

# 7th Grade Science

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**Why teach science?** The purpose of teaching science is to empower students to explore the principles of scientific research and its implications in order to enhance their natural curiosity, promote problem-solving abilities and higher-level thinking skills.

## How do we teach science?

Science is taught by challenging students through:

- experiential investigation.
- scientific inquiry.
- the application of technology.
- the integration of science into real-life situations.
- the promotion of problem solving

**What areas of science are studied?** Throughout the year, students will study...

## Environmental Science

### Ecology

various environmental roles  
interactions between living things  
ecosystems  
cycles of matter  
characteristics of biomes  
environmental issues (resource use, population growth, pollution)  
global warming  
helping the environment

## Life Science

### Cells

characteristics of plant/animal cells  
cell cycle  
organelles in cells  
photosynthesis and respiration  
diffusion and osmosis  
structure/function of DNA

### Heredity

DNA replication  
Mendel's work  
crossing traits  
meiosis vs. mitosis  
genetic disorders

### Animal Behavior

stimulus and response  
learned behavior vs. instinctive behavior

## Invertebrates

- characteristics of invertebrates
- classification of invertebrates
- anatomy and physiology of an earthworm

## Vertebrates

- characteristics of animals
- classify animals
- anatomy and physiology of a frog

## Forensic Science

### Scientific Method

- investigating using science
- techniques used to solve crimes
- bringing evidence to court

### **How are the students assessed?**

In Science, assessments check students' ability to demonstrate understanding of new concepts and skills.

- Frequent informal assessments take place in class on a daily basis via classroom activities and discussion.
- Homework or class work may be used as a formal assessment.
- One project will be assigned for each unit of study.
- Tests will be given upon completion of the unit material.

**What technology is used in class?** Students will use the internet for research throughout the year, various tools of the trade, and science videos.

**What resources are used?** The four different books used throughout the year are:

1. Prentice Hall *Science Explorer: Life Science*
2. Prentice Hall *Science Explorer: Cells and Heredity*
3. Prentice Hall *Science Explorer: Forensic Science*
4. Prentice Hall *Science Explorer: Animals*