

# 4<sup>th</sup> Grade

SCIENCE ZONE

FIELD TRIPS

**Theme:** Scientific Method  
**Topic:** Crime Scene Investigation

**DESCRIPTION:** Forensics analysis requires the application of a lot of science and engineering practices. In this hands-on crime scene investigation activity, students will engage first hand with a number of science and engineering practices like making observations, collecting and analyzing data, using appropriate tools, and communicating an argument using evidence.

**OBJECTIVES:**  
Students will actively engage with a range of science and engineering practices including observing, conducting tests, analyzing data, and communication information, in order to solve a staged crime.

**NGSS & WY Science Standards:**  
**ENGINEERING: 4TH GRADE**

- 3-5-ETS1-1
- 3-5-ETS1-3

**Theme:** Earth Science  
**Topic:** Rocks & Minerals

**DESCRIPTION:** This lesson is designed to be an introduction to geology. Students will learn that minerals are the building blocks of rocks and then investigate the properties of rocks to explore how different mineral composition leads to different rock types. Students will also learn about the three categories of rocks and how they can cycle from one to another slowly over time.

**OBJECTIVES:**

- Students will conduct hands-on examination of rocks to be able to identify and classify rocks based on their physical properties.
- Students will model the rock cycle to understand how rocks can transition through igneous, metamorphic, and sedimentary rocks.

**NGSS & WY Science Standards:**  
**EARTH SCIENCE: 4TH GRADE**

- 4-ESS1-1
- 4-ESS2-2

**Theme:** Earth Science  
**Topic:** Weathering & Erosion

**DESCRIPTION:** This exploratory lesson has students create and use models to simulate chemical and mechanical weathering of rocks as well as understand the difference between weathering and erosion.

**OBJECTIVES:**

- Students will develop and use models to observe and compare the differences between weathering and erosion.
- Students will use models to simulate the processes of chemical and mechanical weathering of rocks.

**NGSS & WY Science Standards:**  
**EARTH SCIENCE: 4TH GRADE**

- 4-ESS2-1

# 4<sup>th</sup> Grade

SCIENCE ZONE

FIELD TRIPS

**Theme:** Physical Science  
**Topic:** Force & Speed

**DESCRIPTION:** Students experiment with what affects the speed of an object. Is it force? How much does gravity affect speed? These are more questions are answered as the students work through experiments and build their own mini roller coaster.

**OBJECTIVES:**

- Students will demonstrate an understanding that speed is related to the energy of an object and through conducting experiments on changing the amount of force for an object.
- Students will demonstrate an understanding that objects can change speed due to interaction with other objects by building a model roller coaster.

**NGSS & WY Science Standards:**  
**PHYSICAL SCIENCE: 4<sup>TH</sup>**

- 4-PS3-1
- 4-PS3-4

**Theme:** Physical Science  
**Topic:** Electromagnetism

**DESCRIPTION:** This lesson shows students how to convert electrical energy into magnetic energy. Students will work from identifying conductors to creating an electro-magnet out of one of those conductors.

**OBJECTIVES:**

- Students will demonstrate an understanding of what an electrical conductor is by choosing one to create a magnet.
- Students will create an electromagnet using a conductive object and electrical wire.

**NGSS & WY Science Standards:**  
**PHYSICAL SCIENCE: 4<sup>TH</sup>**

- 4-PS3-2
- 4-PS3-4

**Theme:** Life Science  
**Topic:** The Brain

**DESCRIPTION:** The brain is constantly working to keep our body functioning, even when we don't realize it. Explore the functions of the brain and learn how our body uses different senses to send signals to the brain.

**OBJECTIVES:**

- Students will explore how different parts of the brain are responsible for different functions of the body.
- Students will explore how the brain process information from our senses and send signals to our body.

**NGSS & WY Science Standards:**  
**LIFE SCIENCE: 4<sup>TH</sup>**

- 4-LS1-1
- 4-LS1-2

# 4<sup>th</sup> Grade

SCIENCE ZONE

FIELD TRIPS

**Theme:** Earth Science

**Topic:** Renewable & Non-Renewable Resources

**DESCRIPTION:** This lesson breaks down the difference between renewable and non-renewable resources. Are some resources better than others? What types of questions should we ask ourselves when we decide to use different resources?

**OBJECTIVES:**

- Students will demonstrate an understanding of the term renewable by identifying renewable and non-renewable resources.
- Students will explore the affects our resource usage may have.

**NGSS & WY Science Standards:**

**EARTH SCIENCE: 4<sup>TH</sup>**

- 4-ESS3-1

