

Prerequisite courses: none

Grade level: 9-12

Course Description

This course expands students' understanding of the physical world, focusing on matter, forces, energy, and light. Students will explore the states of matter, the structure of atoms, and the periodic table while learning about the properties and changes in matter. The course introduces Newton's laws of motion, gravity, and friction, emphasizing real-world applications. Students will also study energy transformations, simple machines, and the principles of light, including its interaction with objects and how lenses and the human eye function. Through labs and engaging activities, students will build critical thinking skills and apply scientific concepts to everyday life.

This course is part of the Exceptional Students Course Suite, designed for high school students working three or more grade levels behind. The Exceptional Students courses are ideal for students whose IEPs allow them to earn credit for below-grade-level coursework.

Course Objectives

Students will meet the following goals in this course.

- Analyze the properties and changes in matter, distinguishing between physical and chemical changes.
- Explore atomic structure, the periodic table, and the formation of compounds.
- Understand and apply Newton's laws of motion, gravitational forces, and the effects of friction.
- Investigate the principles of energy, work, power, and simple machines to solve practical problems.
- Examine the behavior and properties of light, including refraction, lenses, and optical devices.

Student Expectations

This course requires the same level of commitment from students as a traditional classroom course. Students are expected to spend approximately 5–7 hours per week online on:

- interactive lessons, which include a mixture of instructional videos and tasks.
- assignments, in which they apply and extend learning in each lesson.
- assessments, including quizzes, tests, and cumulative exams.

Physical Science Essentials II

Communication

Teachers will communicate with students regularly through discussions, emails, chats, and system announcements. Students will also communicate with classmates, either via online tools or face to face, to collaborate, ask and answer questions in peer groups, and develop speaking and listening skills.

Grading Policy

Students will be graded on work completed online and work submitted electronically to the teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Assignments	20%
Lesson quizzes	30%
Unit tests	30%
Cumulative exams	20%

Scope and Sequence

When students log on to Imagine Edgenuity, they can view the entire course map—an interactive scope and sequence of all topics under study. The units of study are listed below

Course Units
Unit 1: Matter
Unit 2: Atoms, Elements, and Compounds
Unit 3: Forces and Newton's Laws
Unit 4: Conservation of Energy
Unit 5: Visible Light