MACOPIN MIDDLE SCHOOL

SYLLABUS

I. COURSE TITLE:

Seventh Grade Life Science

II. TEXTBOOK:

Life Science. Katy Allen, Linda Berg, Barbara Christopher, Jennie Dusheck, and Mark Taylor. Holt, Rinehart, and Winston, New York, 2005.

III. COURSE DESCRIPTION:

This course is designed to meet the New Jersey State Core Curriculum Science Standards. It is a general overview of the study of life science from the basic cell to the higher order of organisms--plants and animals. In addition, the interaction of living and nonliving things in the environment will be discussed. The study of these topics will be enhanced through the use of the scientific method in a lab-oriented manner.

IV. COURSE OBJECTIVES:

Upon successful completion of the requirements of this course, the students should be able to demonstrate a proficiency in the skills and areas indicated below:

A. Examine the features, needs, and origins of living things.
B. Explain and apply the steps of the scientific method.
C. Know and apply approved safety standards in laboratory situations.
D. Know and apply appropriate techniques when using classroom lab equipment.
E. Select and use appropriate metric measurement.
F. Explain the structure, function, and reproduction of cells.
G. Explore the increasing complexity of structure in living things from cell to organism.
H. Describe patterns of heredity and how inherited changes can influence evolutionary trends.
I. Describe and evaluate methods of classification of organisms.
J. Compare and contrast common characteristics among members of the various kingdoms.
K. Examine the structure, processes, and reproduction of plants.
L. Explore characteristics of vertebrates.
M. Analyze the components of various ecosystems and the effects of those components on each other.
N. Describe the water and oxygen/carbon dioxide cycles.
O. Examine the pros and cons of current global and/or local environmental issues.
P. Identify the elements that a biome is comprised of and the ecosystems within a biome.
Q. Identify the various systems of the human body, and explain how systems and their organs interact.
R. Explore careers in life science and their impact on society.
S. Research individual or group topics using various reference materials and techniques.

V. COURSE CONTENT OUTLINE:

A. Exploring Life (Chapter 1-all) (4 weeks)
B. Ecology (Chapter 18, 29, and 20-all) (7 weeks)
C. Cells (Chapter 3-all; Chapter 4, section 3; Chapter 5, section 3; Chapter 6, sections 1 and 2) (6 weeks)

D. Heredity (Chapter 5-all) (3 weeks)
E. Classification of Living Things (Chapter 9-all) (3 weeks)
F. Plants (Chapter 12-all) (3 weeks)
G. Animals (Chapter 14, section 1; Chapter 16-all; Chapter 17-all) (5 weeks)
H. Human Body (Chapter 24-all; Chapter 23, sections 1 and 2) (2 weeks)

VI. STUDENT ACTIVITIES:

A. Class participation
   1. Small group interaction
   2. Class discussion
   3. Note-taking
B. Laboratory activities
   1. Laboratory experiments (individual/group)
   2. Written, formal lab reports
   3. Appropriate lab behavior
C. Homework and written class work
D. Individual and/or group project
E. Viewing of audio-visual materials
F. Viewing of teacher demonstrations
G. Computer Activities

VII. EVALUATION OF STUDENT LEARNING:

A. Tests and quizzes - 50%
B. Laboratory reports and/or projects - 25%
C. Homework/class work/class participation - 25%

VIII. TEACHING AIDS AND MATERIALS:

A. Laser disc
   1. Windows on Science - Life Science Volumes 1 and 2
   2. Bioscience
B. Interactive CD-ROMs
   1. Glencoe Life Science CD-ROM
   2. Genetics - Patterns of Inheritance
   3. Operation: Frog Deluxe
C. VHS videos
D. Overhead transparencies
E. Models/charts
F. www.glencoe.com; www.scilinks.org; www.hrw.com
G. Supplemental reference materials: Life Science. Biggs, Daniel, and Ortleb. Glencoe/McGraw-Hill, New York, 1999.
H. Internet sites

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