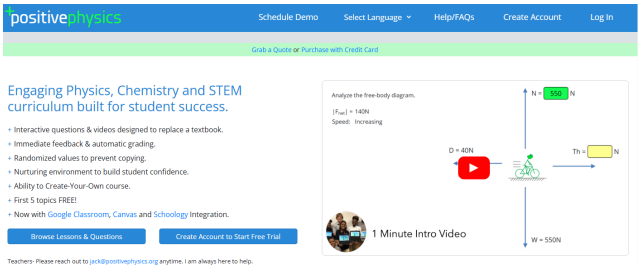
Introduction

The FHS Science Department curriculum and instruction is aligned with the 2016 MA Curriculum Framework and the Next Generation Science Standards (NGSS). The MA STE Frameworks and NGSS prioritize both the Science and Engineering Practices and Disciplinary Core Ideas.

~Our FHS ***Biology and Chemistry*** courses use OpenSciEd as our core curriculum resource.

> "OpenSciEd High School empowers students to become this generation's greatest problem solvers! Our biology, chemistry, and physics courses are designed for the Next Generation Science Standards (NGSS), including the Earth and Space Science standards. The phenomena featured in our units encourage students to apply physical and life science concepts to explore experiences in their day-to-day lives and address pressing local and global issues. These free, high quality courses are editable and modular, offering the flexibility to tailor learning materials to help teachers foster a rigorous, engaging, student-centered and personalized educational experience. Through hands-on investigations and data analysis, students develop critical thinking skills and become independent learners. By gaining a deep understanding of core scientific concepts and authentically engaging in the Science and Engineering Practices (SEPs) , students are prepared to excel in Advanced Placement (AP) courses, college, and STEM careers."



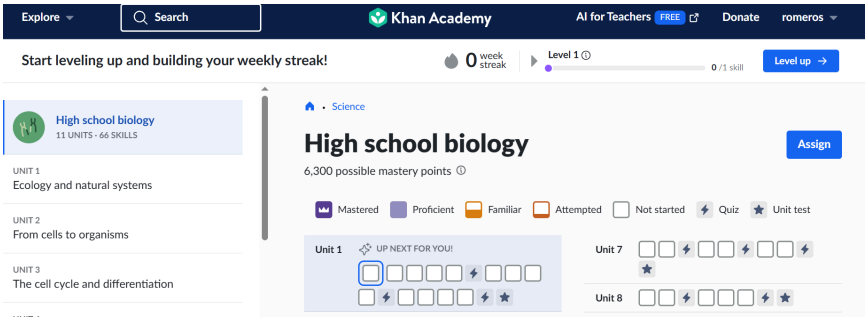
~Our FHS ***Physics*** course uses an online platform designed for high school students called Positive Physics. It combines problem solving resources, interactive questions and student friendly videos and animations to engage students. Students get immediate feedback and lessons nurture confidence and provide scaffolds to make Physics accessible for all learners.

This document contains multiple tabs. To access the next core content area resources, scroll to the bottom of each page or use the extended sidebar on the left to navigate between tabs.

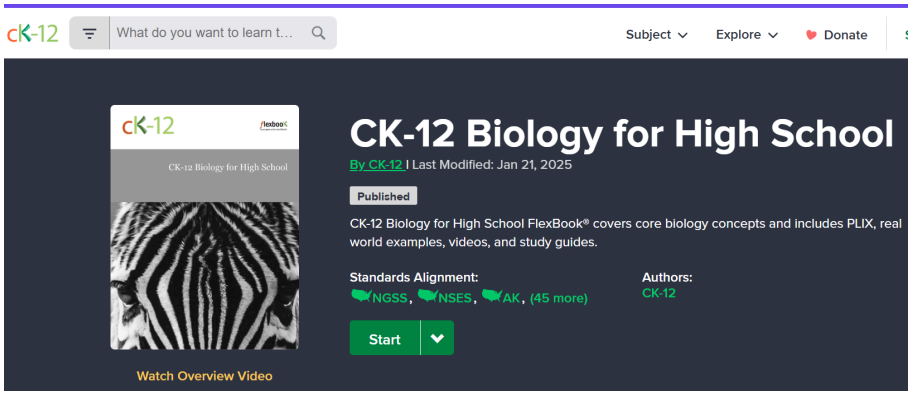
Biology

FOR BIOLOGY, using the 2016 MA Biology Curriculum Framework as a guide for core ideas and practices, students and families can find valuable support in the following resources:

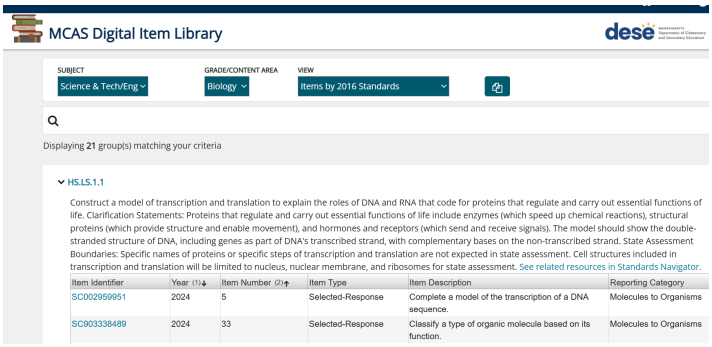
~Khan Academy provides videos, practice problems and AI powered support.



~CK12 will provide a digital textbook, interactive simulations, PLIX interactive games, study guides and adaptive practice to help students build skills and knowledge in STEM.



~MCAS Digital Item Library provides sample questions from the state assessment exam given to all students in June at the conclusion of their Biology course.



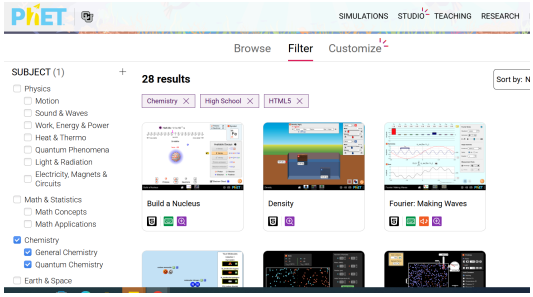
Video Series that support core ideas:
~Ameoba Sisters
~Crash Course

Chemistry

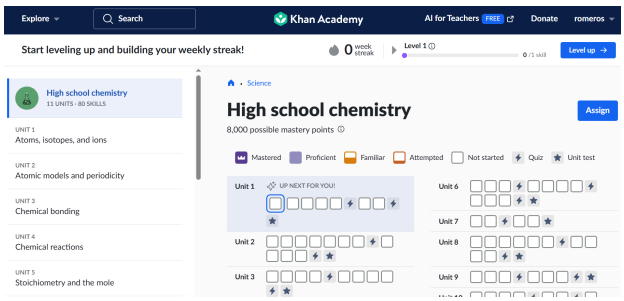
FOR CHEMISTRY, using the 2016 Chemistry Standards as a guide for core ideas and practices, students and families can find valuable support in the following resources:

~PhET Simulations:

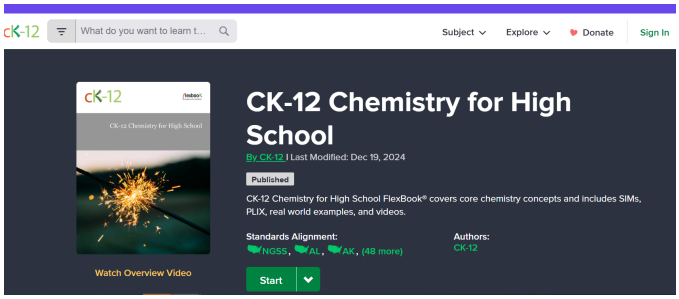
"Founded in 2002 by Nobel Laureate Carl Wieman, the PhET Interactive Simulations project at the University of Colorado Boulder creates free interactive math and science simulations. PhET sims are based on extensive education research and engage students through an intuitive, game-like environment where students learn through exploration and discovery."



~KHAN Academy provides videos, practice problems and AI powered support.



~CK12 will provide a digital textbook, interactive simulations, PLIX interactive games, study guides and adaptive practice to help students build skills and knowledge in STEM.



Video Series that support core ideas:

~Crash Course

Physics

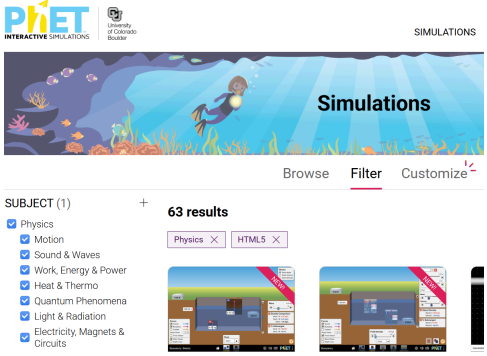
FOR PHYSICS, using the 2016 Physics Standards as a guide for core ideas and practices, students and families can find valuable support in the following resources:

~The Physics Classroom and You

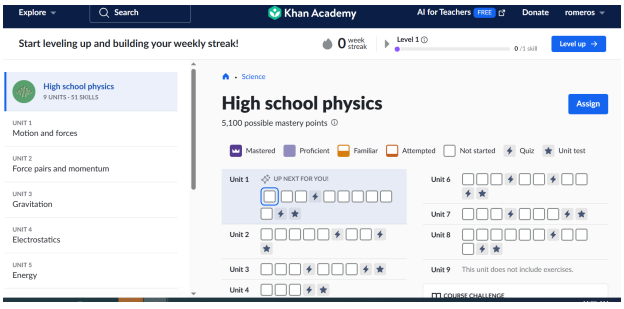
"We've had a phrase in our heads for a long time that sums up our mission: "serving students, teachers and classrooms." Every resource on our website has been fueled by the passion to put a tool in the hands of a student or a teacher to help them more effectively learn or teach physics."

~PhET Simulation:

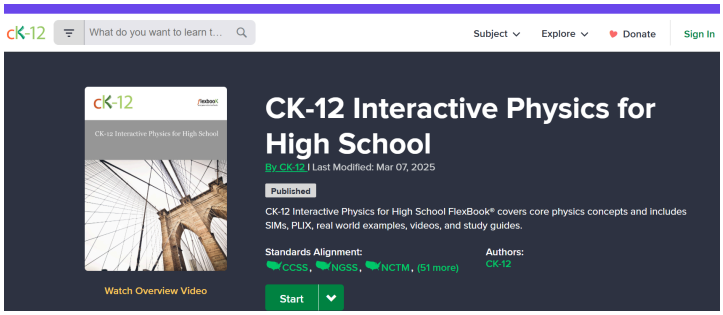
"Founded in 2002 by Nobel Laureate Carl Wieman, the PhET Interactive Simulations project at the University of Colorado Boulder creates free interactive math and science simulations. PhET sims are based on extensive education research and engage students through an intuitive, game-like environment where students learn through exploration and discovery."



~KHAN Academy provides videos, practice problems and AI powered support.



~CK12 will provide a digital textbook, interactive simulations, PLIX interactive games, study guides and adaptive practice to help students build skills and knowledge in STEM.



EXTENDED LEARNING:

~Open Yale Courses provides free and open access to a selection of introductory courses taught by distinguished teachers and scholars at Yale University. The aim of the project is to expand access to educational materials for all who wish to learn.