

**I. Course Objectives**

Student learning will focus on the following Illinois State Standards:

- A. Standard 12A Know and apply concepts that explain how living things function, adapt and change.
- B. Standard 12B Know and apply concepts that describe how living things interact with each other and their environment.
- C. Standard 12E Know and apply concepts that describe the features and processes of the Earth and its resources.
- D. Standard 13A Know and apply the accepted practices of science.
- E. Standard 13B Know and apply concepts that describe the interaction between science, technology and society.

**II. Areas of Study**

**A. Environmental Science**

- 1. Populations and Communities
  - a. Living things and the environment
  - b. Studying populations
  - c. Interaction among living things
  - d. Changes in the community
- 2. Ecosystems and Biomes
  - a. Energy flow in ecosystems
  - b. Cycles of matter
  - c. Biogeography
  - d. Biomes
  - e. Aquatic ecosystems
- 3. Living Resources
  - a. Environmental issues
  - b. Forests and fisheries
  - c. Biodiversity
  - d. Health integration: Searching for new medication
- 4. Land, Water, and Air Resources
  - a. Conserving land and soil
  - b. Waste disposal and recycling
  - c. Water pollution and solutions
  - d. Air pollution and solutions
  - e. Global changes in the atmosphere
- 5. Energy Resources
  - a. Fossil fuels
  - b. Renewable sources of energy
  - c. Nuclear energy
  - d. Energy conservation

**B. Cells and Heredity**

- 1. Cell structure and function
  - a. Discovering cells

- b. Looking inside cells
      - c. Chemical compounds in cells
      - d. The cell in its environment
    - 2. Cell Processes and Energy
      - a. Photosynthesis
      - b. Respiration
      - c. Cell division
      - d. Cancer
    - 3. Genetics: The Science of Heredity
      - a. Mendel's work
      - b. Probability and heredity
      - c. The cell and inheritance
      - d. The DNA connection
    - 4. Modern Genetics
      - a. Human inheritance
      - b. Human genetic disorders
        - 1) Genetic disorder research Power Point Presentation
        - 2) *The Acorn People* novel
      - c. Advances in genetics
    - 5. Changes over Time
      - a. Darwin's theory
      - b. Evidence of evolution
      - c. Fossil record
  - C. Bacteria vs. Virus
    - 1. Characteristics of bacteria
    - 2. Characteristics of viruses
    - 3. Viruses, bacteria, and health
  - D. Seed Plants
    - 1. Characteristics of a seed plant
    - 2. Gymnosperms
    - 3. Angiosperms
    - 4. Plant response and growth
  - E. Animals
    - 1. Classifying organisms
    - 2. Animal behavior
    - 3. Characteristics of mammals
- III. Behavior Expectations
- A. Be prompt
  - B. Be prepared
  - C. Be respectful
- IV. Grading
- A. Online grading
  - B. Point value
    - 1. Homework 10 pts.
    - 2. Quizzes 20 pts.
    - 3. Tests 50 pts.

- 4. Projects 50 pts.
- C. Homework policy
  - 1. Homework due next class period unless otherwise stated
  - 2. 10% reduction in grade for each day late up to 50% reduced
  - 3. All late work due prior to chapter test date or zero credit
- V. Extra Credit Opportunities
  - A. Listed in each chapter's vocabulary packet
  - B. Due prior to the chapter test
  - C. Websites
    - 1. [www.PHSchool.com](http://www.PHSchool.com)
    - 2. [www.SciLinks.org](http://www.SciLinks.org)
  - D. Science fair
    - 1. Held February 6, 2010
    - 2. Information packet sent home in December
- VI. Mighty Acorns at Spring Brook Nature Center
  - A. Fall
    - 1. October 26, 27 or 28
    - 2. Collecting seeds and food chains
  - B. Winter
    - 1. January 19, 20, or 22
    - 2. Invasive species and food web
  - C. Spring
    - 1. April 12, 13, or 14
    - 2. EXENTHUNCO rating and prairie burn
- VII. Contact Information
  - A. Phone: (630) 773-0335
  - B. Email: [ctinson@itasca.k12.il.us](mailto:ctinson@itasca.k12.il.us)
  - C. Homework Hotline: (630) 773-1232 Press 1 for 6<sup>th</sup> grade