

**Tripoli Evangelical School  
for Girls and Boys**

**Grade 10 Physics Curriculum  
2018-2019**



مدرسة  
طرابلس  
الانجيلية

Title	Competency	Learning Objectives
Electricity	Electrostatics	Types of electrification Electric aspect of matter Conductors and insulators Conservation of charges Coulomb's law Electrostatics in our life
	Electric Potential Difference	Definition and laws of the electric potential difference Devices to measure potential difference Reference potential
	Electric Current	Definition and laws of the electric current Devices to measure electric current Direct and alternating currents
	Resistors	Definition of a resistor and its resistance, uses, resistivity Ohm's law for resistors Types of resistors, Calculate the resistance Joule's law Applications in our life
	Electric Generators	Definition of an electric generator Draw and read the V-I characteristic of a generator Ohm's law for a generator
Title	Competency	Learning Objectives
	Electric Receivers	Definition of an electric receiver, Draw and read the V-I characteristic of a receiver

		Ohm's law for a receiver, generators in opposition
	Electric circuits	Solving an electric circuit: calculate the currents and the voltages in a grouping of resistors and generators and receivers
Waves	Vibrations and Waves	Distinguish between a vibration and a wave Characteristics of a traveling wave Energy carried by waves types of waves The ripple tank
	Reflection and Refraction of Waves	Definition and properties of waves under reflection Definition and properties of waves under refraction Index of refraction Rays and wave-fronts
	Propagation of Light SUSPENDED	Light propagates in straight lines Types of beams of light Distinguish between object and image Distinguish between real and virtual images
	Reflection of Light SUSPENDED	Define reflection Laws of reflection Plane mirrors Images formed by plane mirrors Types of mirrors Fields of vision of different types of mirrors
Title	Competency	Learning Objectives
	Refraction of Light	Define refraction Laws of refraction

		Total internal reflection Dispersion of white light, the rainbow
	Lenses	Define a lens Characteristics of lenses Converging and diverging thin lenses Characteristics of images given by a lens Descartes' lens formulas
	The Eye and the Magnifier SUSPENDED	Elements of the eye Accommodation, far and near points of vision Myopic (short-sited) eye, Presbyopic eyes, Resolving power of the eye Magnifier and its angular magnification Compound microscope Telescopes
	Description of Motion	Choose a frame of reference to describe motion Straight line trajectory or one dimensional motion Average and instantaneous speeds and velocities Average and instantaneous acceleration magnitudes and vectors Vector representations of velocities and acceleration vectors Scale The air table
	Rectilinear Motion	Uniform rectilinear motion Kinematic equations, and graphical representation Uniformly accelerated rectilinear motion, kinematic equations, and graphical representation
Title	Competency	Learning Objectives
	Force and Interaction	Definition of a force Types of forces

		Free body diagrams Resultant of forces Interactions
	Newton's Laws	Laws of Newton in mechanics: Newton's first law of motion Newton's second law of motion Newton's third law of motion Newton's law of universal gravitational interaction Variation of g with altitude