

Class 8 Academic Program-2020

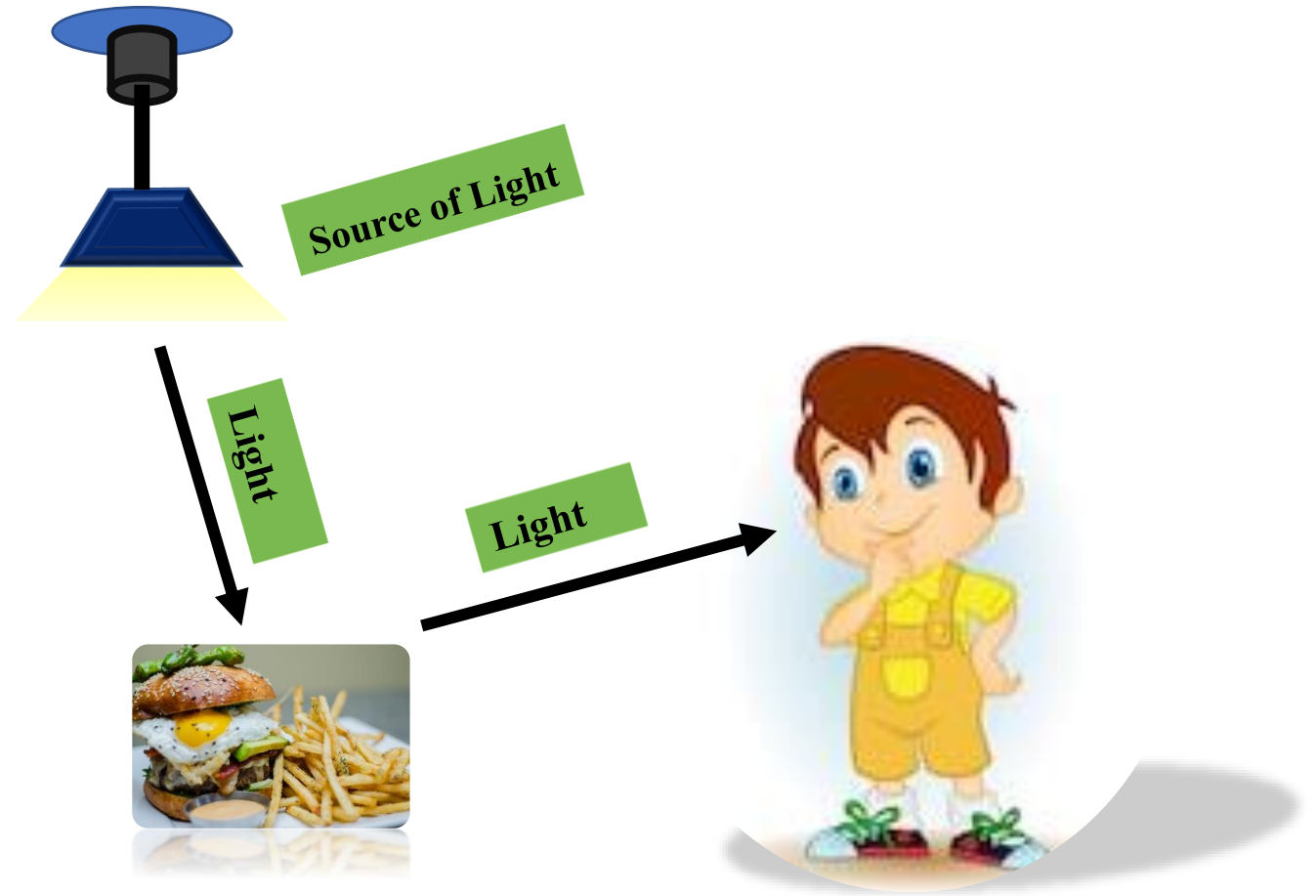
SCIENCE

Lecture : S-12

Chapter 12 : The outer space and Satellite



Previous Chapter Synopsis



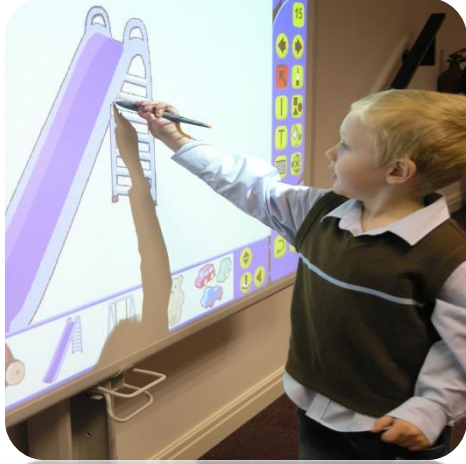
Source of Light – Object – Eyes – Retina - Brain

Questions that might appear....

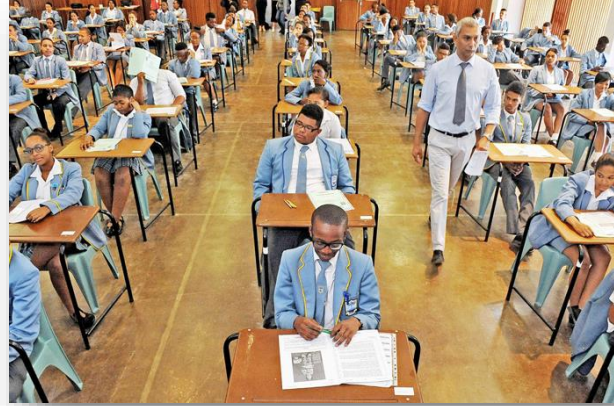
1. What is light?
2. What is the refraction of light?
3. What is total internal reflection?
4. What is the critical angle?
5. What is optical fiber?
6. What is magnifying glass?
7. Located inside the focus
what'd be the nature of the reflection of an
object in a convex lens?
8. Every parts of the Human eye.
9. What is shutter / diaphragm / developer / hypo solution?
10. Write the conditions of total internal reflection.
11. Write how the camera works.
12. Write about the structure of the camera.
13. Write the differences between the human eye and the camera.



The Way we'd be learning...



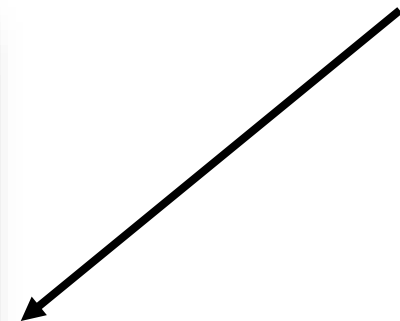
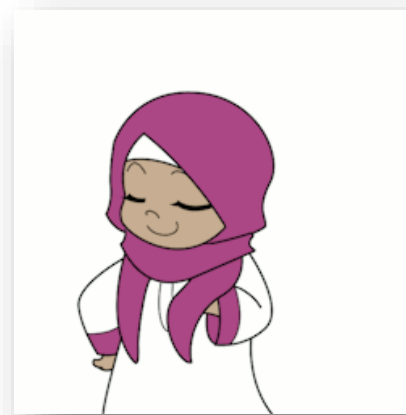
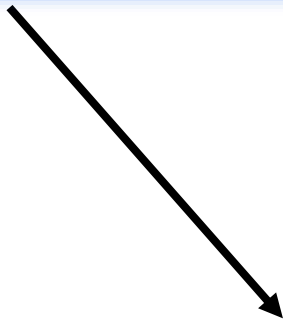
Clearing The Basic



Questions Appearing in Exams



Experiments



The Outer Space



Outer space is the vast extension of space in which all objects of the sky including planets, stars and galaxies have their existence.

Space is not made of any substance.

Space refers to the absence of matter.

This is the empty space where the earth, moon, sun and stars move.

Then where is the beginning and the end of the outer space?



160 km(Atmosphere)



The Universe:



The universe is composed of all existing matter & space as a whole. It is so big that no one knows about its size and shape.

The parts of the universe where matter is most concentrated are called galaxies or starworld. The galaxy in which the Earth is located is called the Milky Way. ?

Then where is the origin of this universe?



Big-Bang Theory:



According to this theory, the universe was once in a very hot and dense state that was expanding very fast. During rapid expansion the earth cools and comes to a state of current expansion.

The Big Bang was recently reported to have occurred about 13.75 billion years ago.



The Universe:

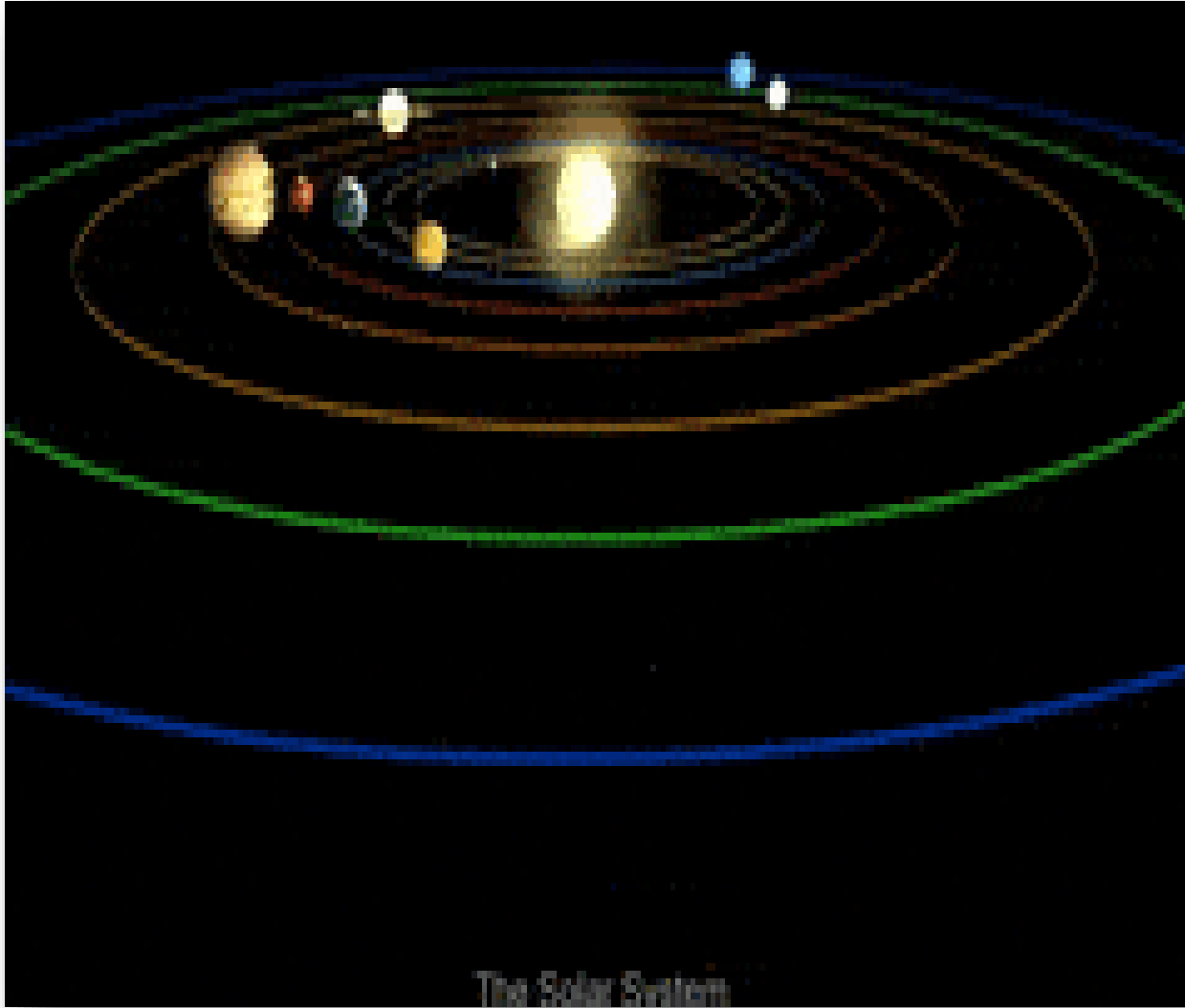


The distance of the sun from the earth is about 150 million kilometers. It takes about 8 minutes and 20 seconds for light to come from the sun to the earth.

It takes more than 4 years for light to reach the nearest star Alpha Centauri from the Sun.

The stars of the universe are divided into red, blue, and yellow according to the intensity of light. Large stars are red, medium stars are yellow, and small stars are blue.

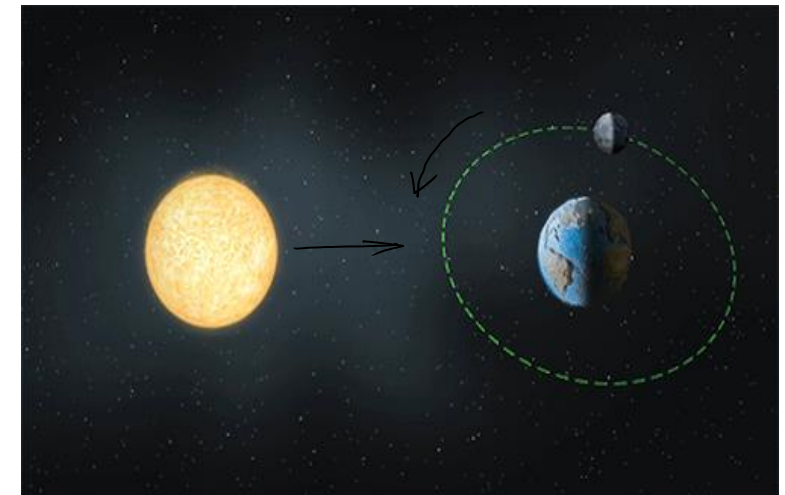
Natural planets and satellites:

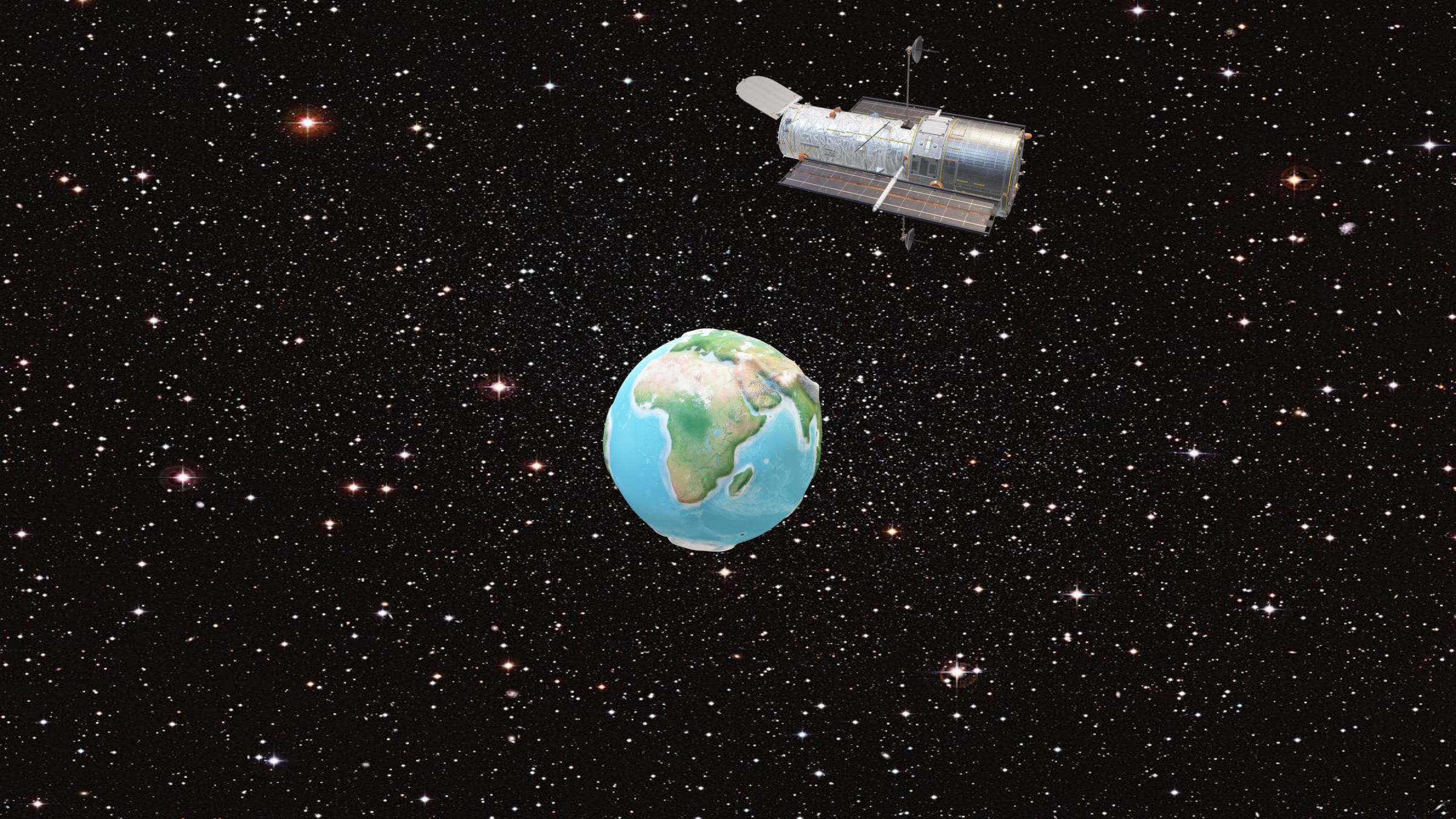


#The sun along with it's 8 planets form the solar system.

And those who naturally center these planets are called their satellites. These planets and satellites do not have their own light and heat.

There are 1 natural satellite of Earth, 2 of Mars, 67 of Jupiter, 62 of Saturn, 28 of Uranus and 14 of Neptune.





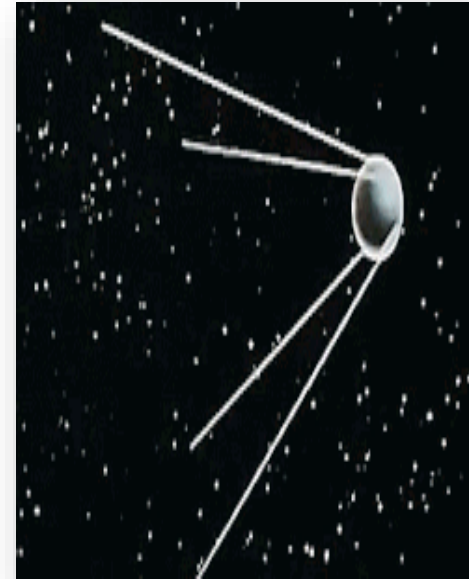


Artificial satellite and its history....

Artificial satellite and its history....

Man-sent objects or spaceships moving around the Earth orbiting in specific orbits are called artificial satellites .

They are launched with rockets.



An artificial satellite that orbits the earth once every 24 hours it seems to be stable in relation to the earth.

These are called polar artificial satellites.



Artificial satellite and its history....

The first journey on the outer space was initiated by the Soviet Union on 4th October, 1957 when they sent the first Artificial satellite Sputnik-1. The meaning of the world is travelling mate. In the same year, they sent Sputnik-2 on Second December.

Vostok-1 was the first manned space mission by Soviet Union which carried the 1st person in space Yuri Gagarin on 12th April, 1961. Valentina Tereshkova of USSR is the 1st woman

Who went to on 16th June, 1963 in Vostok-6.

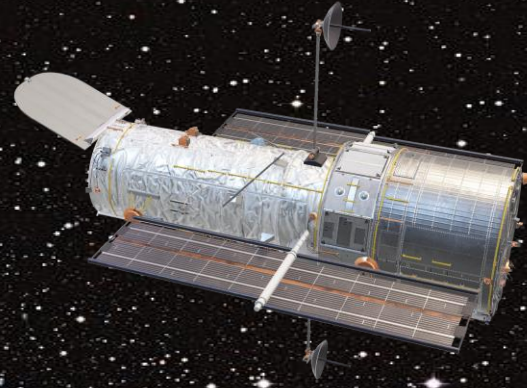
The United States sent the first satellite, Explorer-1 on the outer space on February 2, 1958.

Intelset-1: Commercial, Landset-1: Remote Sensing (1972)





The satellite moving along it's path...



But how does a satellite keeps orbiting on the same path...?

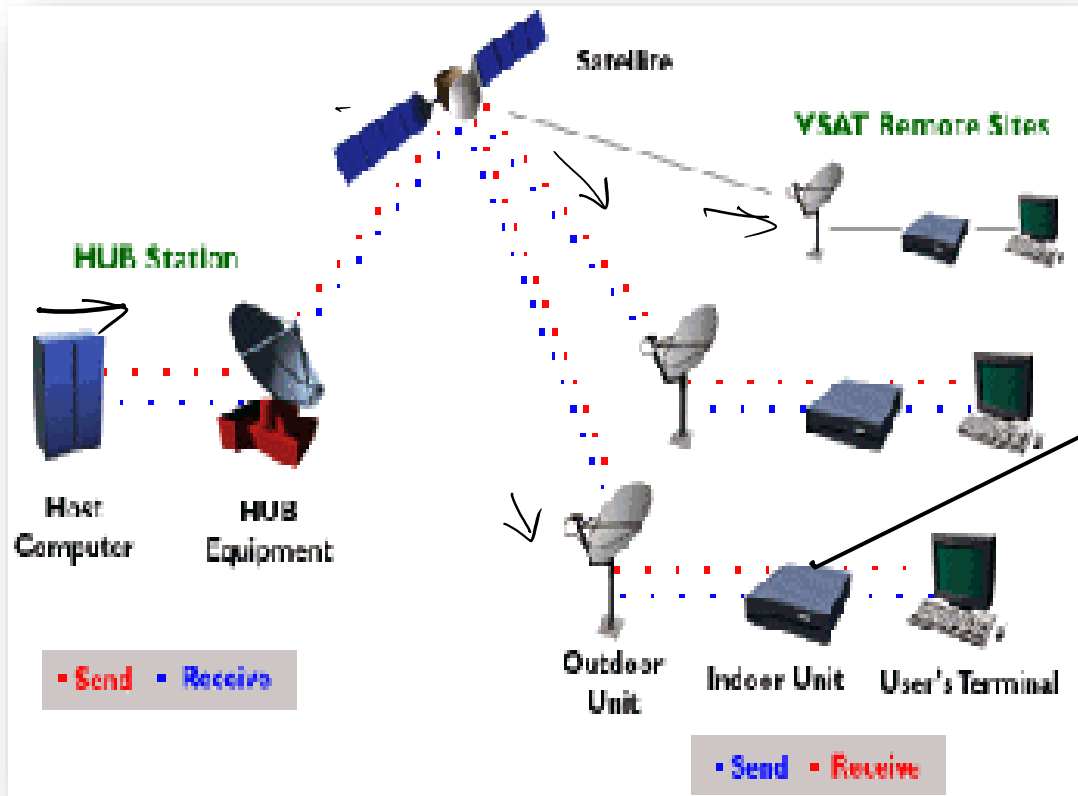
Newton's Cannon
Ball Experiment!



The use and importance of artificial satellites

Artificial satellites are called by different names according to their use:

(1) Communication satellite:



Satellite

(i) Enhances the signal
(ii) Customer

(2) Weather satellite:



Some more artificial satellites:



Earth observation satellite

Military or intelligence satellites

Navigation satellites

Astronomical satellites



The questions that may come up in the exam ...

- 1) What is space?
- 2) What is the universe?
- 3) What do you mean by BIG-Bang Theory?
- 4) Write about natural planets and satellites.
- 5) Write about the history of artificial satellites today.
- 6) How does an artificial satellite travel?
- 7) Describe on the importance and use of artificial satellites.
- 8) Write the classification of artificial satellites.



না বুঝে মুখস্থ করার অভ্যাস
প্রতিভাকে ধ্বংস করে।