

CBHS Physics Course Standards

BOLD = PPS Content Standard

PPS Content Standards: You must meet (3 or higher) all assessments for these standards. Note: this standard is common to all three high schools.

STRUCTURES AND PROPERTIES

- Calculate the net force by adding all forces acting on that object, keeping direction of the force in mind.
- **Describe the mathematical relationship between force, mass, and acceleration according to Newton's second law.**
- **Support the claim that the total momentum of a system's objects is conserved where there is no net force on the system.**

ENERGY □

- **Calculate the change of energy within a system.**
- Describe how energy is conserved through transformation between energy form

KINEMATICS

- 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.

ENGINEERING DESIGN □

- Apply scientific and/or engineering ideas to design, evaluate, and refine a device.

FUNDAMENTAL SKILLS

- Demonstrate the fundamental skills of physics, including taking accurate and precise measurements.

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

- 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.

Graduation Standards

Note: These are standards used to determine eligibility for graduation. Over the course of your 4 years of science experiences at CBHS you will have at least 2 opportunities to meet these standards. Each science course has a unique set of Graduation Standards to be met, but they are not exclusive of the remaining graduation standards.

ASKING QUESTIONS AND DEFINING PROBLEMS

- Ask questions that arise from observed phenomena in order to seek additional information.

DEVELOPING AND USING MODELS

- Construct and use models to represent, explain or predict phenomena in the natural or designed world.

PLANNING AND CARRYING OUT INVESTIGATIONS

- Formulate a testable hypothesis for an investigation that demonstrates relationships between variables or test solutions to a problem.

ANALYSIS AND INTERPRETATION OF DATA/EVIDENCE

- Apply a range of mathematical techniques and computations, including limitations, to make sense of and interpret data.
- Analyze data/evidence in order to make valid and reliable scientific claims and predictions.
- Supports a proposed process, system, or scientific theory using data/evidence

ENGAGE IN ARGUMENTS BASED ON EVIDENCE

- Compare and evaluate competing design solutions to a real world problem based on scientific ideas and principles, empirical evidence, and/or logical arguments regarding relevant fact

OBTAINING, EVALUATING, AND COMMUNICATING INFORMATION

- Communicate scientific or technical information and/or ideas in multiple formats (orally, visually, textually, graphically etc.)