South Carolina Science Standards: Spineless Wonders

Third Grade

1. Science and Engineering Practices
    a. 3.S.1A.8
        i. Obtain and evaluate informational texts, observations, data collected, or discussions to (1) generate and answer questions, (2) understand phenomena, (3) develop models, or (4) support explanations, claims, or designs. Communicate observations and explanations using the conventions and expectations of oral and written language.
2. Life Science: Environments and Habitats
    a. 3.L.5B.1
        i. Obtain and communicate information to explain how changes in habitats (such as those that occur naturally or those caused by organisms) can be beneficial or harmful to the organisms that live there.

Fourth Grade

1. Science and Engineering Practices

a. 4.S.1A.8

    i. Obtain and evaluate informational texts, observations, data collected, or discussions to (1) generate and answer questions, (2) understand phenomena, (3) develop models, or (4) support explanations, claims, or designs. Communicate observations and explanations using the conventions and expectations of oral and written language.

2. Life Science: Characteristics and Growth of Organisms

a. 4.L.5A.1

    i. Obtain and communicate information about the characteristics of plants and animals to develop models which classify plants as flowering or nonflowering and animals as vertebrate or invertebrate.

b. 4.L.5A.3

    i. Develop and use models to compare the stages of growth and development in various animals.

c. 4.L.5A.4

    i. Construct scientific arguments to support claims that some characteristics of organisms are inherited from parents and some are influenced by the environment.

d. 4.L.5B.1

    i. Develop and use models to compare how humans and other animals use their senses and sensory organs to detect and respond to signals from the environment.

e. 4.L.5B.3

    i. Construct explanations for how structural adaptations (such as methods for defense, locomotion, obtaining resources, or camouflage) allow animals to survive in the environment.

Fifth Grade

1. Science and Engineering Practices

a. 5.S.1A.8

    i. Obtain and evaluate informational texts, observations, data collected, or discussions to (1) generate and answer questions, (2) understand phenomena, (3) develop models, or (4) support hypotheses, explanations, claims, or designs. Communicate observations and explanations using the conventions and expectations of oral and written language.

2. Life Science: Interdependent Relationships in Ecosystems

    a. 5.L.4A.2

        i. Obtain and communicate information to describe and compare the biotic factors (including individual organisms, populations, and communities) of different terrestrial and aquatic ecosystems.

    b. 5.L.4B.1

        i. Analyze and interpret data to explain how organisms obtain their energy and classify organisms as producers, consumers (including herbivore, carnivore, and omnivore), or decomposers (such as fungi and bacteria).

    c. 5.L.4B.2

        i. Develop and use models of food chains and food webs to describe the flow of energy in an ecosystem.

    d. 5.L.4B.3

        i. Construct explanations for how organisms interact with each other in an ecosystem (including predators and prey, and parasites and hosts).

    e. 5.L.4B.4

        i. Construct scientific arguments to explain how limiting factors (including food, water, space, and shelter) or a newly introduced organism can affect an ecosystem.

Sixth Grade

1. Science and Engineering Practices

    a. 6.S.1A.8

i. Obtain and evaluate scientific information to (1) answer questions, (2) explain or describe phenomena, (3) develop models, (4) evaluate hypotheses, explanations, claims, or designs or (5) identify and/or fill gaps in knowledge. Communicate using the conventions and expectations of scientific writing or oral presentations b (1) evaluating grade-appropriate primary or secondary literature, or (2) reporting the results of student experimental investigations.

2. Life Science: Diversity of Life – Classification and Animals

    a. 6.L.4A.1

        i. Obtain and communicate information to support claims that living organisms (1) obtain and use resources for energy, (2) respond to stimuli, (3) reproduce, and (4) grow and develop.

    b. 6.L.4A.2

        i. Develop and use models to classify organisms based on the current hierarchical taxonomic structure (including the kingdoms of protists, plants, fungi, and animals).

    c. 6.L.4B.1

        i. Analyze and interpret data related to the diversity of animals to support claims that all animals (vertebrates and invertebrates) share common characteristics.

    d. 6.L.4b.2

        i. Obtain and communicate information to explain how the structural adaptations and processes of animals allow for defense, movement, or resource obtainment.

    e. 6.L.4B.3

        i. Construct explanations of how animal responses (including hibernation, migration, grouping, and courtship) to environmental stimuli allow them to survive and reproduce.

    f. 6.L.4B.4

        i. Obtain and communicate information to compare and classify innate and learned behaviors in animals.

g. 6.L.4B.5

    i. Analyze and interpret data to compare how endothermic and ectothermic animals respond to changes in environmental temperature.

Seventh Grade

1. Science and Engineering Practices

    a. 7.S.1A.8

        i. Obtain and evaluate scientific information to (1) answer questions, (2) explain or describe phenomena, (3) develop models, (4) evaluate hypotheses, explanations, claims, or designs or (5) identify and/or fill gaps in knowledge. Communicate using the conventions and expectations of scientific writing or oral presentations by (1) evaluating grade-appropriate primary or secondary literature, or (2) reporting the results of student experimental investigations.

2. Ecology: Interactions of Living Systems and the Environment

    a. 7.EC.5A.1

        i. Develop and use models to describe the characteristics of the levels of organization within ecosystems (including species, populations, communities, ecosystems, and biomes).

    b. 7.EC.5A.3

        i. Analyze and interpret data to predict changes in the number of organisms within a population when certain changes occur to the physical environment (such as changes due to natural hazards or limiting factors).

    c. 7.EC.5B.1

        i. Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).

    d. 7.EC.5B.2

      i. Develop and use models (food webs and energy pyramids) to exemplify how the transfer of energy in an ecosystem supports the concept that energy is conserved.

e. 7.EC.5B.3

      i. Analyze and interpret data to predict how changes in the number of organisms of one species affects the balance of an ecosystem.

f. 7.EC.5B.4

      i. Define problems caused by the introduction of a new species in an environment and design devices or solutions to minimize the impact(s) to the balance of an ecosystem.