

CLASS 10

SCIENCE

REVISION NOTES

Class 10 Science Chapter 9 Revision Notes – Light: Reflection and Refraction

Need full answers or more practice? See the Class 10 Science Chapter 9 Solutions and Class 10 Science Chapter 9 Extra Questions. These Class 10 Science Chapter 9 notes are ideal for quick revision just before exams.

Contents

Class 10 Science Chapter 9 – Revision Notes: Light: Reflection and Refraction

Class 10 Science Chapter 9 – Solutions and Important Questions

Class 10 Science Chapter 9 – Revision Notes: Light: Reflection and Refraction

Focal length & radius of curvature: $f = R/2$ for spherical mirrors.

Mirror formula: $1/v + 1/u = 1/f$ (sign convention: distances measured from the pole, distances against incident light direction are negative).

Magnification (mirror): $m = -v/u = h'/h$.

Lens formula: $1/v - 1/u = 1/f$.

Magnification (lens): $m = v/u = h'/h$.

Power of a lens: $P = 1/f$ (f in metres); SI unit dioptre (D). Convex lens: positive power. Concave lens: negative power.

Lens combination in contact: $P_{\text{combined}} = P_1 + P_2 + \dots$

Refractive index: $n = \text{speed of light in vacuum} / \text{speed of light in medium} = c/v$.

Concave mirror images: real & inverted when object is beyond F; virtual, erect & magnified when object is between pole and F.

Convex mirror images: always virtual, erect, and diminished, regardless of object position.

Convex lens images: real & inverted when object is beyond F; virtual, erect & magnified when object is between the lens and F.

Concave lens images: always virtual, erect, and diminished.

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