

Curriculum

Class : 3SE

Subject : Physics

Teacher's name : Ziad Mina

Cycle : Secondary

Textbook : National Textbook

Coordinator : Dr. Jamal Bitar

HOD : Miss Wafa Bitar

Unit	Objectives
<p style="text-align: center;">Unit 1 : Energy</p>	<ul style="list-style-type: none">• Define and calculate work in the case of a constant force parallel to the displacement• Define and calculate the gravitational potential energy• Define and calculate the kinetic energy• Define and calculate the mechanical energy• Apply the conservation of the mechanical energy• Relate thermal energy to changes in temperature and changes in state• Define chemical energy• Relate electrical energy to charge and voltage• Know that the nuclear energy is due to nuclear forces• Relate mass to energy ($E = m c^2$)• Apply the law of conservation of energy• Give examples of sources of energy of each form• Relate pollution to different sources of energy• Identify the effects of pollution on environment and health

Unit 2 : Radioactivity & Nuclear Reactions

- Define radioactivity
- Name and characterize the types of radioactive radiations
- Define the half-life of a radioactive substance
- Relate the energy produced to the mass defect.
- Define and identify nuclear fission and nuclear fusion
- Estimate the magnitude of the energy released in each type of reaction
- Define the unit of measurement of radioactive rays
- Name the types of biologic and genetic effects of radioactive rays
- Give examples of the uses of radioactivity in medicine
- Outline the method of disposal of radioactive wastes
- Name some detectors of radioactive radiations
- Describe methods of protection from radioactive rays

Unit 3 : The Universe

- Distinguish between astronomy, cosmology and astrology
- Explain the geocentric theory of Aristotle and Ptolemy
- Know the development of astronomy in the 16th and 17th century (Scientific revolution)
- Recognize that the development of astronomy during the 18th and 19th centuries was a continuation of the ideas of the Scientific Revolution
- List the basic data of the constituents of the solar system