



HOUSTON MUSEUM
of NATURAL SCIENCE

Texas Essential Knowledge and Skills

*FARISH HALL OF TEXAS WILDLIFE, HAMMAN
HALL OF TEXAS COASTAL ECOLOGY,
FRENSLEY HALL OF AFRICAN WILDLIFE,
AND GEORGE W. STRAKE HALL OF
MALACOLOGY*

UPDATED JUNE 2025

Thank you for choosing the Houston Museum of Natural Science for your class field trip. We are delighted to have the opportunity to enrich your students' learning experience. To simplify planning your trip, we have provided the Texas Essential Knowledge and Skills (TEKS) for the *Farish Hall of Texas Wildlife*, *Hamman Hall of Texas Coastal Ecology*, *Frenshley Hall of African Wildlife*, and *George W. Strake Hall of Malacology* by grade level, updated to reflect the 2025 standards. This resource is designed to help you align your trip with your curriculum, ensuring your visit is educational and enjoyable.

We look forward to welcoming you and your students for an unforgettable journey through the wonders of discovery.

For help with high school TEKS, please email curriculum@hmns.org.

Kindergarten

Science

Structure and Function K.5.C

Describe the properties of objects in terms of relative size (scale) and relative quantity.

Students observe the seashell collection in the Malacology Hall, grouping shells by shape, species, or size, and use non-standard measurements to estimate length, width, and height.

Structure and Function K.5.D

Examine the parts of a whole to define or model a system.

Students explore dioramas of ecosystems, identifying abiotic and biotic parts that make up the whole.

Structure and Function K.5.F

Describe the relationship between the structure and function of objects, organisms, and systems.

Students examine physical adaptations of animals, such as birds' beaks or mammals' fur, to understand how these features help animals survive in their habitats.

Stability and Change K.5.G

Describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Students observe animal interactions in dioramas, such as predator-prey and competition, and discuss how changes in one species affect others.

Matter and Energy K.6

Identify and record observable physical properties of objects, including shape, color, texture, and material; generate ways to classify objects.

Students group animals in dioramas by features like fur, feathers, or size, and discuss classification methods.

Organisms and Environment K.12.B

Observe and identify the dependence of animals on air, water, food, space, and shelter.

Students identify what animals in dioramas need to survive, such as water, shelter, and food.

Organisms and Environment K.13.B

Identify the different structures that animals have that allow them to interact with their environment (seeing, hearing, moving, grasping).

Students observe animal parts—eyes, ears, legs, and arms—and discuss how these help them in their environments.

1st Grade

Science

Scientific and Engineering Practices 1.5.B

Investigate and predict cause-and-effect relationships in science.

Students visit the Atwater prairie chicken display and discuss what happened to these birds and other cause-and-effect relationships in the exhibits.

Structure and Function 1.5.C

Describe the properties of objects in terms of relative size (scale) and relative quantity.

Students observe and group seashells in the Malacology Hall by shape, species, or size, using non-standard measurements.

Structure and Function 1.5.D

Examine the parts of a whole to define or model a system.

Students identify abiotic and biotic components in ecosystem dioramas.

Structure and Function 1.5.F

Describe the relationship between structure and function of objects, organisms, and systems.

Students examine animal adaptations, such as beak shape and fur thickness, and relate them to survival.

Stability and Change 1.5.G

Describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Students observe animal interactions in dioramas and describe how changes in one species affect others.

Matter and Energy 1.6.A

Classify objects by observable physical properties, including shape, color, texture, and attributes such as larger/smaller and heavier/lighter.

Students group seashells in the Malacology Hall by different properties and use non-standard measurements.

Earth and Space 1.11.A

Identify and describe how plants, animals, and humans use rocks, soil, and water.

Students observe how animals in dioramas interact with rocks, soil, and water.

Earth and Space 1.11.B

Explain why water conservation is important.

Students observe aquatic ecosystems and hypothesize what happens if water is unavailable or reduced.

Organisms and Environment 1.12.A

Classify living and nonliving things based on basic needs and ability to produce young.

Students find examples of animals with young in dioramas and identify biotic and abiotic components meeting basic needs.

Organisms and Environment 1.12.C

Identify and illustrate how living organisms depend on each other through food chains.

Students find examples of animals feeding, identify producers and consumers, and create possible food chains.

Organisms and Environment 1.13.A

Identify external structures of different animals and compare how those structures help survival.

Students compare animal adaptations, such as thick fur or webbed feet, and how these help survival.

Organisms and Environment 1.13.C

Compare ways that young animals resemble their parents.

Students find animals with offspring and compare their appearance.

2nd Grade

Science

Scientific and Engineering Practices 2.5.B

Investigate and predict cause-and-effect relationships in science.

Students visit the Atwater prairie chicken display and discuss cause-and-effect relationships in different ecosystems.

Structure and Function 2.5.C

Measure and describe properties of objects in terms of size and quantity.

Students observe and group seashells in the Malacology Hall, using non-standard measurements.

Structure and Function 2.5.D

Examine the parts of a whole to define or model a system.

Students identify abiotic and biotic parts in ecosystem dioramas.

Structure and Function 2.5.F

Describe the relationship between structure and function of objects, organisms, and systems.

Students observe animal anatomical features—beaks, limbs, fur, body size—and relate them to function, such as webbed feet for swimming.

Stability and Change 2.5.G

Describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Students pick a diorama and discuss what changes, such as drought, could affect the ecosystem and its animals.

Organisms and Environment 2.12.A

Describe how physical characteristics of environments (e.g., rainfall) support plants and animals.

Students describe diorama environments and how they support adapted plants and animals, and discuss effects of rapid environmental change.

Organisms and Environment 2.12.B

Create and describe food chains identifying producers and consumers.

Students find feeding examples in dioramas, identify producers and consumers, and create food chains.

Organisms and Environment 2.13.B

Record and compare how animal structures and behaviors help them find and take in food, water, and air.

Students identify adaptations, such as beak shape, that help animals get food, water, and air.

3rd Grade

Science

Scientific and Engineering Practices 3.4.B

Research and explore resources such as museums, libraries, STEM organizations, and mentors to investigate STEM careers.

Students explore wildlife halls to understand ecosystems and inspire STEM career interest.

Scientific and Engineering Practices 3.5.B

Identify and investigate cause-and-effect relationships to explain phenomena or analyze problems.

Students discuss cause-and-effect at Atwater prairie chicken and sea turtle displays and in other ecosystems.

Scientific and Engineering Practices 3.5.D

Examine and model parts of a system and their interdependence.

Students identify abiotic and biotic parts in dioramas and find examples of interdependence, such as feeding and shelter.

Structure and Function 3.5.F

Explain the relationship between structure and function of objects, organisms, and systems.

Students observe animal features in dioramas—beaks, limbs, fur, body size—and relate them to function.

Stability and Change 3.5.G

Explain how factors or conditions impact stability and change in objects, organisms, and systems.

Students discuss how ecosystem changes, such as drought, affect animals and stability.

Organisms and Environment 3.12.B

Identify and describe energy flow in a food chain; predict effects of changes, such as removal of frogs or bees.

Students identify feeding examples, create food chains, and hypothesize effects of losing a species.

Organisms and Environment 3.12.C

Describe how natural changes, such as floods or droughts, cause some organisms to thrive, perish, or move.

Students develop hypotheses on effects of environmental changes using dioramas.

Organisms and Environment 3.13.A

Explore and explain how external structures and functions help animals survive, such as a giraffe's neck or duck's webbed feet.

Students observe and relate anatomical features to survival in their environment.

4th Grade**Science****Scientific and Engineering Practices 4.4.B**

Research and explore STEM resources and careers.

Students use wildlife halls to inspire curiosity and STEM career interest.

Scientific and Engineering Practices 4.5.B

Identify and investigate cause-and-effect relationships.

Students discuss cause-and-effect at Atwater prairie chicken and sea turtle displays and in other ecosystems.

Scientific and Engineering Practices 4.5.D

Examine and model parts of a system and their interdependence.

Students identify abiotic and biotic parts in dioramas and find interdependence examples.

Structure and Function 4.5.F

Explain the relationship between structure and function of objects, organisms, and systems.

Students observe animal features and relate them to function.

Stability and Change 4.5.G

Explain how factors or conditions impact stability and change in objects, organisms, and systems.

Students discuss how changes affect ecosystem stability.

Organisms and Environment 4.12.B

Describe cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

Students identify producers, consumers, and decomposers in dioramas and describe energy flow.

Organisms and Environment 4.13.B

Differentiate between inherited and acquired physical traits.

Students identify inherited traits, such as coloring, and acquired traits, such as a broken tooth, in diorama animals.

5th Grade**Science****Scientific and Engineering Practices 5.4.B**

Research and explore STEM resources and careers.

Students use wildlife halls to inspire curiosity and STEM career interest.

Scientific and Engineering Practices 5.5.B

Identify and investigate cause-and-effect relationships.

Students discuss cause-and-effect at Atwater prairie chicken and sea turtle displays and in other ecosystems.

Scientific and Engineering Practices 5.5.D

Examine and model parts of a system and their interdependence.

Students identify abiotic and biotic parts in dioramas and find interdependence examples.

Structure and Function 5.5.F

Explain the relationship between structure and function of objects, organisms, and systems.

Students observe animal features and relate them to function.

Stability and Change 5.5.G

Explain how factors or conditions impact stability and change in objects, organisms, and systems.

Students discuss how changes affect ecosystem stability.

Organisms and Environment 5.12.A

Observe and describe how organisms survive by interacting with biotic and abiotic factors.

Students find examples of animals interacting with other organisms and the environment in dioramas.

Organisms and Environment 5.12.B

Predict how changes in the ecosystem affect cycling of matter and energy flow in a food web.

Students use the Texas Wildlife Hall invasive species section to discuss effects of introducing an invasive species.

Organisms and Environment 5.12.C

Describe a healthy ecosystem and how human activities can be beneficial or harmful.

Students pick an ecosystem and discuss effects of specific human activities, such as hunting.

Organisms and Environment 5.13.A

Analyze structures and functions of different species to identify survival adaptations.

Students observe adaptations in diorama animals and compare similarities.

Organisms and Environment 5.13.B

Explain how instinctual (e.g., turtle hatchlings returning to sea) and learned (e.g., orcas hunting in packs) behaviors increase survival.

Students find examples of instinctual behaviors in displays.

6th Grade**Science****Scientific and Engineering Practices 6.4.C**

Research and explore STEM resources and careers.

Students use wildlife halls to inspire curiosity and STEM career interest.

Scientific and Engineering Practices 6.5.B

Identify and investigate cause-and-effect relationships.

Students discuss cause-and-effect at Atwater prairie chicken and sea turtle displays and in other ecosystems.

Scientific and Engineering Practices 6.5.D

Examine and model parts of a system and their interdependence.

Students identify abiotic and biotic parts in dioramas and find interdependence examples.

Structure and Function 6.5.F

Analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Students observe animal features and relate them to function.

Stability and Change 6.5.G

Analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Students discuss how changes affect ecosystem stability.

Organisms and Environment 6.12.A

Investigate how organisms and populations depend on and may compete for biotic and abiotic factors.

Students identify examples of competition for resources in dioramas.

Organisms and Environment 6.12.B

Describe and give examples of predatory, competitive, and symbiotic relationships, including mutualism, parasitism, and commensalism.

Students find examples of these relationships in dioramas.

Organisms and Environment 6.12.C

Describe the hierarchical organization of organism, population, and community within an ecosystem.

Students find examples of hierarchical organization in dioramas.

7th Grade**Science****Scientific and Engineering Practices 7.4.C**

Research and explore STEM resources and careers.

Students use wildlife halls to inspire curiosity and STEM career interest.

Scientific and Engineering Practices 7.5.B

Identify and investigate cause-and-effect relationships.

Students discuss cause-and-effect at Atwater prairie chicken and sea turtle displays and in other ecosystems.

Scientific and Engineering Practices 7.5.D

Examine and model parts of a system and their interdependence.

Students identify abiotic and biotic parts in dioramas and find interdependence examples.

Structure and Function 7.5.F

Analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Students observe animal features and relate them to function.

Stability and Change 7.5.G

Analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Students discuss how changes affect ecosystem stability.

Earth and Space 7.11.B

Describe human dependence and influence on ocean systems and explain impacts.

Students visit the oyster reef display and discuss human impacts on ocean systems.

Organisms and Environment 7.12.A

Diagram energy flow within trophic levels and describe how available energy decreases in successive levels in an energy pyramid.

Students create an energy pyramid from diorama animals and explain energy decrease at each level.

8th Grade**Science****Scientific and Engineering Practices 8.4.C**

Research and explore STEM resources and careers.

Students use wildlife halls to inspire curiosity and STEM career interest.

Scientific and Engineering Practices 8.5.B

Identify and investigate cause-and-effect relationships.

Students discuss cause-and-effect at Atwater prairie chicken and sea turtle displays and in other ecosystems.

Scientific and Engineering Practices 8.5.D

Examine and model parts of a system and their interdependence.

Students identify abiotic and biotic parts in dioramas and find interdependence examples.

Structure and Function 8.5.F

Analyze and explain the complementary relationship between structure and function of objects, organisms, and systems.

Students observe animal features and relate them to function.

Stability and Change 8.5.G

Analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.

Students discuss how changes affect ecosystem stability.

Organisms and Environment 8.12.A

Explain how disruptions, such as population changes, disasters, or human intervention, impact energy transfer in food webs.

Students hypothesize effects of environmental changes, such as floods or invasive species, on energy transfer.

Organisms and Environment 8.12.B

Describe how primary and secondary ecological succession affect populations and species diversity after ecosystem disruption.

Students explain how events like fires or human activity affect populations and diversity.

Organisms and Environment 8.12.C

Describe how biodiversity contributes to ecosystem stability and health.

Students find the most biodiverse diorama and explain how biodiversity supports stability and health.