

Fifth Grade Science

The fifth grade science curriculum covers topics in life, earth, and physical science. Through various activities and labs students will study in depth cells, ecosystems, weather, geology, and energy among other topics. Approximately four hours will be devoted to Science each week.

Text: SRA Real Science McGraw-Hill, 2000

I. Life Science

A. Cells

1. Identify that cells are the smallest unit of living matter.
2. Identify how cells are alike and different.
3. Identify parts of all cells.
4. Distinguish the differences between plant and animal cells.
5. Explain why cells need energy and explore how they get it.

B. Structures of Life

1. Explain how cells and tissues can work together.
2. Identify animal and plant tissues and describe how they function in an organism.
3. Describe animal and plant organs and their systems and how they function in an organism.

C. Populations and Ecosystems

1. Define an ecosystem.
2. Describe how a habitat and a niche are related in an ecosystem.
3. Examine population density.
4. Identify patterns of interaction among organisms in an ecosystem.
5. Describe how resources are cycled and how energy flows through an ecosystem.
6. Explain adaptation and how it helps plants and animals meet their needs.

II. Earth Science

A. Earth's Atmosphere and Weather

1. Define air as matter.
2. Describe how sound travels through air.
3. Give examples of how changes in the air affect the weather.
4. Understand how instruments can be used to measure the properties of air.
5. Describe what the atmosphere is and identify its chemical components.
6. Label the different layers of Earth's atmosphere.
7. Distinguish between weather and climate.

8. Identify various instruments meteorologists use to predict weather.
 9. Identify causes of severe weather and define a weather front.
- B. Water on Earth
1. Differentiate parts of the water cycle.
 2. Compare and contrast properties of freshwater and salt water.
 3. Understand the cycle of water moving from the Earth's surface to the atmosphere and back again.
 4. Realize why the relative humidity of air is important to the water cycle.
 5. Identify features found on the ocean's floor.
 6. Explain the importance of ocean currents and waves.
- C. Earth's Changing Surface
1. Demonstrate an understanding of the three layers of Earth.
 2. Describe volcanoes and their effects on Earth.
 3. Explain how earthquakes occur and the results of earthquakes.
 4. Describe the effects of long term change on Earth's surface.
 5. Describe how some minerals form and how they are mined.
 6. Describe how fossil fuels are formed and understand the importance of conservation of natural resources.
- D. Stars and the Solar System
1. Explain how gravity affects the movement of Earth and the moon.
 2. Identify how gravity affects the atmosphere and Earth's capacity to support life.
 3. Describe what constitutes our solar system.
 4. Identify the inner and outer planets and what other objects are traveling in our solar system.
 5. Compare and contrast the characteristics of the planets.
 6. Identify the physical characteristics of stars.
 7. Differentiate between the causes of a star's brightness.

III. Physical Science

- D. Properties of Matter
1. Identify physical and chemical properties of matter.
 2. Describe the three states of matter.
 3. Describe what a physical and chemical change are and what can happen in a chemical reaction.
 4. Describe what a mixture is.
 5. Differentiate between homogeneous and heterogeneous mixtures.
 6. Explain what a colloid is.
- E. The Structure of Matter

1. State what an atom is.
 2. Describe how models of atoms have changed over time.
 3. Define what an element is.
 4. Explain how elements are identified.
 5. Identify what molecules are.
 6. Explain how compounds are structured.
 7. Describe how properties of elements change when compounds are formed.
 8. Explain how elements have been classified and how the periodic table is structured.
 9. Identify what metals, nonmetals, and metalloids are.
- F. Forms and Uses of Energy
1. Define energy by the work it does.
 2. Identify different forms of energy.
 3. Explain how energy is transferred.
 4. Explain the uses of thermal and nuclear energy and how fossil fuels are used for electricity.
 5. Define alternative resources for renewable energy and how they can be used.