



School District of Marshfield **Course Syllabus**

Course Name: 7th grade Life Science Regulars

Length of Course: Year

Credits: 1

Course Description:

Investigate the aspects of scientific inquiry, the life processes of living organisms. This is the study of living things from cells to a complete organism and their interaction in our Biosphere.

Learning Targets:

- Understand the structure and function of cell, organs, tissues, organ systems, and whole organisms.
- Show how organisms have adapted structures to match their functions, providing means of encouraging individual and group survival within specific environments.
- Differentiate between single and multiple-celled organisms through investigations, comparing the cell functions of specialized cells.
- Investigate and explain that heredity is comprised of the characteristics found in genes within the cells of organism.
- Describe how knowledge and concepts have changed over time in the earth, space, life, and environmental sciences.
- Explain how some of the changes on earth are contributing to changes in the balance of life and affecting the survival or population growth of certain species.

First Quarter – 9 Weeks

1. Scientific method (3 weeks)
 - A. Thinking like a scientist.
 - B. Science inquiry
 - C. Principles of science
2. Classification of Living things (6 weeks)
 - A. What is Life
 - B. Classifying living things
 - C. Domains and Kingdoms
 - D. The origin of Life

Second Quarter – 9 Weeks

1. Microscopic skills (1week)
2. Cell Structure and Functions (6 weeks)
 - A. Discovering Cells
 - B. Comparing Animal and Plant Cell structures
 - C. Organic chemistry
 - D. Cells in its environment (Diffusion and Osmosis)
3. Cell processes and Energy (3 weeks)
 - A. Photosynthesis
 - B. Respiration
 - C. Cell Division (mitosis)
 - D. Cancer

Third Quarter – 9 Weeks

4. The Science of Heredity (4 weeks)
 - A. Mendel's Work
 - B. Probability and Heredity
 - C. The Cell and Inheritance
 - D. DNA connections and the Making of Proteins
5. Modern Genetics (3 Weeks)
 - A. Human Inheritance
 - B. Human Genetic Disorders
 - C. Advances in Genetics

Fourth Quarter – 9 Weeks

6. Changes over Time (4 Weeks)
 - A. Darwin's Theory of adaption and change
 - B. Evidence of Evolution (change)
 - C. The Fossil Record of Change
7. Environmental Science (5 Weeks)
 - A. Populations and Communities
 - B. Living things and the Environment
 - C. Interactions Among Living Things
 - D. Energy Flow through the Environment
 - E. Cycles of Matter
 - F. Biogeography and Biomes

Required Core Resources:

- School approved text book
- Supporting internet resources