

Question:1

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

OWS AKE OPAQ UE O
BJEC TSM SHAD

Solution:

OPAQ UE O BJEC TS M AKE SHAD OWS

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 aluminium, 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.

Solution:

Object	Object is Transparent/Translucent/Opaque	Object is Luminous/Non-luminous
Air	Transparent	Non-luminous
Water	Transparent	Non-luminous
A piece of rock	Opaque	Non-luminous
A sheet of aluminium	Opaque	Non-luminous
A mirror	Opaque	Non-luminous
A wooden board	Opaque	Non-luminous
A sheet of polythene	Translucent	Non-luminous
A CD	Translucent	Non-luminous
Smoke	Translucent	Non-luminous
A sheet of plane glass	Transparent	Non-luminous
Fog	Translucent	Non-luminous
A piece of red hot iron	Opaque	Luminous
An umbrella	Opaque	Non-luminous
A lighted fluorescent tube	Opaque	Luminous
A wall	Opaque	Non-luminous
A sheet of carbon paper	Opaque	Non-luminous
The flame of a gas burner	Translucent	Luminous
A sheet of cardboard	Opaque	Non-luminous
A lighted torch	Opaque	Luminous

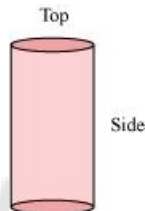
A sheet of cellophane	Translucent	Non-luminous
A wire mesh	Translucent	Non-luminous
Kerosene stove	Opaque	Luminous
Sun	Opaque	Luminous
Firefly	Opaque	Luminous
Moon	Opaque	Non-luminous

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?

Solution:

When a cylinder is held in sunlight, then a circular shadow or a rectangular shadow can be obtained depending on its orientation related to the Sun.



When the top of the cylinder faces the Sun, then the shadow formed is circular. On the other hand, when the side of the cylinder faces the Sun, then the shadow formed is rectangular.

Question:4

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

Solution:

An image is formed due to reflection of light by a plane mirror. In a completely dark room, there is no light present in the room. Thus, no reflection of light takes place by the mirror placed in the room. Hence, no image will get formed by a mirror in a completely dark room.