

WORKSHEET

LIGHT

1. A: The centre of curvature is not a part of the mirror.
R: The reflecting surface of a spherical mirror forms a part of a sphere.
2. A: Light does not travel in the same direction in all media.
R: The speed of light does not change as it enters from one medium to another.
3. A: A ray from rarer to denser medium bends towards the normal.
R: Speed of light is higher in rarer medium.
4. A: Mirrors in searchlights are concave spherical.
R: Concave mirrors always form virtual images.
5. A: Concave mirrors are used as make-up mirrors.
R: They form a diminished image within focus.

Case Study: Spherical Mirrors in Everyday Use

Ravi notices that the inner curved surface of his steel spoon acts like a concave mirror, making his face look larger when held close, while the outer surface acts like a convex mirror, showing a smaller, wider view. This is due to the reflecting surfaces being parts of spheres. Concave mirrors converge light, forming real images at certain positions, whereas convex mirrors diverge light, always producing virtual images. Doctors use concave head mirrors to focus light on patients' eyes or ears.

Q1: When an object is at the centre of curvature of a concave mirror, the image is:

Q2: A convex mirror provides a wider field of view because:

Q3: No matter the distance, an erect image is formed by:

Q4: In Ravi's spoon, the outer surface forms a:

Q5: Why do doctors prefer concave mirrors?