Physical Science

Revised May 2020

Course Description:

Physical Science is an introductory course for students as an alternative to Physics. Physical Science is a course that emphasizes concepts of chemistry, physics and the physical world. Topics may include motion and forces, energy, electricity and magnetism, waves, matter, atomic structurers, bonding, and reactions.

Big Ideas:

1. Forces cause changes in an object's speed and direction of motion.
2. Energy relates to forces.
3. Electricity and magnets exert forces and interact with each other.
4. Waves, their characteristics and properties, and how are they used in our everyday lives.
5. Atomic and molecular interactions explain the properties of matter we see and feel
6. Atomic structures explain the organization of the periodic table of elements.
7. Elements form compounds in nature.
8. Compounds change form in chemical reactions without losing energy or matter.

Essential Learner Outcomes:

ELO #	Essential Learner Outcome Description	Standards
1	Students will investigate a problem through experimentation and effectively communicate the result.	9-12.PS2.A.3 9-12.PS2.B.2
2	Students will represent, describe and predict an objects motion.	9-12.PS2.A.1 9-12.PS2.B.1
	• Linear motion	9-12.PS2.A.1
3	Students will describe the interaction of forces and how they relate to an objects motion.	9-12.PS2.A.1 9-12.PS2.A.2 9-12.PS2.B.1
	• Newton's Laws	9-12.PS2.A.1
	• Momentum	9-12.PS2.A.2
	• Gravitation	9-12.PS2.B.1
4	Students will explain the transfer of energy in a given system.	9-12.PS3.A.1 9-12.PS3.A.2 9-12.PS3.A.3 9-12.PS3.B.1
	• Energy	9-12.PS3.A.1 9-12.PS3.A.2 9-12.PS3.A.3 9-12.PS3.B.1 9-12.PS4.B.2 9-12.PS4.B.1
	• Waves	9-12.PS4.A.1 9-12.PS4.A.2 9-12.PS4.B.1 9-12.PS4.B.2
	• Electricity	9-12.PS2.B.2

		9-12.PS3.C.1 9-12.PS4.B.1 9-12.PS4.B.2
5	Students will translate scientific information into a table or graph and be able to explain it verbally and mathematically.	9-12.PS2.A.1 9-12.PS2.A.2 9-12.PS2.B.1 9-12.PS3.A.3
6	Students will be able explain the properties of matter we see and feel.	9-12.PS1.A.1 9-12.PS1.A.2 9-12.PS1.A.3
7	Students will be able to be able to explain atomic structures using the organization of the periodic table of elements.	9-12.PS1.A.1 9-12.PS1.A.2 9-12.PS1.A.3
8	Students will be able to determine why and how do elements form compounds in nature.	9-12.PS1.A.1 9-12.PS1.A.2 9-12.PS1.A.3
9	Students will be able to explain how compounds change form in chemical reactions without losing energy or matter	9-12.PS1.A.2 9-12.PS1.B.1