

Phys105 contents

Dimensions, Vectors and scalars, and units of physical quantities

1. .Mechanics: Introduction to vectors, speed, velocity and acceleration, free fall, motion in a vertical plane,
2. Newton's laws of motion.
3. Energy and energy transfer: work done by a constant force, work done by a varying force, kinetic energy, gravitational potential energy,
4. elastic potential energy, conservation of energy, power.
5. Properties of matter: Density, elasticity, Young's modulus, shear modulus and bulk modulus,
6. Fluid pressure, fluid flow.
7. Heat: Temperature, Thermal Expansion, , Internal energy and heat, Specific heat capacity,
8. Heat Conduction, Convection and radiation.