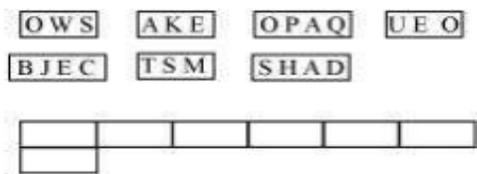


NCERT Solution

Light, Shadows and Reflections

Exercise

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



Answer:

O P A Q	UE O	BJEC	ST M	AKE	SHAD	OWN
---------	------	------	------	-----	------	-----

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, A 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.

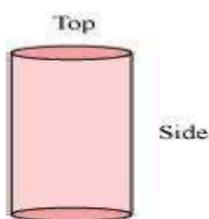
Objects	Object is transparent/Translucent/Opaque	Object is luminous/Non-luminous
Air	Transparent	Non-luminous
water	Transparent	Non-luminous
A piece of rock	Opaque	Non-luminous
A sheet of aluminum	Opaque	Non-luminous
A mirror	Opaque	Non-luminous
A wooden board	Opaque	Non-luminous
A sheet of polythene	Translucent	Non-luminous
a CD	Translucent	Non-luminous
Smoke	Translucent	Non-luminous
A sheet of plane glass	Translucent	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
A flame of a gas burner	Translucent	Luminous
A sheet of cardboard	Opaque	Non-luminous
A lighted torch	Opaque	Luminous
A sheet of cello- phane	Translucent	Non-luminous
A wire mesh	Translucent	Non-luminous
Kerosene stove	Opaque	Luminous
sun	Opaque	Luminous
Firefly	Opaque	Luminous
Moon	Opaque	Non-luminous

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:

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



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

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

Answer:

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