Standards Division Document School Year 2016-2017
Course : Physics

First Six Weeks Standards:		Second Six Weeks Standards:		Third Six Weeks Standards:	
Phy.1.1.1	Analyze motion graphically and numerically using vectors, graphs, and calculations.	**Phy.1.3.1**	Analyze the motion of objects in completely elastic and completely inelastic collisions by using the principles of conservation of momentum and conservation of energy.	**Phy.3.1.1**	Explain qualitatively the fundamental properties of the interactions of charged objects.
Phy.1.1.2	Analyze motion in one dimension using time, distance, and displacement, velocity, and acceleration.	**Phy.1.3.2**	Analyze the motion of objects based on the relationship between momentum and impulse.	**Phy.3.1.2**	Explain the geometries and magnitudes of electric fields.
Phy.1.1.3	Analyze motion in two dimensions using angle of trajectory, time, distance, displacement, velocity, and acceleration.	**Phy.2.1.1**	Interpret data on work and energy presented graphically and numerically.	**Phy.3.1.3**	Explain how Coulomb's law relates to the electrostatic interactions among charged objects.
Phy.1.2.1	Analyze forces and systems of forces graphically and numerically using vectors, graphs, and calculations.	**Phy.2.1.2**	Compare the concepts of potential and kinetic energy and conservation of total mechanical energy in the description of the motion of objects.	**Phy.3.1.4**	Explain the mechanisms for producing electrostatic charges including charging by friction, conduction, and induction.
Phy.1.2.2	Analyze systems of forces in one dimension and two dimensions using free body diagrams.	**Phy.2.1.3**	Explain the relationship among work, power, and energy.	**Phy.3.1.5**	Explain how differences in electrostatic potentials relate to the potential energy of charged objects.
Phy.1.2.3	Explain forces using Newton's Laws of motion as well as the universal law of gravitation.	**Phy.2.2.1**	Analyze how energy is transmitted through waves, using the fundamental characteristics of waves: wavelength, period, frequency, amplitude, and wave velocity.	**Phy.2.3.1**	Explain Ohm's law in relation to electric circuits.
Phy.1.2.4	Explain the effects of forces (including weight, normal, tension, and friction) on objects.			**Phy.2.3.2**	Differentiate the behavior of moving charges in conductors and insulators.
				Phy.2.3.3	Compare the general characteristics of AC and DC systems without calculations.

Phy.1.2.5 Analyze basic forces related to rotation in a circular path.	**Phy.2.2.2** Analyze wave behaviors in terms of transmission, reflection, refraction, and interference. **Phy.2.2.3** Compare mechanical and electromagnetic waves in terms of wave characteristics and behavior.	**Phy.2.3.4** Analyze electric systems in terms of their energy and power. **Phy.2.3.5** Analyze systems with multiple potential differences and resistors connected in series and parallel circuits, both conceptually and mathematically, in terms of voltage, current and resistance. **Phy.3.2.1** Explain the relationship between magnetic domains and magnetism. **Phy.3.2.2** Explain how electric currents produce various magnetic fields. **Phy.3.2.3** Explain how transformers and power distributions are applications of electromagnetism.

First Half-of-Course Standards (Objectives that take the first half of the course to teach) 1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5,1.3.1, 1.3.2, 2.1.1, 2.1.2, 2.1.3	Second Half-of-Course Standards (Objectives that take the second half of the course to teach) 2.2.1, 2.2.2, 2.2.3, 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.2.1, 3.2.2

Year Long Standards
(Objectives that may take the full year to teach)
1.1.1, 1.2.2,1.2.3