

Springfield Public Schools
K-5 SCIENCE

COURSE DESCRIPTION

Science in third grade is taught on a daily basis approximately 45 minutes each day within a regular self-contained classroom. The third grade student will be introduced to different objectives in the areas of matter, force and motion, earth systems, the universe, and living systems. The program emphasizes a hands-on approach to learning and scientific inquiry.

THIRD GRADE
MAJOR INSTRUCTIONAL GOALS

The intent of the Springfield R-12 Science Program is:

- 1. The student will use the scientific method to plan and conduct hands-on investigations.**
 - a. Use simple metric tools to accurately measure objects (length, mass, capacity and temperature) and record the data. (SC 7; 1.4; **1.8**; 2.1)
 - b. Use words, pictures, model, numbers, graphs, charts and maps to organize and communicate observations, ideas and explanations from investigations. (SC 7; **1.5**; **1.8**; 2.7; **4.1**)
 - c. Plan and conduct simple investigations that involve the manipulation of one variable while all others are held constant. (SC 7; **1.3**; 1.4; **2.1**; 3.1)

- 2. The student will demonstrate knowledge of the effects science and technology has on people and environment.**
 - a. Identify individuals from various backgrounds that have advanced science and technology through their contributions. (SC 8; **1.5**; **2.1**)
 - b. Evaluate safety and security as basic needs of humans and that safety involves freedom from danger, risk and injury. (SC 8; 2.3; **3.5**; **4.7**)
 - c. Describe the various ways in which science and technology impact careers and occupational areas. (SC 8; 1.10; 4.3; 4.8)
 - d. Design alternative strategies to solve existing and potential technological problems, analyze and evaluate alternatives by comparing strengths and weaknesses. (SC 8; 3.6; 3.7; 3.8)

- 3. The students will explore biological concepts through experiences with organisms, life cycles and habitats.**
 - a. Observe and record the phases in the life cycle of different types of organisms. (SC 3; **1.3**; **1.6**)
 - b. Demonstrate recognition that plants need energy from sunlight and various raw materials to live. (SC 3; 1.2; 3.1; **3.5**)
 - c. Differentiate whether characteristics are inherited from parents or acquired as a result of interaction with the environment. (SC 3; 3.4; 3.5)

- d. Apply knowledge gained through investigations to determine how variations provide an advantage in survival and reproduction. (SC 3; **1.3; 1.6**)
 - e. Demonstrate the recognition of the interrelationship of organisms in a food chain, including producer and consumer. (SC 4; 1.6; **3.5**)
 - f. Observe and record environmental changes and the reaction of organisms over time (SC 4;1.2; **2.3**)
4. **The student will recognize properties, patterns, and movements of the solar system and the universe, as well as investigate space exploration.**
- a. Describe the motion of the Earth in relation to the Sun and how it relates to the seasons. (SC 6; **1.3; 1.6**; 2.1)
 - b. Describe what a manned and unmanned space mission involves. (SC 8; 1.2; **2.1; 3.4**)
 - c. Explore how telescopes and satellites allow scientists to observe objects in the sky. (SC 6; 1.4; 1.10; 2.7)
 - d. Demonstrate the relationship that the rotation of the earth has on the day/night cycle. (SC 6; **1.3; 1.6; 2.1**)
 - e. Compare and contrast properties of the moon and the earth including moon phases. (SC 6; **1.6**;1.8)
5. **The student will investigate the earth and its physical properties.**
- a. Compare and categorize rocks, soils, and minerals on the basis of physical characteristics and their movement. (SC 5; **1.6**; 1.8)
 - b. Evaluate patterns and relationships in information to predict and identify areas that store water. (SC 5, **1.3; 1.6**; 2.4; 3.5)
 - c. Observe and describe the effects of the environment on a variety of objects (dissolving, weathering, shrinking, melting, and rusting). (SC 5; 1.2, **1.6**)
6. **The student will investigate the properties of matter and laws of force and motion and the relationship between them.**
- a. Use appropriate tools to measure mass and the force of gravity on objects. (SC 2; **1.3**; 1.4)
 - b. Plan and conduct investigations to study the effects of magnetic force on the motion of an object. (SC 2; **1.3; 1.6; 2.1**)
 - c. Analyze the relationship of the amount of force applied to an object, the mass of an object, and the amount of change in the object’s motion. (SC 2; **1.6**; 1.8)
 - d. Demonstrate the uses and advantages of simple machines and their effect on work. (SC 2; 1.2; **1.3; 1.6**)
 - e. Conduct investigations to study the effects of an electrostatic force on an object. (SC 2; **1.3; 1.6**; 1.8)

*Processing skills in **bold print** are assessed by the Missouri Assessment Program at this grade level.