

NCERT solution Light Shadow and Reflection

Question 1

Rearrange the boxes given below to make a sentence that helps us understand opaque objects.

O W S A K E O P A Q U E O B J E C T S M
S H A D

Answer

OPAQUE OBJECTS MAKE SHADOWS

Question 2

Classify the objects or materials given below as opaque, transparent or translucent and luminous or non-luminous:

Air, water, a piece of rock, a sheet of aluminum, a mirror, a wooden board, a sheet of polythene, a CD, smoke, a sheet of plane glass, fog, a piece of red hot iron, an umbrella, a lighted fluorescent tube, a wall, a sheet of carbon paper, the flame of a gas burner, a sheet of cardboard, a lighted torch, a sheet of cellophane, a wire mesh, kerosene stove, sun, firefly, moon.

Answer:

First let us explain the each term

transparent	If we are able to see clearly through an object, it is said to be transparent
translucent	If we are able to see not clearly through an object, it is said to be translucent
opaque	If we cannot see through an object at all, it is an opaque object

luminous	A body which emits light by itself
non-luminous	A body which does not emits light by itself

Let us create a table to show the properties

OBJECT	TRANSPARENT /TRANSLUCENT /OPAQUE	LUMINOUS/ NON- LUMINOUS
AIR, WATER	TRANSPARENT	NON-LUMINOUS
PIECE OF ROCK, SHEET OF ALUMINIUM, MIRROR, WOODEN BOARD, CD, UMBRELLA, WALL, SHEET OF CARBON PAPER, SHEET OF CARDBOARD, MOON	OPAQUE	NON-LUMINOUS
A SHEET OF POLYTHENE, SMOKE, FOG, SHEET OF CELLOPHONE, WIRE-MESH,	TRANSLUCENT	NON-LUMINOUS
A PIECE OF RED HOT IRON, LIGHT FLUORESCENT TUBE, LIGHTED TORCH, KEROSENE STOVE, SUN, FIREFLY	OPAQUE	LUMINOUS
FLAME OF GAS BURNER	TRANSLUCENT	LUMINOUS

Question 3

Can you think of creating a shape that would give a circular shadow if held in one way and a rectangular shadow if held in another way?

Answer:

A cylinder object can cast shadows in two ways. When the top circular view faces the sun, a circular shape shadow is formed. When its horizontal side faces the sun, it casts a rectangular shadow.

Question 4

In a completely dark room, if you hold up a mirror in front of you, will you see a reflection of yourself in the mirror?

Answer

To see the reflection, source of light is required We can only see in the presence of light.