surface of the moon were...

He and Aldrin stayed for two and a half hours and collected rock samples to bring back to the Earth.



'That's One small step by man; but one Giant Leap for Mankind'.

After this there have been many more visits to the moon and man has landed on and explored the surface of the moon, and now we know a lot more about our only natural satellite.

Can you ever imagine what it would be like, living on the moon which is desolate, without any people and vegetation around!!!

CAN LIFE EXIST ON THE MOON ?

The moon which looks so pretty from the Earth, is in fact a dark, desolate, and silent place. It is lifeless as no living organism, as we know them, can survive there.

Let us find out the reasons....

- There is no evidence to suggest that life has ever existed on the moon, as it has **no oxygen or water**, nothing can survive there.



(When astronauts travel to moon, they need to carry sufficient supply of OXYGEN CYLINDERS and DRINKING WATER with them to be able to breathe.)

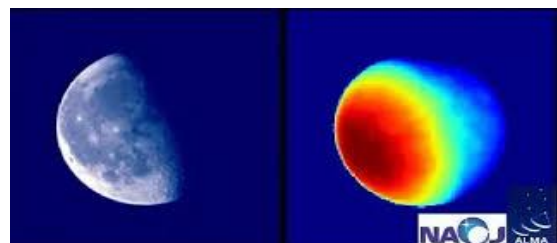
- The moon has **no layer of atmosphere** at all to filter the dangerous **ultraviolet or infrared radiation** of the sun. These rays damage the living cells.



(The spacesuits worn by the astronauts provide protection from these harmful rays).

- The side of the moon facing the sun is **extremely hot** and the side away from the sun is **too cold** to support any life.

[Daytime temperatures near the lunar equator reach a boiling **250 degrees Fahrenheit** (120° C, 400 K), while night temperatures get to a chilly **-208 degrees Fahrenheit** (-130° C, 140 K). The Moon's poles even colder.]



are

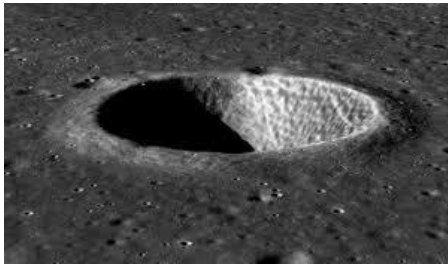
- As there is no air on moon, **no sound can be heard** on the moon.



(The astronauts have devices in their helmets which **can** help them to **communicate** with each other on **moon using radio waves**.)

- The surface of the moon is not a suitable habitat for any living being. It is a rough and uneven terrain. It is absolutely dry, dusty, and covered with dark grey, powdery soil. There are big hollows called CRATERS (visible from earth as dark spots on the moon's surface).

The craters differ in size and depth-some of them are 32 to 48 km wide.



Scientists think that these craters were formed by the impact of Meteorites (huge pieces of rocks) crashing on to the surface of the moon, as the moon does not have a protective shield of atmosphere around it .

The moon also has some flat valleys and steep and high mountains-some of them are as high as eight km!

- The gravitational force of the moon is much weaker than that of the Earth. This is due to the fact that the moon is much smaller than the Earth. The moon's gravity is only one-sixth of the Earth. So, the objects feel much lighter. ($1/6^{\text{th}}$ of the weight on the earth).

Though your weight would be reduced, and you would be able to jump higher or lift heavy objects easily, walking on the moon ,maintaining proper balance would not be easy at all!!!



You can learn more about the historic Apollo 11 mission by clicking on the following link:

<https://youtu.be/cwZb2mqId0A>

<https://youtu.be/nOcDftgR5UQ>

ACTIVITY TIME

Creating moon phases

As we know, when the moon revolves around the Earth, its shape appears to change day by day. These changing shapes of the moon are called **Phases of the Moon**.

The shapes during a particular phase, as visible from the earth depends on the part that is lit up by the sun rays.



LET US NOW TRY TO CREATE THESE PHASES OF THE MOON...

{FUN OREO MOON PHASES}

THINGS YOU WILL NEED:-

- A pack of Oreo biscuits
- A butter knife
- A fork
- A paper plate
- Marker pens



HOW TO MAKE THE PHASES OF THE MOON WITH OREOS!!!

- 1: Open up a pack of Oreo biscuits and twist 8 cookies carefully apart.
- 2: Use the edge of the fork to draw a line down the centre of the icing, carefully scrape off half the icing, and set onto the top of the paper plate to begin your first quarter Moon cycle.
- 3: Work from left to right on your cookie moon cycle, with next being waxing gibbous. Use the fork to draw the line, scrape off the icing, and set on the left of the first quarter Moon.
- 4: Work your way around: full Moon, waning gibbous, third quarter, waning crescent, new, waning crescent, and back to the first quarter.
- 5: Once all the Moons are on the plate in a circle, carefully draw the Earth in the centre with markers.
- 6: Use a marker or pen to write which Moon phase each cookie represents next to the appropriate Moon cookie model.

LET'S REVISE

(TO BE DONE IN THE NOTEBOOK)

Q 1. Give one-word answers for the following:-

- a) Deep holes on the surface of the moon_____.
- b) Rock particles colliding with the moon to form large holes on its surface_____
- c) The spacecraft that carried Neil Armstrong to the moon_____.
- d) The distance you have to cover on your journey to the moon_____.
- e) Time taken by the moon to revolve once around the earth_____.

Q2. Imagine yourself having to spend a day on the moon. What are the hurdles you have to face? How would you overcome these? (Discuss any 5 points)
