

SCIENCE – GRADE 6

Text: Holt, Rinehart & Winston: *Holt Science and Technology*:
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Supplemental Materials: Holt, Science and Technology *Chapter Resource Files, Online Resources and Lab Programs.*
Teacher-made quizzes and test.

Course Description:

The sixth grade science course is designed as an introduction to the study of the earth and its neighbors in space. Emphasis will be placed on scientific methods and discovery in the study of stars, planets, weather, rivers, glaciers, oceans, rock, volcanoes, earthquakes, mountains, drifting continents and the earth in time. The course will develop critical and abstract thinking skills and instill a wonder and excitement of discovery.

Methods of Evaluation: Students can be evaluated through tests, quizzes, daily class work, lab assessments, homework, quarterly exams, and/or any other form of evaluation instrument the instructor finds applicable to the course.

Pace of Instruction: First Quarter: Unit on Measurement and Scientific Method: Unit on Astronomy: Chapter 18-23.
Second Quarter: Unit on Geology: Chapters 3-7
Erosion and Deposition: Chapters 10-12
Third Quarter: Unit on Meteorology: Chapters 15- 17
Fourth Quarter: Unit on Oceanography: Chapters 3-14
NOTE: Time does not allow for every topic to be studied in depth.
Some may not be covered during a unit.

Course Objectives:

- A. Scientific Inquiry, Safety Skills and SI Measurement
1. Uses process skills of observing, classifying, communicating, measuring, predicting, identifying and manipulating variable.
 2. Understands and applies laboratory safety rules and practices.
 3. Defines and identifies standards of SI measurement for length, volume, mass, density, time and temperature.
 4. Uses appropriate tools for determining mass, volume, temperature, density and length.

B. Geology

1. Differentiate among element, compounds, and mixtures.
2. Identifies minerals by physical properties such as hardness, shape, color, luster, streak, cleavage and fracture.
3. Differentiates among rocks (igneous, sedimentary and metamorphic).
4. Describe the rock cycle.
5. Describe ways in which scientists use the rock and fossil record to decipher Earth's history.
6. Interprets the geology of Earth based on the principle of uniformitarianism and the principle of superposition.
7. Recognize the structure of the Earth and the forces that continually reshape the crust of our planet. (Ex. Continental drift, earthquakes, volcanoes, plate tectonics, weathering and erosion).
8. Recognizes major symbols, series, scales and colors conventionally used to represent features on topographic maps and various Earth models.

C. Oceanography

1. Identify parts of the water cycle.
2. Describe the characteristics, composition and movement of the oceans.
 - a. Describe the features of the ocean floor
 - b. Discuss currents, waves and tides.

D. Meteorology

1. Describes the composition and structure of the Earth's atmosphere.
2. Recognizes and investigates weather phenomena and their effects on the Earth's surface.
3. Describes atmospheric factors which interact to cause weather: heat energy, air pressure, winds and moisture.
4. Interpret weather maps and make forecasts.
5. Identify clouds and their formation.
6. Compare the four major types of air masses and how they create fronts that affect weather patterns.
7. Identifies factors that determine climate.
8. Differentiate between the climate zones of the Earth.

E. Astronomy

1. Describes the components of the solar system: planets, asteroids, comets, and meteorites.
2. Identifies and describes stars and star systems.
3. Describe major galaxy types
4. Describe the life cycle of a star.
5. Interprets the Hertzsprung-Russell Diagram.
6. Compares and contrasts theories on the origin of the universe.
7. Describes how information is obtained about space.
8. Identifies the use of probes, satellites, light and radio telescopes and spectroscopes to gather information about space.

9. Describe the relationships of the motions between the sun, moon and earth.
10. Describe how seasons are caused by the Earth's revolution.
11. Define the phases of the moon.
12. Compare and contrast a lunar and solar eclipse.
13. Discuss the effect of the sun and moon on tides.