Georgia Science

Zoology

Adopted 2019

Obtain, evaluate, and communicate information to derive the phylogeny of animal taxa using informative characteristics. SZ1	**a.** Construct an explanation of the relationships among animal taxa using evidence from morphology, embryology, and biochemistry. SZ1.A
	b. Analyze and interpret data to explain patterns in structure and function and construct a classification of representative animal taxa including: Porifera, Cnidaria, Platyhelminthes, Nematoda, Annelida, Mollusca, Arthropoda, Echinodermata, and Chordata. SZ1.B
	c. Develop a model (i.e. cladogram, phylogenetic tree) using data to place taxa in a phylogenetic (evolutionary) context to support hypotheses of relationships SZ1.C
Obtain, evaluate, and communicate information to explain the evolutionary history of animals over the geological history of Earth. SZ2	**a.** Construct an explanation of the geological history of earth and the effects of major environmental changes. SZ2.A
	b. Construct an explanation of how evolution allows species to adapt to environmental changes. SZ2.B
Obtain, evaluate, and communicate information to compare and contrast structure and function of morphological and genetic characteristics across representative taxa. SZ3	**a.** Plan and carry out investigations to determine patterns in morphology (including organ systems, symmetry and body cavities) of representative animal taxa. SZ3.A
	b. Construct an explanation of life functions (i.e., reproduction, respiration, digestion) at appropriate level of organization for representative taxa. SZ3.B
	c. Construct an explanation based on evidence supported by evidence to relate important structural changes across evolutionary history to key functional transitions. SZ3.C
Obtain, evaluate, and communicate information to assess how animals interact with their environment and one another. SZ4	**a.** Construct explanations to relate structure and function of animals to ecological roles, including morphological, physiological, and behavioral adaptations SZ4.A
	b. Develop a model to explain patterns in various life cycles found among animals (e.g., polyp and medusa in cnidarians; multiple hosts and stages in the platyhelminthes or nematode life cycle; arthropod metamorphosis; egg, tadpole, adult stages in the amphibian life cycle). SZ4.B

	c. Construct an explanation based on evidence of the effects of symbiotic relationships between animals (i.e., parasites and disease vectors) and between animals and other organisms (i.e., algae in coral; protists in termites; parasites). SZ4.C
Obtain, evaluate, and communicate information to analyze the relationship between humans and animals within various phyla. SZ5	**a.** Ask questions and define problems identifying the cause and effect of human activities on the biodiversity of organisms (including habitat destruction, overharvesting, water consumption, and pollution). SZ5.A
	b. Design a solution to preserve species diversity in natural and captive environments with regard to conservation, habitat restoration, breeding programs and management of genetic diversity at local and global levels. SZ5.B
	c. Construct an argument based on evidence of the short-term and long-term impacts of legal, societal, political, ethical, and economic decisions on animal diversity. SZ5.C