HOUSTON MUSEUM
of NATURAL SCIENCE

Texas Essential Knowledge and Skills

WILDLIFE ON WHEELS

UPDATED OCTOBER 2024

Thank you for choosing the Houston Museum of Natural Science. We are thrilled to have the opportunity to enhance your students' learning experience. To make it easier to select the right program, we have included the Texas Essential Knowledge and Skills (TEKS) for the four Wildlife on Wheels programs based on grade level. This resource is designed to assist you in aligning your experience with your curriculum, ensuring that the program is both educational and enjoyable for your students.

We are excited to meet you and your students for an unforgettable journey through the wonders of discovery.

For assistance with high school TEKS, please contact curriculum@hmns.org.

Rainforest

Goals:

- To know what a rainforest is and where they are located across the world
- Explore the idea of how rainforests across the world affect us in our day-to-day life
- To recognize how vastly different each part of a rainforest is from each other
- To appreciate the differences and similarities between the different plants and animal species living in each layer are from one another

Participants will be able to:

- Recognize the concept of environmental adaptations of animals living close to one another in a unique environment
- Understand there are many types of ecosystems in a single environment
- Acquire a new appreciation for all that the rainforests provide to the whole world

3rd Grade

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 11.A
The student is expected to explore and explain how humans use natural resources such as in construction, in agriculture, in transportation, and to make products.

Science 12.B
The student is expected to identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem.

Science 12.C
The student is expected to describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

Science 13.A
The student is expected to explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

Science 13.B
The student is expected to explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

4th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter.

Science 12.B
The student is expected to describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

Science 13.A
The student is expected to explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

Science 13.B
The student is expected to differentiate between inherited and acquired physical traits of organisms.

5th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem.

Science 12.B
The student is expected to predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

Science 12.C
The student is expected to describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Science 13.A
The student is expected to analyze the structures and functions of different species to identify how organisms survive in the same environment.

Science 13.B
The student is expected to explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.

Science 12.B
The student is expected to describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Science 12.C
The student is expected to describe the hierarchical organization of organism, population, and community within an ecosystem.

Science 13.C
The student is expected to describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

8th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.

Science 12.B
The student is expected to describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

Science 12.C
The student is expected to describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Science 13.C
The student is expected to describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Reptiles and Amphibians

Goals:

- To formulate a basic understanding of Reptiles and Amphibians.
- To recognize reptiles and amphibians' differences, similarities, and unique traits.

Participants will be able to:

- Recognize the concept of taxonomy
- Understand there are many types of animals with unique traits
- Acquire a new appreciation for all sorts of diverse animals in our world

Kindergarten
Science 5.F
The student is expected to describe the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 12.B
The student is expected to observe and identify the dependence of animals on air, water, food, space, and shelter.

Science 13.B
The student is expected to identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects.

1st Grade
Science 5.B
The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F
The student is expected to describe the relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 13.A
The student is expected to identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival.

Science 13.C
The student is expected to compare ways that young animals resemble their parents.

2nd Grade
Science 5.B
The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F
The student is expected to describe the relationship between structure and function of objects, organisms, and systems.
Science 5.G

The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 13.B
The student is expected to record and compare how the structures and behaviors of animals help them find and take in food, water, and air.

Science 13.D
The student is expected to investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd Grade
Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem.

Science 13.A
The student is expected to explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

Science 13.B
The student is expected to explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

4th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors

employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

Science 13.B
The student is expected to differentiate between inherited and acquired physical traits of organisms.

5th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem.

Science 12.B
The student is expected to predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

Science 12.C
The student is expected to describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Science 13.A
The student is expected to analyze the structures and functions of different species to identify how organisms survive in the same environment.

Science 13.B
The student is expected to explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic

factors such as availability of light and water, range of temperatures, or soil composition.

Science 12.B
The student is expected to describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Science 13.C
The student is expected to describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.
Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Science 13.D
The student is expected to describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.

Science 12.B
The student is expected to describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

Science 12.C
The student is expected to describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Science 13.C
The student is expected to describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Vertebrates

Goals:

- To formulate a basic understanding of vertebrate animals.
- To recognize the differences and similarities between different animal kingdoms.
- To investigate the different types ways scientists organize animals and examine the flaws in the system (rule-breakers).

Participants will be able to:

- Recognize the concept of taxonomy
- Understand there are many types of animals with unique traits
- Acquire a new appreciation for all sorts of diverse animals in our world

Kindergarten

Science 5.F

The student is expected to describe the relationship between the structure and function of objects, organisms, and systems.

Science 5.G

The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 12.A

The student is expected to observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

Science 12.B

The student is expected to observe and identify the dependence of animals on air, water, food, space, and shelter.

Science 13.B

The student is expected to identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects.

1st Grade

Science 5.B

The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F

The student is expected to describe the relationship between structure and function of objects, organisms, and systems.

Science 5.G

The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 11.A

The student is expected to identify and describe how plants, animals, and humans use rocks, soil, and water.

Science 12.A

The student is expected to classify living and nonliving things based upon whether they have basic needs and produce young.

Science 12.C
The student is expected to identify and illustrate how living organisms depend on each other through food chains.

Science 13.A
The student is expected to identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival.

Science 13.C
The student is expected to compare ways that young animals resemble their parents.

2nd Grade
Science 5.B
The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F
The student is expected to describe the relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 12.A
The student is expected to describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem.

Science 12.B
The student is expected to create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

Science 13.B
The student is expected to record and compare how the structures and behaviors of animals help them find and take in food, water, and air.

Science 13.D
The student is expected to investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd Grade

Science 5.B

The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F

The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G

The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A

The student is expected to explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy.

Science 12.B

The student is expected to identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem.

Science 12.C

The student is expected to describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

Science 13.A

The student is expected to explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

Science 13.B

The student is expected to explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

4th Grade

Science 4.B

The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

Science 13.B
The student is expected to differentiate between inherited and acquired physical traits of organisms.

5th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem.

Science 12.B
The student is expected to predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

Science 12.C
The student is expected to describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Science 13.A
The student is expected to analyze the structures and functions of different species to identify how organisms survive in the same environment.

Science 13.B
The student is expected to explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.

Science 12.B
The student is expected to describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Science 12.C
The student is expected to describe the hierarchical organization of organism, population, and community within an ecosystem.

Science 13.C
The student is expected to describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Science 13.D
The student is expected to describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

Science 14.A
The student is expected to describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

8th Grade

Science 4.C

The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B

The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F

The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G

The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A

The student is expected to explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.

Science 12.B

The student is expected to describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

Science 12.C

The student is expected to describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Science 13.C

The student is expected to describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Texas Wildlife

Goals:

- To formulate a basic understanding of Texas' many ecoregions.
- To recognize the differences and similarities between different animals from different environments.
- Explore the idea of how environments affect the life and adaptations of an animal.
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Participants will be able to:

- Recognize the concept of environmental adaptations.
- Understand there are many types of animals with unique traits.
- Acquire a new appreciation for all sorts of diverse animals in our world.

Kindergarten

Science 5.F
The student is expected to describe the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 12.A
The student is expected to observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

Science 12.B
The student is expected to observe and identify the dependence of animals on air, water, food, space, and shelter.

Science 13.A
The student is expected to identify the structures of plants, including roots, stems, leaves, flowers, and fruits.

Science 13.B
The student is expected to identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects.

Science 13.D
The student is expected to identify ways that young plants resemble the parent plant.

1st Grade

Science 5.B
The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F
The student is expected to describe the relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 11.A
The student is expected to identify and describe how plants, animals, and humans use rocks, soil, and water.

Science 12.A
The student is expected to classify living and nonliving things based upon whether they have basic needs and produce young.

Science 12.C
The student is expected to identify and illustrate how living organisms depend on each other through food chains.

Science 13.A
The student is expected to identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival.

Science 13.C
The student is expected to compare ways that young animals resemble their parents.

2nd Grade

Science 5.B
The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F
The student is expected to describe the relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 12.A
The student is expected to describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem.

Science 12.B
The student is expected to create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

Science 12.C
The student is expected to explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

Science 13.A
The student is expected to identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival.

Science 13.B
The student is expected to record and compare how the structures and behaviors of animals help them find and take in food, water, and air.

Science 13.C
The student is expected to record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes.

Science 13.D
The student is expected to investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd Grade
Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 11.A
The student is expected to explore and explain how humans use natural resources such as in construction, in agriculture, in transportation, and to make products.

Science 11.B
The student is expected to identify ways to conserve natural resources through reducing, reusing, or recycling.

Science 12.A
The student is expected to explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy.

Science 12.B
The student is expected to identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem.

Science 12.C
The student is expected to describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

Science 13.A
The student is expected to explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

Science 13.B
The student is expected to explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

4th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter.

Science 12.B
The student is expected to describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

Science 13.A
The student is expected to explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

Science 13.B
The student is expected to differentiate between inherited and acquired physical traits of organisms.

5th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem.

Science 12.B
The student is expected to predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

Science 12.C
The student is expected to describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Science 13.A
The student is expected to analyze the structures and functions of different species to identify how organisms survive in the same environment.

Science 13.B
The student is expected to explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.

Science 12.B
The student is expected to describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Science 12.C
The student is expected to describe the hierarchical organization of organism, population, and community within an ecosystem.

Science 13.C
The student is expected to describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Science 13.D
The student is expected to describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

Science 14.A
The student is expected to describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

8th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.

Science 12.B
The student is expected to describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

Science 12.C
The student is expected to describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Science 13.C
The student is expected to describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Venomous vs. Poisonous
Goals:

- To formulate a basic understanding of what venom and poisons are
- To recognize toxic plants' and animals' differences, similarities, and unique traits.
- To learn the unique differences or toxins and how plants and animals use them
- To learn basic ways of avoiding these natural toxins and what to do if the toxin is encountered

Participants will be able to:

- Recognize the concept of a venomous animal vs. a poisonous animal
- Understand there are many types of toxins with unique traits
- Acquire a new appreciation for all sorts of diverse plants animals in our world

3rd Grade
Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy.

Science 12.B
The student is expected to identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem.

Science 12.C
The student is expected to describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.
Science 13.A
The student is expected to explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

4th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

Science 13.B
The student is expected to differentiate between inherited and acquired physical traits of organisms.

5th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem.

Science 12.B
The student is expected to predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

Science 12.C
The student is expected to describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Science 13.A
The student is expected to analyze the structures and functions of different species to identify how organisms survive in the same environment.

Science 13.B
The student is expected to explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.

Science 12.B
The student is expected to describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Science 12.C
The student is expected to describe the hierarchical organization of organism, population, and community within an ecosystem.

Science 13.C
The student is expected to describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Science 13.D
The student is expected to describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

Science 14.A
The student is expected to describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

8th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.

Science 12.B
The student is expected to describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

Science 12.C
The student is expected to describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Science 13.C
The student is expected to describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Invertebrates
Goals:

- To formulate a basic understanding of invertebrate animals.
- To recognize the differences and similarities between different animal kingdoms.
- To investigate the different types of ways scientists organize animals based on their unique anatomy and physiology

Participants will be able to:

- Recognize the concept of taxonomy
- Understand there are many types of animals with unique traits
- Acquire a new appreciation for all sorts of diverse animals in our world

Kindergarten

Science 5.F
The student is expected to describe the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 12.B
The student is expected to observe and identify the dependence of animals on air, water, food, space, and shelter.

Science 13.B
The student is expected to identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects.

1st Grade

Science 5.B

The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F

The student is expected to describe the relationship between structure and function of objects, organisms, and systems.

Science 5.G

The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 11.A

The student is expected to identify and describe how plants, animals, and humans use rocks, soil, and water.

Science 12.A

The student is expected to classify living and nonliving things based upon whether they have basic needs and produce young.

Science 12.C

The student is expected to identify and illustrate how living organisms depend on each other through food chains.

Science 13.A

The student is expected to identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival.

Science 13.C

The student is expected to compare ways that young animals resemble their parents.

2nd Grade

Science 5.B

The student is expected to investigate and predict cause-and-effect relationships in science.

Science 5.F

The student is expected to describe the relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Science 12.A
The student is expected to describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem.

Science 12.B
The student is expected to create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

Science 13.B
The student is expected to record and compare how the structures and behaviors of animals help them find and take in food, water, and air.

Science 13.D
The student is expected to investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd Grade
Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy.

Science 12.B
The student is expected to identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem.

Science 12.C
The student is expected to describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

Science 13.A
The student is expected to explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

Science 13.B
The student is expected to explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

4th Grade
Science 4.B
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

Science 13.B
The student is expected to differentiate between inherited and acquired physical traits of organisms.

5th Grade

Science 4.B

The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B

The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F

The student is expected to explain the relationship between the structure and function of objects, organisms, and systems.

Science 5.G

The student is expected to explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A

The student is expected to observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem.

Science 12.B

The student is expected to predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

Science 12.C

The student is expected to describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Science 13.A

The student is expected to analyze the structures and functions of different species to identify how organisms survive in the same environment.

Science 13.B

The student is expected to explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th Grade

Science 4.C

The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors

employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.

Science 12.B
The student is expected to describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Science 12.C
The student is expected to describe the hierarchical organization of organism, population, and community within an ecosystem.

Science 13.C
The student is expected to describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.B
The student is expected to describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.
Science 13.D
The student is expected to describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

Science 14.A
The student is expected to describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

8th Grade
Science 4.C
The student is expected to research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

Science 5.B
The student is expected to identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.

Science 5.F
The student is expected to analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.

Science 5.G
The student is expected to analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Science 12.A
The student is expected to explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.

Science 12.B
The student is expected to describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

Science 12.C
The student is expected to describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Science 13.C
The student is expected to describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.