

Oak Meadows 8th grade Physical Science

Class Description:

This Physical Science course works with how we see and understand the physical world around us. The students learn about forces and physical properties that occur in nature. They will learn about energy, substances, movement, and more.

Learning Materials: Main curriculum:
Oak Meadows Physical Science 8th Grade

Learning Goals/Performance Objectives: 1.1.1 Understand how to use physical and chemical properties to sort and identify substances.

1.1.3 Understand sound waves, water waves, and light waves using wave properties, including amplitude, wavelength, and speed. Understand wave behaviors, including reflection, refraction, transmission, and absorption.

1.1.4 Understand that energy is a property of matter, objects, and systems and comes in many forms (i.e., heat [thermal] energy, sound energy, light energy, electrical energy, kinetic energy, potential energy, and chemical energy).

Learning Activities: There are 36 lessons. The student will work on one lesson per week. Each lesson consists of readings, assignments, projects, and a test. Students are able to choose from a list of projects.

Lesson 1: A Brief History of Physical Science

Lesson 2: Measuring

Lesson 3: Scientific Method

Lesson 4: Energy

Lesson 5: Thermodynamics and Conservation of Energy

Lesson 6: Force

Lesson 7: Force of Gravity

Lesson 8: The Laws of Motion

Lesson 9: More Motion

Lesson 10: Work and Power

Lesson 11: Machines

Lesson 12: More Machines

Lesson 13: Waves as Moving Energy

Lesson 14: Sound

Lesson 15: More Sound

Lesson 16: Light

Lesson 17: Opaque Materials and Shadows

Lesson 18: Color

Lesson 19: Lenses

Lesson 20: Electricity

Lesson 21: Batteries

Lesson 22: Electric Circuits and Measuring Electricity

Lesson 23: Resistance and Ohm's Law

Lesson 24: Home Electricity
Lesson 25: Magnetism
Lesson 26: Magnetism and Electricity
Lesson 27: Matter
Lesson 28: Mixtures, Compounds and Molecules
Lesson 29: Solutions
Lesson 30: Heat, Temperature and Pressure
Lesson 31: Aerodynamics and Flight
Lesson 32: Modern Machines
Lesson 33: Cars
Lesson 34: Energy Use in our World
Lesson 35: Energy Problems
Lesson 36: Final Review

Progress Criteria/Methods of Evaluation: For successful completion of this course, the student will complete at least 70% of the lessons/goals, at a minimum of 70% accuracy. Formative assessments will be given throughout the year as deemed necessary. Each week the student will complete a project. There will be a final review/test at the end of the year.

Timeline:

Sept: Lessons 1-4

Oct: Lessons 5-9

Nov: Lessons 10-12

Dec: Lessons 13-15

Jan: Lessons 16-20

Feb: Lessons 21-23

Mar: Lessons 24-27

April: Lessons 28-30

May: Lessons 31-34

June: Lessons 35-36 (final project)