

LIGHT AND SHADOW

(Please do it in the science copy)

Fill in the blanks:

- Light can pass through partially through a translucent object.
- A shadow is formed when a/an opaque object is placed in front of a light.
- A shadow is the biggest when the object is placed close to the source of light.
- A shadow is the smallest when the object is placed away from the source of light.
- A solar eclipse occurs on a new moon day.
- A lunar eclipse occurs on a full moon day.
- Eclipses occur due to the shadows of the moon and the earth.
- A shadow is the smallest when the object is furthest.
- Day and night occur due to the rotation of the earth.
- The earth takes 24 hours to complete on rotation.

Answer these following questions:

- How is a shadow formed?

Ans: **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.**

- How can shadows be of different sizes?

Ans: **Shadows can change their size. As light moves towards the object, the shadow becomes larger. As light moves away from the object, the shadow becomes smaller. As light moves closer, the shadow becomes longer and wider.**

- How does a solar eclipse occur?

Ans: **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.**

- How is a solar eclipse different from a lunar eclipse?

Ans: A solar eclipse occurs in the daytime at new moon, when the Moon is between Earth and the Sun, while a lunar eclipse occurs at night at full moon, when Earth passes between the Sun and the Moon.

- Differentiate between transparent, translucent and opaque objects? Give examples of each.

Ans: **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

OPAQUE:

Objects which do not allow any light to pass through them are called opaque objects.

E.g. wood, brick, tin etc

- What is the difference between a total and a partial eclipse?

Ans: A total eclipse occurs when the dark shape of the Moon completely blocks the intensely bright light of the Sun, allowing the much fainter sun to be visible. A partial eclipse occurs when the Sun and Moon are not exactly in line with the Earth and the Moon only partially blocks the Sun.

Draw, colour and label:

- Solar and Lunar eclipse
- Rotation and revolution
- How a shadow is formed