CLASS 7 SCIENCE REVISION NOTES

Revision Notes for Class 7 Science Chapter 11: Light: Shadows and Reflections

Quick revision notes summarizing all key concepts from Class 7 Science Chapter 11 "Light: Shadows and Reflections".

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Luminous objects produce their own light (e.g. the Sun, stars, a burning candle); **non-luminous objects** do not produce light and are seen only because they reflect or scatter light falling on them (e.g. the Moon, planets, this page).

Light travels in a **straight line** (rectilinear propagation) — it cannot bend around obstacles or turn corners inside a bent pipe.

Transparent materials (glass, water) let almost all light pass through, giving a clear view; **translucent** materials (butter paper, frosted glass) let only some light pass through, giving a blurred view; **opaque** materials (wood, metal, cardboard) block light completely and form shadows.

A **shadow** forms on a screen when an opaque object blocks light from a source; it needs a light source, an opaque object, and a screen.

Shadow size and sharpness depend on the object’s position: closer to the light source (and farther from the screen) -> larger, blurrier shadow; closer to the screen -> smaller, sharper shadow, closer to the object’s true shape.

A shadow’s length changes through the day with the Sun’s altitude: shortest around noon (Sun nearly overhead), longest in early morning/late evening (Sun near the horizon).

Two light sources shining on the same object from different directions produce **two separate shadows**.

Reflection is the bouncing back of light when it strikes a surface. Smooth, polished surfaces give **regular reflection** (a clear, single-direction reflected beam/image); rough surfaces give **diffuse reflection/scattering** (light spreads in many directions, no clear image).

The image formed by a **plane mirror** is: virtual (cannot be caught on a screen), erect (right-side up), the same size as the object, and formed as far behind the mirror as the object is in front of it.

Lateral inversion: a plane mirror reverses left and right (but not up and down) — e.g. written text appears reversed, and “AMBULANCE” is written in mirror-reversed form on some vehicles so it reads correctly when seen in the rear-view mirror of a vehicle ahead. Letters with vertical-line symmetry (A, H, I, M, O, T, U, V, W, X, Y) look unchanged after lateral inversion.

A **pinhole camera** uses a small hole to form a small, real, **inverted** image of an object on a screen, because light rays from the top and bottom of the object cross over exactly at the pinhole.

A **periscope** uses two plane mirrors, each fixed at 45° to the tube and facing each other, to redirect light through two 90° turns — used to see over or around obstacles (e.g. in submarines, trenches).

See also: NCERT Solutions for Class 7 Science Chapter 11

Practice more: Extra Questions for Class 7 Science Chapter 11

For the full chapter list, see the Class 7 Science book page and the Class 7 Science Formulas Handbook.