

8/40

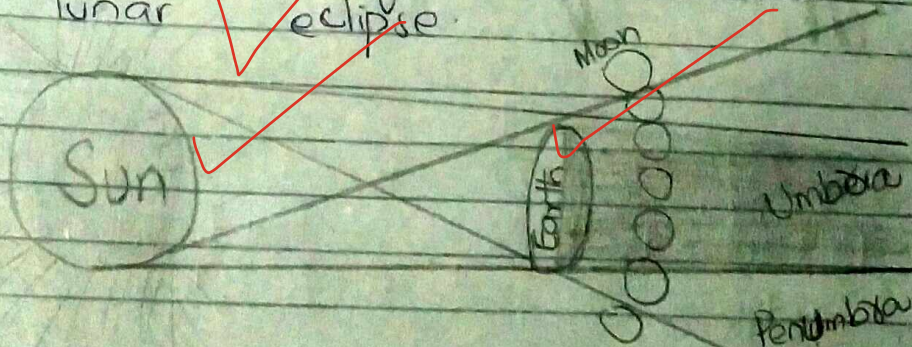
12-11-2025
Test #3 (General Science & Ability)

Question #01

(a) What is solar and Lunar eclipse? Give the types of solar eclipse.

Lunar Eclipse:

The moon revolves around the Earth, and Earth at the same time orbits Sun. Sometimes when Earth moves between Sun and Moon such that it blocks sunlight to pass and reflected by the moon. (The sunlight is what cause moon to shine). When shadow of Earth falls on moon, it stops shining. This is an eclipse of moon, known as lunar eclipse.

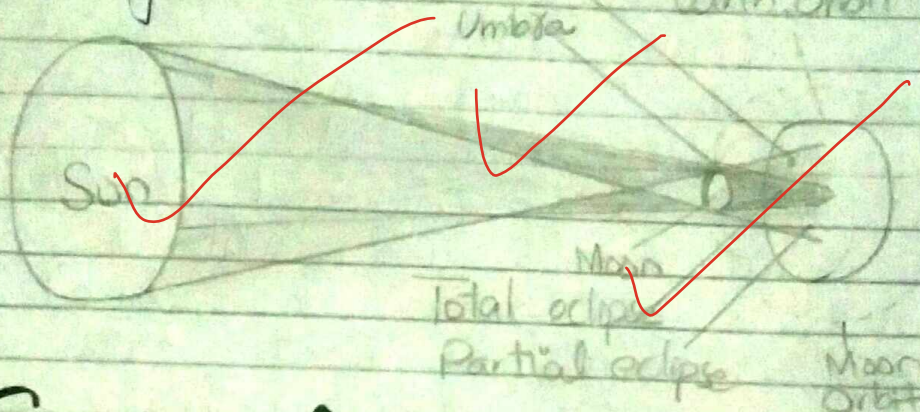


Lunar Eclipse

Lunar eclipse occurs when moon is full. It lasts for few hours. Every year two partial lunar eclipse happen, but full lunar eclipse is rare.

Solar Eclipse

While orbiting, when Moon moves between Earth and the Sun, it causes a shadow on earth and blocks the sunlight to reach Earth surface. This eclipse is known as solar eclipse. It last for few minutes. Solar eclipse can cause permanent eye damage if seen through naked eye.



Types of Solar Eclipse

Partial solar eclips

Total solar eclipse

Partial Solar Eclipse: This happens when the Sun, Moon, and Earth do not align in the

3.5
perfectly straight line and Moon only partially covers the disc of Sun.

Total Solar Eclipse

occurs when Moon completely covers Sun, as seen from Earth. Totality during such an eclipse can be seen from a very small area on Earth. This area is about 100 miles wide and 1000 miles long. Except that area, partial solar eclipse can be observed.

(b)

Differentiate between ceramics & plastics and discuss the types of & applications of ceramics.

Ceramics are inorganic non-metallic solid made up of clay that have been shaped and then hardened by heating to high temperature. On the other hand plastics & are made up of large organic materials.

Difference between Ceramics and Plastics:

Property Material	Ceramic inorganic	Plastic organic
Flexibility	Hard and unable to bend	Thermoplastics are not bendable
Density	High	Low
Magnetism	Non-magnetic, but can have properties of magnet if it contains Fe_2O_3	Non-Magnetic
Reusability	Non reusable	Reusable

Applications of Ceramics.

Ceramics are widely used in different fields including,

- i- Aerospace: used in the formation of parts of space shuttles, rockets and space stations
- ii- ~~Home~~ Building and Construction. Used in the form of bricks, cement, tiles and other construction materials

- iii- Computers and Electronics: Used in insulators, resistors, superconductors and other parts of computers and electronics.
- iv- Medical: Used in medical field i.e. dental and bone filling, and bone implant.
- v- Military Equipment: Used in vehicles of ground, air and naval.
- vi- Coating: Used for the coating of metals to prevent corrosion.
- vii- Consumer Usage: Used as glassware, pottery, dinner ware etc.
- viii- Optical Ceramics: used in optical fibres, optical switches and lenses.
- ix- Nuclear Ceramics: Help in the generation of nuclear power and in the disposal of radioactive nuclear waste.

3.5

(c) Differentiate between food contamination and food adulteration. Name the food adulterants and food contaminants.

Food Contamination VS Food Adulteration.

When a contaminant is added to food naturally, it results in the poor quality of food. The pure form of food vanishes. This phenomenon is known as food contamination. On the other hand, food adulteration is an act of intentionally changing the quality of food for sale either by substituting inferior substances or by removal of some valuable substances.

Examples of Food Contaminants

1. Lead in old paint and water pipes.
2. Benzene from car exhaust.
3. Dust mites in bedding and carpets.
4. Melamine to boost protein reading.
5. Chemicals in plastic wrap and bottles.

Examples of Food Adulterants

1. Water added to milk.
2. Papaya seeds added in pepper.
3. Artificial sweeteners.
4. Urea in milk or yogurt.
5. Sugar solution in honey.