

SEVENTH GRADE - SCIENCE



SUGGESTED TIME FRAME – 2016-2017

Unit 1: Chemistry of Life	4 weeks	August 8 – September 2
In this unit, the essential elements, chemical symbolism, how materials move into and within cells, and the chemical energy processes of photosynthesis, aerobic respiration, and fermentation (anaerobic respiration) will be explored.		
Unit 2: Plant and Animal Cells	2 weeks	September 6 – September 16
This unit focuses on comparing the basic structures and functions of different types of cells, with an emphasis on comparing the cell structures of plants and animals.		
Unit 3: Living Organisms	6 weeks	September 19 – November 4
This unit focus is on the life cycle of plants and animals, including humans, and on the comparison of complete and incomplete metamorphosis. Representative organ systems are explored. The unit concludes by introducing students to the development and use of dichotomous keys.		
Unit 4: Ecology	2 weeks	November 7 – November 18
In this unit, activities will focus on biomes and their characteristics; distinguishing among ecosystems, communities, populations, species, habitats, and niches; symbiotic relationships; and the impact of population changes on ecosystems.		
Unit 5: Balance within Ecosystems	6 weeks	November 28 – January 20
In this unit, activities will focus on adaptations of plants and animals for survival within an ecosystem and the essential roles of biotic and abiotic components in various ecosystems. The unit will address the concepts of <i>limiting factors</i> and <i>carrying capacity</i> with regard to populations that can be sustained in an ecosystem. The impacts of environmental factors and human interventions on ecosystems are analyzed.		
Unit 6: Reproduction and Heredity	4 weeks	January 23 – February 24
This unit focuses on the basic concepts of genetics. Major topics include sexual and asexual reproduction, mitosis and meiosis, genes and chromosomes, and Mendel's laws. The use of Punnett squares to predict traits will be presented in the unit.		
Unit 7: Health and Diseases	4 weeks	March 6 – March 31
This unit will focus on how human life can be influenced by external factors and genetics. It will discuss the effects lifestyle choices such as the use of tobacco and drugs can have on the body. Common communicable and noncommunicable diseases and the methods by which they are transmitted, treated, and prevented are among topics covered.		
Unit 8: Food Webs and Cycles	2 weeks	April 3 – April 13
This unit focuses on food webs in ecosystems, with an emphasis on understanding the energy movement through food webs. Ecosystem cycles are included, with a particular emphasis on the nitrogen and carbon cycles.		
STPSB Sex Education Unit	3 weeks	April 24 – May 23
This course, offered during the last nine weeks by St. Tammany Parish Schools to seventh grade Life Science students, covers male and female anatomy and physiology, conception, abstinence, contraception, pregnancy, and sexually transmitted diseases. These dates are not mandatory, but simply suggestions.		