Course Overview (new)

Content Area: **Science**
Course(s): **AP Language & Composition, Science 8**
Time Period: **Year**
Length: **180 days**
Status: **Published**

Course Overview

Aligned to Standards: NJSLS 2020

Revision Date: July 2025

In compliance with the NJ Student Learning Standards, climate change, career readiness, DEI (Diversity, Equity, & Inclusivity), as well as other standards have been integrated within the NBCRSD curricula (NJ Administrative Code Title 6A: chapter 8; Title 18A: chapter 35).

Course Overview

Sequence- Unit Titles, Summaries, and Number of weeks per unit (total = 18 semester/36 year)

Unit 1: Force and Motion 7 weeks

This unit is anchored in the phenomenon: that some vehicles and driving behaviors result in fewer accidents and less damage than other.

Examples explored include speed is a factor in the majority of accidents, and vehicles following closely behind another vehicle are less able to avoid a collision. Students generate and answer questions such as: How does the speed of a car its energy? What happens when objects collide? How can we apply an understanding of force and motion to develop solutions for improving vehicle and driving safety?

Unit 2: Energy 7 weeks

This unit is anchored in the phenomenon that some energy transfers and transformations are more efficient than others.

When a device uses energy, some of the energy is changed into a form that is not useful. This "wasted" energy reduces the efficiency of the device.

Examples: Some appliances (such as refrigerators) and devices (such as certain lightbulbs) use less energy than others; some devices transform energy from the sun. Students generate and answer questions such as: Why are some devices more efficient than others? What can people do to reduce energy use? How can people manipulate energy transfer and transformation to use energy more efficiently?

Unit 3: Waves 5 weeks

This unit is anchored in the phenomenon that waves can be both helpful and harmful.

Examples explored include information transmitted by waves, hearing loss due to loud music, and

eye damage from looking at the sun.

Students generate and answer questions such as: How can loud sounds cause hearing loss? How can sunlight damage eyes? How do waves transfer energy? How can waves be used to transmit information?

Unit 4: Chemistry of Materials 5 weeks

This unit is anchored in the phenomenon that different materials have different properties, and these properties affect their usefulness and impact on the environment.

Examples explored include properties of plastic, glass, and metal drink containers and water bottles, and the varied properties and uses of plastics in thousands of everyday objects. Students generate and answer questions such as: How do the particle structures of materials vary? How do these structures determine the properties of materials? How do the properties of materials affect their usefulness and impact on the environment?

Unit 5: Chemical Reactions 5 weeks

This unit is anchored in the phenomenon that chemical reactions can be used to solve problems but can also create problems.

Examples explored include combining certain substances releases a gas, combining certain substances releases energy (such thermal energy, light, electricity), and combining certain liquids results in a color change or formation of a solid. Students generate and answer questions such as: What happens when new materials are formed? How do particles combine into new substances? How can chemical reactions solve and create problems?

Reporting Student Progress (link to NB's Assessment System)
All courses follow a balanced assessment system with Practice and Assessments.
Each category includes formative, summative and alternative assessments.

Accommodations and Modifications (link to menu)
Integrated accommodations and modifications for special education students, English language learners, students at risk of school failure, gifted and talented students, and students with 504 plans.