

Life Science FCAT Learning Goals

Organization and Development of Living Organisms

- Identify and/or describe patterns in the hierarchical organization of organisms, from atoms to molecules, to cells, to tissues, to organs, to organ systems, to organisms.
- Identify, describe, and/or explain the components of cell theory.
- Describe how cells undergo similar processes to maintain homeostasis.
- Compare and/or contrast the structure and/or function of major organelles of plant and animal cells.
 - cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles
- Identify and/or describe the general functions of the major systems of the human body.
 - digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal systems
- Identify and/or describe how the major systems of the human body interact to maintain homeostasis.
- Identify, compare, and/or contrast the types of infectious agents that affect the human body.

Diversity and Evolution of Living Organisms

- Analyze and/or describe how and/or why organisms are classified.
- The characteristics used to classify organisms
- Classification of organisms
 - domains - Bacteria, Archaea, and Eukarya
 - kingdom - Eubacteria, Archaea, Protist, Fungus, Plant, and Animal
- *binomial nomenclature*
- Identify and/or explain ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.
- Identify and/or explain ways in which fossil evidence is consistent with the scientific theory of evolution.
- Identify and/or explain how a species' inability to adapt may contribute to the extinction of that species.
- Fossil evidence (progressions over time/evolution from earlier species and/or the idea that not all species alive today were alive in the past)

Heredity and Reproduction

- Describe and/or explain that every organism requires a set of instructions that specifies its traits.
- Identify and/or explain that hereditary information (DNA) contains genes located in the chromosomes of each cell and/or that heredity is the passage of these instructions from one generation to another.
- Use Punnett squares and pedigrees to determine genotypic and phenotypic probabilities.
- Compare and/or contrast general processes of sexual and asexual reproduction (mitosis and meiosis) that result in the passage of hereditary information from one generation to another.

Interdependence

- Compare and/or contrast relationships (and common examples) between organisms, such as mutualism, predation, parasitism, competition, and commensalism.
- Describe and/or explain the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
 - primary, secondary, and tertiary consumers
- Identify and/or describe various limiting factors in an ecosystem and their impact on native populations.

Matter and Energy Transformations

- Explain that living systems obey the Law of Conservation of Mass and the Law of Conservation of Energy.
- Describe and/or explain the general processes of photosynthesis or cellular respiration.
 - word equations for photosynthesis or cellular respiration
- Describe how matter and energy are transferred in the carbon cycle.
 - carbon reservoirs (atmosphere, organisms, fossil fuels, sediments, & oceans/water)
- Describe the role of light, carbon dioxide, water, and/or chlorophyll in the process and products of photosynthesis.

FCAT REVIEW MENU

Life Science

Directions: Choose from the activities in the menu below. The activities must total 10 points. Place a checkmark next to each box to show which activities you completed. Staple your work to this page and complete by _____.



1 Point

- ☐ Listen to a song on the FCAT review website. Write the chorus.
- ☐ Play a game on the FCAT review website. Keep track of your score.



2 Points

- ☐ Watch a video on the FCAT review website. Write down 3 vocabulary words (with definitions) and 1 main idea.
- ☐ Watch a Bill Nye video on the FCAT review website. Summarize 3 sections of the video (ex. Nye labs, Consider the following, song.)



3 Points

- ☐ Watch a Brain Pop on the FCAT review website. Complete the quiz.
- ☐ Read an article on the FCAT review website. Write down 3 vocabulary words (with definitions) and 1 main idea.