

# Science 8

## Course Overview and Syllabus

---

**Course Subject Code:** 2254

**Grade level:** 8

**Prerequisite Courses:** None

**Credits:** 1.0

### Course Description

This full-year, eighth-grade course exposes students to a thorough study of specific topics within the life, earth and physical sciences. The first unit focuses on traditional concepts in chemistry and physics, and encourages a world view of the fields of science. The course includes an overview of scientific principles and procedures, and leads students toward a clearer understanding of the world around them as they study topics such as motion and forces, waves, geology, energy, the physical environment and the effect of human activity. As students refine and expand their understanding of science, they will apply their knowledge in experiments that require them to ask questions and create hypotheses. Throughout the course, students solve problems, reason abstractly, and learn to think critically. The larger themes are also applied to real-world topics while students complete hands on laboratory experiments that include both a virtual lab and a wet lab option.

### Course Objectives

Throughout the course, you will meet the following goals:

- Conduct investigations and evaluate experimental designs.
- Apply Newton's Third Law to understand problems involving the motion of two colliding objects.
- Use models to describe that waves are reflected, absorbed, or transmitted through various materials.
- Explore anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer ancestral relationships.
- Interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

The course objectives are implemented throughout specific lessons, which include examples of scientific and scholarly texts as well as virtual labs and wet labs which allow for a real-world, hands on experience. The objectives focus on investigating, evaluating, and exploring the scientific principles which guide further research and understanding.

The lesson objectives are assessed through assignments, quizzes, unit tests, virtual and wet labs and cumulative exams.

## Student Expectations

This course requires the same level of commitment from you as a traditional classroom course. Students are expected to spend approximately five to seven hours per week online on:

- Interactive lessons that include a mixture of instructional videos and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments, including quizzes, tests, and cumulative exams

## Communication

Your teacher will communicate with you regularly through discussions, e-mail, chat, and system announcements, and will provide you with hours of availability, contact policies, and any synchronous attendance requirements. You will also communicate with classmates, either via online tools or face to face, as you collaborate on projects, ask and answer questions in your peer group, and develop your speaking and listening skills.

## Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Assignments	10%
Labs	15%
Lesson Quizzes	20%
Unit Tests	30%
Cumulative Exams	20%
Projects	5%

## Scope and Sequence

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

- Unit 1:** Physical and Chemical Properties/Chemical Change
- Unit 2:** Motion and Forces
- Unit 3:** Waves and Their Application for Information Transfer
- Unit 4:** Geological Time Scale and Fossils
- Unit 5:** Cycles and Energy Flow

- Unit 6:** Plate Tectonics/Catastrophic Events/Waves in the Earth
- Unit 7:** Earth and Human Activity: Rocks, Minerals, Soil, and Water
- Unit 8:** Earth and Human Activity: Human Impact on Resources

## **Standards Alignment**

The course was designed to meet the requirements of the 2014 Oklahoma Academic Standards for 8<sup>th</sup> grade science. The standards aligned to each lesson are available in the student portal in the lesson information panel.

## **Materials and Technology Requirements**

All course materials are provided through the student portal. You will become familiar with them through an orientation video and the student handbook. These resources are available within the Student Organizer, where you can also check the status of your operating system, processor speed, plug-ins and connection speed.

## **Accessibility**

The course is designed for accessibility to all students. The system provides features and accommodations to meet the needs of ELL and students with IEP's, 504 plans, and Section 508. These accommodations include addressing multiple learning styles, accommodations for assessments, video caption/transcripts, read-aloud and translation tools, and many other features/accommodations.