

Q.3 Correct the following statements:

- i The colour of the shadow of an object depends on colour of the object.

The colour of the shadow of an object does not depend on colour of the object.

- ii Transparent objects allow light to pass through them partially.

- ii Transparent objects allow light to pass through them completely.

Q4 Suggest a situation where we obtain more than 1 shadow of an object at a time.

Ans 4 2 or more shadows at the same time can be formed, if 2 or more light sources are present.

Eg - During a night match being played in a stadium, multiple shadows of player can be seen, because multiple sources of light (flood light) are present.

Q5 On a sunny day, does a bird or an aeroplane flying high in the sky cast its shadow on the ground? Under circumstances can we see their shadow on the ground?

A5 On a sunny day, bird and aeroplane, if flying high up in the sky, then their shadows are not seen on the ground. This because when a bird or an aeroplane are flying up in the sky, the ground is very, very far

away from them and shadow cannot be seen by us.

Q7

When the bird or an airplane are on the ground, we can clearly see their shadows.

A7

Q6 A student covered a torch with red cellophane sheet to obtain red light. Using the red light she obtains a shadow of an opaque object. She repeats this activity with blue and green light. Will the colour of light affect the shadow? Explain

1.

2.

3.

Ans 6 Colour of the light will not affect the colour of shadow, because shadow is the region that does not receive light. So shadow will always be black or grey in colour.

Q7

A student had a ball, a screen and a torch in working condition. He tried to form a shadow of the ball on the screen by placing them at differ. positions. Sometimes the shadow was not obtained. Explain.

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Following are the reasons due to which the shadow cannot be obtained on screen-

1. He cannot get the shadow on the screen if the screen is placed far away from the ball.
2. The beam of light from torch is falling parallel to the screen on the ball due to which the ball doesn't obstruct the whole light from torch and shadow is not obtained.
3. The torch is kept away from the ball. This makes source of light far away. So, enough light doesn't reach the ball.

An accurate shadow of the ball is formed only when the ball, the ^{torch} screen & screen are in straight line.

Q8 Fill in the blanks:

(i) When the distance between the opaque object and screen increases, the size of shadow increases.

ii When the distance between the source of light and the opaque object increases, the size of shadow decreases.

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