

Chapter 14: Light and the Formation of Shadows

EXERCISE [PAGE 104]

Exercise | Q 1.1 | Page 104

Choose an appropriate word and fill in the blank.

A _____ is a natural source of light.

(options : seven, star, through, transparent, opaque, colors, shape, erect, inverted, luminous, candle)

SOLUTION

A star is a natural source of light.

Exercise | Q 1.2 | Page 104

Choose an appropriate word and fill in the blank.

A _____ is an artificial source of light.

(options : seven, star, through, transparent, opaque, colors, shape, erect, inverted, luminous, candle)

SOLUTION

A candle is an artificial source of light.

Exercise | Q 1.3 | Page 104

Choose an appropriate word and fill in the blank.

When light passes through a prism, it gets separated into _____ colours.

(options : seven, star, through, transparent, opaque, colors, shape, erect, inverted, luminous, candle)

SOLUTION

When light passes through a prism, it gets separated into seven colours.

Exercise | Q 1.4 | Page 104

Choose an appropriate word and fill in the blank.

The image obtained in the pinhole camera is _____.

(options : seven, star, through, transparent, opaque, colors, shape, erect, inverted, luminous, candle)

SOLUTION

The image obtained in the pinhole camera is inverted.

Exercise | Q 1.5 | Page 104

Choose an appropriate word and fill in the blank.

A shadow is formed when an _____ object comes in the way of light.

(options : seven, star, through, transparent, opaque, colors, shape, erect, inverted, luminous, candle)

SOLUTION

A shadow is formed when an **opaque** object comes in the way of light.

Exercise | Q 1.6 | Page 104

Choose an appropriate word and fill in the blanks.

When a _____ object comes in the way of light, light passes _____ it.
(options: seven, star, through, transparent, opaque, colors, shape, erect, inverted, luminous, candle)

SOLUTION

When a **transparent** object comes in the way of light, light passes **through** it.

Exercise | Q 2 | Page 104

Write whether of the following objects are luminous or non-luminous.

| Object | Luminous/Non-luminous |
|------------------|------------------------------|
| A book | |
| A burning candle | |
| A wax cloth | |
| A pencil | |
| A pen | |
| A light bulb | |
| A tyre | |
| A torch | |

SOLUTION

| Object | Luminous/Non-luminous |
|------------------|------------------------------|
| A book | Non-luminous |
| A burning candle | Luminous |
| A wax cloth | Non-luminous |
| A pencil | Non-luminous |
| A pen | Non-luminous |
| A light bulb | Luminous |
| A tyre | Non-luminous |
| A torch | Luminous |

Exercise | Q 3 | Page 104

Match the following.

| Group A | Group B |
|--------------------|--------------------|
| (a) Mirror | (1) Non-luminous |
| (b) Firefly | (2) Inverted image |
| (c) Pinhole camera | (3) Reflection |
| (d) Moon | (4) Luminous |

SOLUTION

| Group A | Group B |
|--------------------|--------------------|
| (a) Mirror | (3) Reflection |
| (b) Firefly | (4) Luminous |
| (c) Pinhole camera | (2) Inverted image |
| (d) Moon | (1) Non-luminous |

Exercise | Q 4.1 | Page 104

Write the answer to the following.

What things are necessary for the formation of a shadow?

SOLUTION

The things necessary for the formation of a shadow are:

- A source of light
- An opaque object whose shadow has to be formed
- A screen on which shadow is to be formed

Exercise | Q 4.2 | Page 104

Write the answer to the following.

When can an object be seen?

SOLUTION

An object is seen when the light rays reflected from its surface reaches our eyes.

Exercise | Q 4.3 | Page 104

Write the answer to the following.

What is a shadow?

SOLUTION

Shadow is a dark patch obtained on a screen where the light from a light source is blocked by an opaque object.