

## Formation of Shadow

### A. Choose the Correct Answer:

1. What is required for a shadow to be formed?
  - A) Only light
  - B) Only an object
  - C) Light, an opaque object, and a surface
  - D) Darkness and an object
2. When is the shadow the longest during the day?
  - A) At noon
  - B) In the morning and evening
  - C) At midnight
  - D) In the afternoon
3. Which of the following objects will form a clear shadow?
  - A) A glass bottle
  - B) A wooden block
  - C) A transparent plastic sheet
  - D) Clear water

### B. Fill in the Blanks:

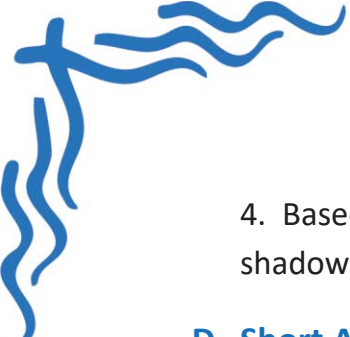
1. A shadow is formed when an \_\_\_\_\_ object blocks the path of light.
2. Shadows are always formed on the \_\_\_\_\_ side of the light source.
3. A shadow is \_\_\_\_\_ in the morning and evening and \_\_\_\_\_ at noon.

### C. Case Study:

Ravi was playing in the park in the afternoon when he noticed his shadow on the ground. As he walked, the shadow moved with him. Later, he observed that in the morning and evening, his shadow was longer than it was in the afternoon. He also saw that transparent objects like glass did not form clear shadows, but wooden benches and trees did.

#### Case Study Questions:

1. What did Ravi observe about his shadow at different times of the day?
2. Why did the wooden benches and trees form shadows, but the glass did not?
3. How does the position of the Sun affect the length of shadows?



4. Based on Ravi's observation, when would be the best time to see a long shadow?

**D. Short Answer Questions:**

1. What are the conditions necessary for a shadow to form?
2. Why do transparent objects not form clear shadows?
3. How does the size of a shadow change throughout the day?

**E. Long Answer Questions:**

1. Explain how shadows are formed with the help of an example.
  2. Describe how the length and direction of shadows change from morning to evening.
  3. Why do shadows appear black even if the object has color?
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