

Basic Knowledge in Physics

<http://www.physicsclassroom.com>

<http://www.easyphysics.net/>

Introduction: Physical quantities - measurement units - scientific notation - scalar and vector quantities - examples of physical quantities: speed, acceleration, force, energy - kinetic and potential energy.

Waves: Introduction to undulatory motion - Longitudinal and transversal waves - Interference and diffraction - Mechanical waves: sound waves and ultrasonic waves.

Electrostatics and Magnetism: atomic structure and electrical charges - Coulomb's law - difference of potential - electric current - magnetic field - electromagnetic induction - electromagnetic waves - the spectrum of electromagnetic waves.

Optics: introduction to geometrical optics - visible light - laws of reflection and refraction - refractive index and the speed of light - thin lenses - converging and diverging lenses - real and virtual images - the optical microscope.