



Gulfport School District PACING GUIDE

ZOOLOGY

Content Strands: Inquiry (I), Life Sciences (L)		
QTR	Competency/Objective	
Apply inquiry-based and problem-solving processes and skills to scientific investigations. (I)		
1.1	1a	Conduct a scientific investigation demonstrating safe procedures and proper care of laboratory equipment. (DOK 2) <ul style="list-style-type: none"> • Safety rules and symbols • Proper use and care of the compound light microscope, slides, chemicals, etc. • Accuracy and precision in using graduated cylinders, balances, beakers, thermometers, and rulers
1.1	1b	Formulate questions that can be answered through research and experimental design. (DOK 3)
1.1	1c	Apply the components of scientific processes and methods in classroom and laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). (DOK 3)
1.1	1d	Construct and analyze graphs (e.g., plotting points, labeling x-and y-axis, creating appropriate titles and legends for circle, bar, and line graphs). (DOK 2)
1.1	1e	Analyze procedures, data, and conclusions to determine the scientific validity of research. (DOK 3)
1.1	1f	Recognize and analyze alternative explanations for experimental results and to make predictions based on observations and prior knowledge. (DOK 3)
1.1	1g	Communicate and defend a scientific argument in oral, written, and graphic form. (DOK 3)
Develop an understanding of levels of organization and animal classification. (L)		
1.1	2a	Explain how organisms are classified and identify characteristics of major groups. (DOK 1) <ul style="list-style-type: none"> • Levels of organization of structures in animals (e.g., cells, tissues, organs, and systems) • Characteristics used to classify organisms (e.g., cell structure, biochemistry, anatomy, fossil record, and methods of reproduction)
1.1	2b	Identify and describe characteristics of the major phyla. (DOK 1) <ul style="list-style-type: none"> • Symmetry and body plan • Germ layers and embryonic development • Organ systems (e.g., digestive, circulatory, excretory, and reproductive) • Locomotion and coordination
1.1	2c	Distinguish Viruses from Bacteria and Protists and give examples. (DOK 1)



Gulfport School District PACING GUIDE

ZOOLOGY

Content Strands: Inquiry (I), Physical Sciences (P)		
QTR	Competency/Objective	
Distinguish among the characteristics of botanical organization, structure, and function. (L)		
1.1	2d	Differentiate among the characteristics of Bacteria, Archaea, and Eucarya. (DOK 1) <ul style="list-style-type: none"> • Phylogenic sequencing of the major phyla • Invertebrate characteristics (e.g., habitat, reproduction, body plan, locomotion) of the following phyla: Porifera, Cnidarians, Nematoda, Annelida, Platyhelmenthes, Arthropoda (Insecta, Crustacea, Arachnida, Mollusca [Bivalvia and Gastropoda], and Echinodermata) • Vertebrate characteristics (e.g., habitat, reproduction, body plan, locomotion) of the following classes: Agnatha, Chondrichthyes, Osteichthyes, Amphibia, Reptilia, Aves, and Mammalia
Differentiate among animal life cycles, behaviors, adaptations, and relationships. (L)		
1.2	3a	Describe life cycles, alternation of generations, and metamorphosis of various animals and evaluate the advantages and disadvantages of asexual and sexual reproduction. (DOK 1)
1.2	3b	Describe and explain concepts of animal behavior and differentiate between learned and innate behavior. (DOK 1) <ul style="list-style-type: none"> • Division of labor within a group of animals • Communication within animals groups • Degree of parental care given in animal groups
1.2	3c	Evaluate the unique protective adaptations of animals as they relate to survival. (DOK 2)
1.2	3d	Compare and contrast ecological relationships and make predictions about the survival of populations under given circumstances. (DOK 3) <ul style="list-style-type: none"> • Terrestrial and aquatic ecosystems • Herbivores, carnivores, omnivores, decomposers and other feeding relationships • Symbiotic relationships such as mutualism, commensalisms, and parasitism
1.2	3e	Contrast food chains and food webs. (DOK 2)
Demonstrate an understanding of the principles of animal genetic diversity and evolution. (L)		
1.2	4a	Categorize and explain sources of genetic variation on the cellular level (e.g., mutations, crossing over, non-disjunction) and the population level (e.g., non-random mating, migration, etc.) (DOK 2) <ul style="list-style-type: none"> • Relationship between natural selection and evolution • Mutations, crossing over, non-disjunction • Non-random mating, migration, etc. • Effects of genetic drift on evolution
1.2	4b	Develop a logical argument defending or refuting issues related to genetic engineering of animals. (DOK 3)



Gulfport School District PACING GUIDE

ZOOLOGY

Content Strands: Inquiry (I), Earth and Space (E), Field Experiences (F)		
QTR	Competency/Objective	
Relate an understanding of plant genetics to its uses in modern living. (L)		
1.2	5a	Research, prepare, and present a position relating to issues surrounding the current botanical trends involving biotechnology (DOK 3)
1.2	5b	Apply an understanding of the principles of plant genetics to analyze monohybrid and dihybrid crosses and predict the potential effects the crosses might have on agronomy and agriculture. (DOK 3)
1.2	5c	Discuss the effects of genetic engineering of plants on society. (DOK 2)
1.2	5d	Describe the chemical compounds extracted from plants, their economical importance, and the impact on humans. (DOK 3) <ul style="list-style-type: none"> • Plant extracts, their function, and origin • Impact of the timber industry on local and national economy