

## PHYSICS

### Motion and force

- interactions and the corresponding forces: motion and equilibrium phenomena that arise from those interactions; occurrence of those phenomena in the nature
- motion and models of uniform and uniformly accelerating motion
- work done by force; mechanical energy and power

### Vibrations and wave motion

- various basic phenomena of vibrations and wave motion; production, detection, observations, reflection and refraction of wave motion; related properties, quantities and laws
- importance of application of sound and light
- functioning principles of optical instruments

### Heat

- phenomena associated with the heating and cooling of objects and substances; description of those phenomena with appropriate concepts and laws; importance of application of thermal phenomena
- conservation and degradation of energy; heat as a form of energy

### Electricity

- electric and magnetic forces between objects
- direct-current circuits; basic phenomena of electric circuits; safe application of those phenomena in everyday life and technology
- electromagnetic induction and its use in energy transmission; use of electricity at home

### Natural structures

- natural structures and proportions
- interactions that keep structural components together; binding and release of energy in processes occurring between components
- radioactive decay; fission and fusion; ionizing radiation and its effect on animate nature; protection from radiation