# Light Travels in a Straight Line

# A. Choose the Correct Answer:

#### 1. What is the path of light when it travels?

- a) Curved line
- b) Zig-zag pattern
- c) Straight line
- d) Circular path

#### 2. Which experiment demonstrates that light travels in a straight line?

- a) Using a magnet and iron filings
- b) Observing the shadow of an object
- c) Mixing different colored lights
- d) Reflecting light from a mirror

### 3. What happens when an opaque object blocks the path of light?

- a) Light bends around the object
- b) A shadow is formed
- c) Light passes through the object
- d) Light changes color

# **B. Fill in the Blanks:**

- 1. Light always travels in a \_\_\_\_\_ line.
- 2. When light is blocked by an opaque object, a \_\_\_\_\_\_ is formed.
- 3. The straight-line motion of light is known as \_\_\_\_\_ propagation of light.

# C. Case Study:

Riya was playing with a torch and noticed something interesting.

- She shone the light through three small holes in a straight line on cardboard sheets.
- When the holes were aligned, the light passed through all of them.
- When she slightly moved one cardboard, the light could no longer pass through all the holes.
- Her teacher explained that this demonstrates that light travels in a straight line.

#### **Case Study Questions:**

- 1. What observation did Riya make when the holes were aligned?
- 2. What happened when Riya moved one cardboard slightly?
- 3. What principle of light did this experiment demonstrate?
- 4. Why was the light unable to pass through when the holes were not aligned?

### **D. Short Answer Questions:**

- 1. In which direction does light travel?
- 2. What happens when light is blocked by an opaque object?
- 3. What is the term used to describe the straight-line motion of light?

# E. Long Answer Questions:

- 1. Explain how light travels in a straight line with the help of an experiment.
- 2. How do shadows demonstrate that light travels in a straight line? Explain with an example.
- 3. Describe why we cannot see around corners based on the straight-line travel of light.