

CBHS Physics Course Standards

BOLD = New headings based on Next Gen Language **INDENTED** = shows the Standards to be assessed

FORCES AND INTERACTIONS

- **Motion** - Describe the motion of an object through narrative, mathematical equations, and graphical representations. Explain how position, velocity and acceleration are related to one another with respect to time.
- **Forces** - Describe how the net force acting on an object determines the acceleration of that object. Calculate the net force by adding all forces acting on that object, keeping direction of the force in mind.
- **Newton's Laws** - Explain how each of Newton's three laws explain the motion of an object. Describe the mathematical relationship between force, mass, and acceleration according to Newton's second law.

ENERGY

- **Conservation of Energy** - Describe how energy is conserved through transformation between energy form. Describe how an object experiences motion as a result of energy transformation between potential and kinetic energy.

ENGINEERING DESIGN

- **Engineering Design** - Use the engineering design process - 1) identify the problem, 2) research the problem, 3) develop possible solutions, 4) select best solution, 5) construct a model, 6) test the model, 7) communicate the design, 8) redesign - to develop design solutions.
- **Evaluation of a Solution** - Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

THE INFLUENCE OF SCIENCE, ENGINEERING AND TECHNOLOGY ON SOCIETY AND THE NATURAL WORLD

- **Influence of STEM** - Explain how STEM innovations have impacted our society and the natural world. Use evidence to support claims in favor or against STEM innovations that propel society forward, but may have damaging effects on the natural world.

SCIENCE AND ENGINEERING PRACTICES

- **Fundamental Skills I, II, III** (not recursive, specific to each Trimester)--Demonstrate the fundamental skills of physics, including taking accurate and precise measurements, metric conversions, and dimensional analysis.
- **Processes of Science** --Students will be able to: ask questions and define problems, develop and use models, plan and carry out investigations, analyze and interpret data, use mathematics, information and computer technology, and computational thinking, construct explanations and design solutions, engage in argument from evidence, and obtain, evaluate and communicate information (Assessed year-long).

H.O.W. focus areas, "The Big 3":

- I am an active participant (classwork).
- I meet deadlines and established criteria (homework).
- I consistently complete my homework (homework).

** These areas will be assessed and reported out on approximately every two weeks.