

# Physics Level 9-12

## TEAK Standards

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### ELC-4053

- IPC.3.F
  - The student is expected to: research and describe the history of physics and chemistry and contributions of scientists.
- PHYS.3.D
  - The student is expected to: research and describe the connections between physics and future careers
- 4.2.B
  - The student is expected to: collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing and concept maps.
- 4.6.A
  - The student is expected to: differentiate among forms of energy, including mechanical,, sound, electrical, light and thermal.
- 4.6.D
  1. The student is expected to: design a descriptive investigation to explore the effect of force on an object such as a push and pull, gravity, friction, or magnetism.

## NGSS

- MS-PS3-2
  - Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

- MS-PS1-6
  - Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical process.
- MS-PS2-3
  - Ask questions about data to determine the factors that affect the strength of electric and magnetic forces
- MS-PS2-5
  - Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.
- 1-PS4-1
  - Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- 4-PS3-2
  - Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- 1-PS4-3
  - Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
- MS-PS4-1
  - Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.
- K-2-ETS1-1
  - Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.