LIGHT AND SHADOW

LIGHT:

Light is a form of energy which helps us to see objects. When light falls on the object, some of the light gets reflected, this reflected light comes to our eyes and we are able to see the object. So in order to see things we need light. The object that produces light is called a source of light.

Sources of light are of two types: Natural and Artificial

Natural sources of light:

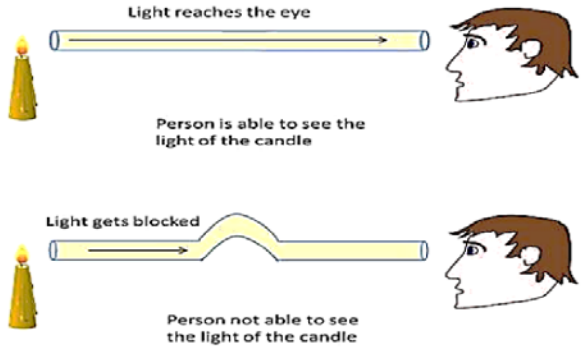
The sources of light that give out light on their own in nature are called natural sources of light. For example: Sun, stars, lightning and fire.

Artificial sources of light:

The sources of light created by human beings are called artificial sources of light. For example: Torch, bulbs, candles, fluorescent tubes etc

Light travels in a straight line:

An important property of light is it travels in straight lines. Light cannot bend around objects.



How do we see things?

We can see through clean water or glass but not through a book or a wall'
This happens because different materials allow different amount of light to pass through them.

OPAQUE:

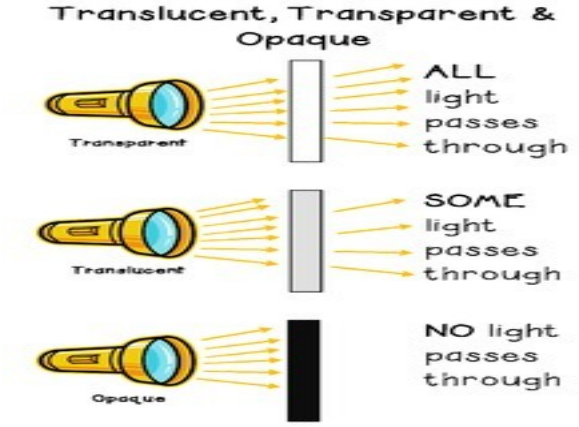
Objects which do not allow any light to pass through them are called opaque objects.
E.g. wood, brick, tin etc

TRANSPARENT:

Objects which allow light to pass through them completely are called transparent objects.
E.g. glass, crystal etc

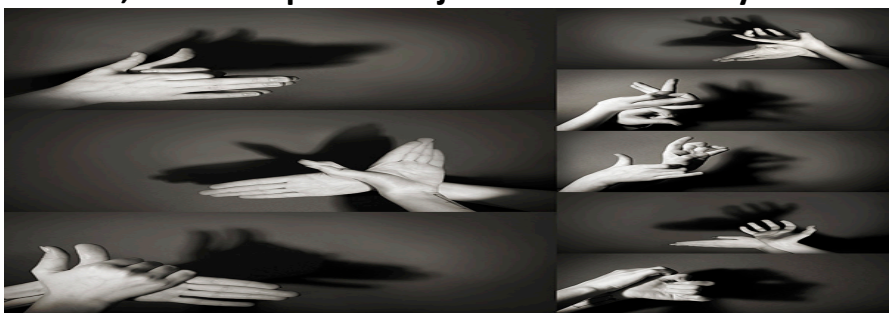
TRANSLUCENT:

Objects which allow some light to pass through them are called translucent objects. E.g. tissue paper, frosted glass etc



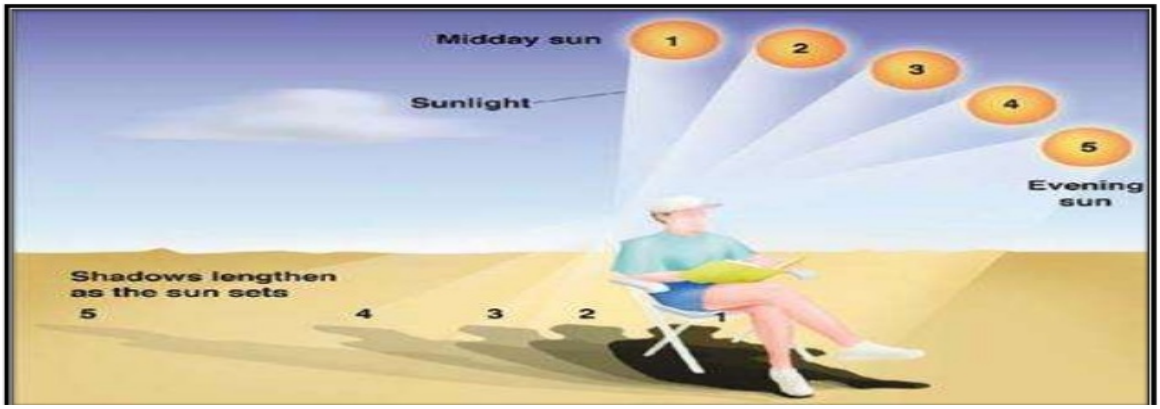
SHADOW:

When an opaque object comes in front of the light, it blocks the light and forms a dark patch called a Shadow. A shadow is always formed on the opposite side of the light. Opaque objects form dark shadows, Translucent objects form Faint shadow, and transparent object do not form any shadow.



Formation of shadows at different times of the day:

But .. Why your shadow changes from time to another ?



Features of a shadow:

- Shadows are formed only when a source of light is present.
- The shadows are formed in the opposite direction of the source of light.
- When the source of light or object moves the shadow moves too.
- A shadow shows only the shape or outline of the object.
- A shadow is always black in colour

MOVEMENT OF THE EARTH:

Earth is a planet that moves around the sun in a fixed path called an Orbit.
The earth shows two types of movement.

ROTATION and REVOLUTION

Rotation:

The spinning of the earth around its axis is called Rotation. It takes 24 hours for the earth to complete one rotation. It is important as it causes DAY and NIGHT.

Revolution:

The movement of the earth around the sun in its orbit is called Revolution
The earth takes 365 days and 6 hours to complete one revolution. It is important as it causes change in SEASON.

Formation of day and night:

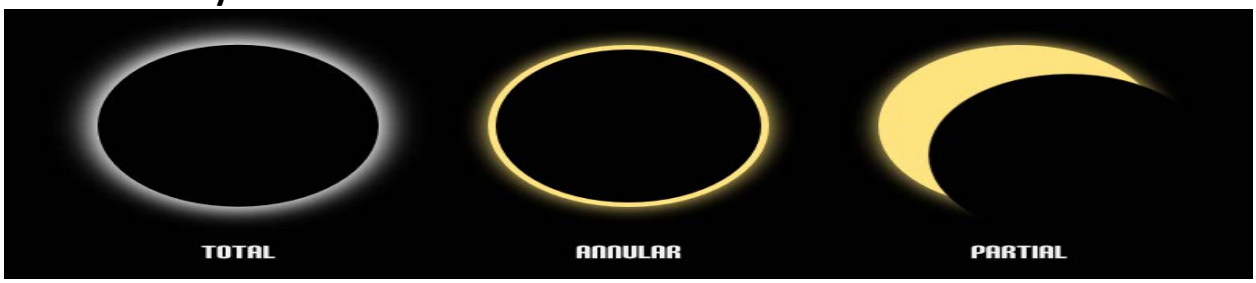
As the earth rotates, one half faces the sun and gets the light, this part of the earth experiences day. The other half of the earth experiences night.
India and USA are located on the opposite halves of the earth. When India faces the sun and has day, USA has night.

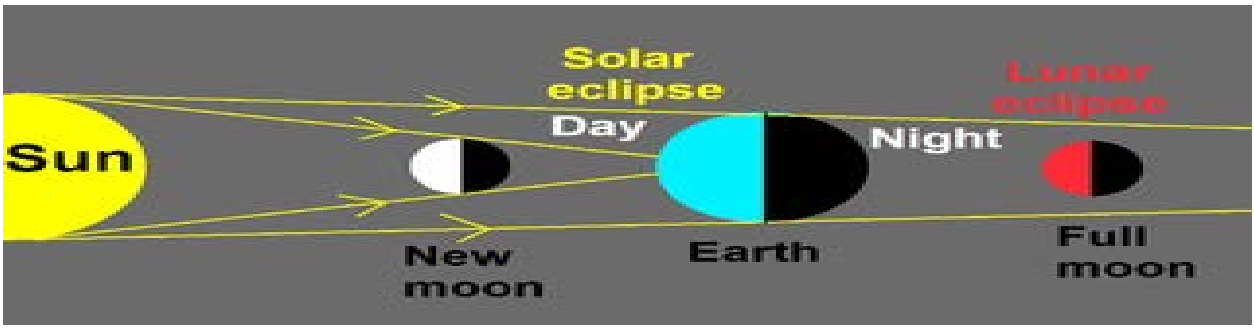
ECLIPSE:

An eclipse occurs when the Sun, Moon and the Earth are in a straight line.
There are two types of eclipses: SOLAR and LUNAR eclipse

SOLAR ECLIPSE:

A solar eclipse occurs when the moon comes in between the sun and the earth. A solar eclipse can be total or partial. In a total solar eclipse, the sun is not visible at all and in partial the sun is visible. It occurs only during the day, on a new moon day.





LUNAR ECLIPSE:

A lunar eclipse occurs when the earth comes in between the sun and the moon. In a total lunar eclipse the moon is not visible at all, in partial only a part of the moon is visible. It occurs on a full moon day.