



HOUSTON MUSEUM  
*of* NATURAL SCIENCE

# Texas Essential Knowledge and Skills

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

*UPDATED OCTOBER 2024*

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, Frensey Hall of African Wildlife, and George W. Strake Hall of Malacology by grade level. 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](mailto:curriculum@hmns.org).

## **Kindergarten**

### **Science 5.C**

The student is expected to describe the properties of objects in terms of relative size (scale) and relative quantity.

Students can observe the extensive collection of seashells in the Malacology Hall. They will notice how some are grouped by shape and/or species, and some are displayed using size (smallest to largest or vice versa). Encourage students to identify the various ways that the shells are grouped. Ask students to use non-standard measurements to estimate various shells' length, width, and height.

### **Science 5.D**

The student is expected to examine the parts of a whole to define or model a system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors).

### **Science 5.F**

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

Invite students to examine the physical adaptations of the animals in the different dioramas, such as the shape of birds' beaks and the thickness of mammals' fur, to understand how the function of these features helps the animals survive in their specific habitats.

### **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.

Encourage students to observe the interactions between different animals within the dioramas. For instance, they might see predator-prey relationships or competition for resources. By understanding these interactions, students can describe how changes in one species (e.g., a decline in prey population) might affect others (e.g., predators that rely on that prey).

### **Science 6**

The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

Encourage students to observe the animals in the various dioramas and place them into different groups, such as whether they have fur or feathers or are small or large.

### **Science 12.B**

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

Encourage students to observe the various ecosystems. Can they identify the things the animals need to survive in the diorama, including water, shelter, and food?

### **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.

Invite students to observe the animals in the different dioramas and encourage them to identify the parts of the animals that help them interact with their specific environments, such as eyes, ears, legs, or arms. Are these structures different depending on the environment in which the animals live?

## **1<sup>st</sup> Grade**

### **Science 5.B**

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

Visit the Atwater chicken display. Discuss what happened to these birds. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 1.5.C**

The student is expected to describe the properties of objects in terms of relative size (scale) and relative quantity.

Students can observe the extensive collection of seashells in the Malacology Hall. They will notice how some are grouped by shape and/or species, and some are displayed using size (smallest to largest or vice versa). Encourage students to identify the various ways that the shells are grouped. Ask students to use non-standard measurements to estimate various shells' length, width, and height.

### **Science 5.D**

The student is expected to examine the parts of a whole to define or model a system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors).

### **Science 5.F**

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

Invite students to examine the physical adaptations of the animals in the different dioramas, such as the shape of birds' beaks and the thickness of mammals' fur, to understand how the function of these features helps the animals survive in their specific habitats.

### **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.

Encourage students to observe the interactions between different animals within the dioramas. For instance, they might see predator-prey relationships or competition for resources. By understanding these interactions, students can describe how changes in one species (e.g., a decline in prey population) might affect others (e.g., predators that rely on that prey).

### **Science 6.A**

The student is expected to classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter.

Students can observe the extensive collection of seashells in the Malacology Hall. They will notice how some are grouped by shape and/or species, and some are displayed using size (smallest to largest or vice versa). Encourage students to identify the various ways that the shells are grouped. Ask students to use non-standard measurements to estimate various shells' length, width, and height.

### **Science 11.A**

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

Invite students to observe the various dioramas and identify and describe how the animals interact with and use the abiotic parts of their ecosystems, including rocks, soil, and water.

### **Science 11.B**

The student is expected to explain why water conservation is important.

Invite students to carefully observe ecosystems with aquatic components. Ask them to hypothesize what might happen to the ecosystem if the water was unavailable or reduced due to overuse by humans.

### **Science 12.A**

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

Encourage students to carefully observe the dioramas, find examples of animals with young animals, and identify the ecosystems' components that fulfill the animals' basic needs both living (biotic) and non-living (abiotic).

### **Science 12.C**

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

Encourage students to observe the dioramas and find examples of animals feeding. Encourage them to identify producers and consumers in each diorama and devise possible food chains for one of the displays.

### **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.

Invite students to identify how different animals have adaptations that help them survive and thrive in their environments. For example, they might notice how an animal's fur is thicker in a cold climate than in a warmer climate or how ducks have webbed feet that allow them to swim more effectively. They can describe how these adaptations help organisms survive and thrive or how they might struggle if environmental conditions change.

### **Science 13.C**

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

Encourage students to find examples of animals with their offspring and compare and contrast how they look.

## **2<sup>nd</sup> Grade**

### **Science 5.B**

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

Visit the Atwater chicken display. Discuss what happened to these birds. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 5.C**

The student is expected to measure and describe the properties of objects in terms of size and quantity.

Students can observe the extensive collection of seashells in the Malacology Hall. They will notice how some are grouped by shape and/or species, and some are displayed using size (smallest to largest or vice versa). Encourage students to identify the various ways that the shells are grouped. Ask students to use non-standard measurements to estimate various shells' length, width, and height.

### **Science 5.D**

The student is expected to examine the parts of a whole to define or model a system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors).

### **Science 5.F**

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

Encourage students to observe the animals in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to their functions. For example, Animals with webbed feet can move more effectively in aquatic environments.

### **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.

Instruct students to pick one of the dioramas. Ask students to consider what could occur within that ecosystem that would cause it to change, such as the overuse of water or lack of rainfall. Then, invite them to consider how this might affect the animals within that ecosystem.

### **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.

Invite students to pick one or more dioramas and describe their physical characteristics. Have them explain how each particular environment supports the plants and animals that are adapted to survive there. What would happen to the plants and animals if the environment quickly changed?

### **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.

Encourage students to observe the dioramas and find examples of animals feeding. Encourage them to identify producers and consumers in each diorama and devise possible food chains for one or more of the displays.

### **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.

Invite students to identify how different animals have adaptations that help them survive and thrive in their environments. For example, they might notice how some birds have specialized beaks that allow them to eat a particular type of food effectively. Encourage them to identify the structures of the animals that will enable them to take in food, water, and air.

## **3<sup>rd</sup> 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.

By exploring the Museum's wildlife exhibit halls, students can better understand the complex relationships within ecosystems and the fascinating diversity of life on Earth. This enriching environment not only stimulates curiosity but also inspires students to consider future careers in STEM fields related to ecosystems and biology.

### **Science 5.B**

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

Visit the Atwater chicken and sea turtle displays. Discuss what happened to these animals. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 5.D**

The student is expected to examine and model the parts of a system and their interdependence in the function of the system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors). Encourage them to find examples of interdependence within the system, such as one animal feeding upon another or an animal using a burrow in the earth for shelter.

### **Science 5.F**

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

Encourage students to observe the animals shown in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to the functions they serve. For example, Animals with webbed feet can move more effectively in aquatic environments.



### **Science 5.G**

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

Ask students to consider what could occur to one of the ecosystems that would cause it to change, for example, the overuse of water or lack of rainfall. Then, ask them to consider how this would affect the animals living in that ecosystem. How could this affect the stability of the ecosystem?

### **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.

Encourage students to identify examples of animals feeding in the different dioramas, including producers and consumers. Have them identify a possible food chain within one ecosystem and explain the energy flow. Ask them to hypothesize how the disappearance of one of the animals in the food chain may affect the ecosystem as a whole.

### **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.

Encourage students to choose a diorama and develop hypotheses about the effects of natural environmental changes on various organisms, such as floods and droughts. For example, they may observe that some plants have adaptations that allow them to survive prolonged dry periods, while others may wilt in the same conditions. Similarly, they can hypothesize that animals capable of migrating or adapting to changing water levels are more likely to thrive during floods. Conversely, those unable to do so may perish or be compelled to relocate.

### **Science13.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.

Encourage students to observe the animals in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to the functions they serve. For example, Animals with webbed feet can move more effectively in aquatic environments.

## **4<sup>th</sup> 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.

By exploring the Museum's wildlife exhibit halls, students can better understand the complex relationships within ecosystems and the fascinating diversity of life on Earth. This enriching environment not only stimulates curiosity but also inspires students to consider future careers in STEM fields related to ecosystems and biology.

### **Science 5.B**

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

Visit the Atwater chicken and sea turtle displays. Discuss what happened to these animals. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 5.D**

The student is expected to examine and model the parts of a system and their interdependence in the function of the system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors). Encourage them to find examples of interdependence within the system, such as one animal feeding upon another or an animal using a burrow in the earth for shelter.

### **Science 5.F**

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

Encourage students to observe the animals shown in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to the functions they serve. For example, Animals with webbed feet can move more effectively in aquatic environments.

### **Science 5.G**

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

Ask students to consider what could occur to one of the ecosystems that would cause it to change, for example, the overuse of water or lack of rainfall. Then, ask them to consider how this would affect the animals living in that ecosystem. How could this affect the stability of the ecosystem?

### **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.

Invite students to pick a diorama and identify the producers and consumers. Some dioramas even contain decomposers - challenge students to find one. Ask them to describe the energy flow using the diorama as a model.

### **Science 13.B**

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

Encourage students to identify inherited traits, such as coloring, in the various animals in the dioramas. Challenge students to find an organism with an acquired physical trait, such as a broken tooth or missing body part.

## **5<sup>th</sup> 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.

By exploring the Museum's wildlife exhibit halls, students can better understand the complex relationships within ecosystems and the fascinating diversity of life on Earth. This enriching environment not only stimulates curiosity but also inspires students to consider future careers in STEM fields related to ecosystems and biology.

### **Science 5.B**

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

Visit the Atwater chicken and sea turtle displays. Discuss what happened to these animals. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 5.D**

The student is expected to examine and model the parts of a system and their interdependence in the function of the system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors). Encourage them to find examples of interdependence within the system, such as one animal feeding upon another or an animal using a burrow in the earth for shelter.

### **Science 5.F**

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

Encourage students to observe the animals shown in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to the functions they serve. For example, Animals with webbed feet can move more effectively in aquatic environments.

### **Science 5.G**

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

Ask students to consider what could occur to one of the ecosystems that would cause it to change, for example, the overuse of water or lack of rainfall. Then, ask them to consider how this would affect the animals living in that ecosystem. How could this affect the stability of the ecosystem?

### **Science12.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.

Encourage students to find examples of animals interacting with biotic and abiotic elements within one of the dioramas, such as one animal feeding upon another or using a burrow in the earth for shelter.

### **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.

Locate the Texas Wildlife Hall section addressing invasive species and read the information. Then, invite students to pick a diorama and explain what might happen within that ecosystem if an invasive species were introduced.

### **Science 12.C**

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

Encourage students to pick an ecosystem and describe how a specific human activity, such as hunting, might benefit or harm it.

### **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.

Allow students to select a diorama, observe the different animals, and identify the adaptations that help them to survive and thrive in that specific environment. Do any of the animals have adaptations that are similar or serve a similar purpose?

### **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.

Challenge students to find examples of instinctual behavioral traits in the different displays. How many can they identify?

## **6<sup>th</sup> 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.

By exploring the Museum's wildlife exhibit halls, students can better understand the complex relationships within ecosystems and the fascinating diversity of life on Earth. This enriching environment not only stimulates curiosity but also inspires students to consider future careers in STEM fields related to ecosystems and biology.

### **Science 5.B**

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

Visit the Atwater chicken and sea turtle displays. Discuss what happened to these animals. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 5.D**

The student is expected to examine and model the parts of a system and their interdependence in the function of the system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors). Encourage them to find examples of interdependence within the system, such as one animal feeding upon another or an animal using a burrow in the earth for shelter.

### **Science 5.F**

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

Encourage students to observe the animals shown in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to the functions they serve. For example, Animals with webbed feet can move more effectively in aquatic environments.

### **Science 5.G**

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

Ask students to consider what could occur to one of the ecosystems that would cause it to change, for example, the overuse of water or lack of rainfall. Then, ask them to consider how this would affect the animals living in that ecosystem. How could this affect the stability of the ecosystem?

### **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.

Challenge students to identify examples where animals in the same ecosystem compete or may compete for the same biotic factors, such as two animals fighting over the same food source.

## **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.

Challenge students to find examples in the various dioramas of the following: 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.

Challenge students to find examples of hierarchical organizations of organisms, populations, and communities within the various ecosystem dioramas.

## **7<sup>th</sup> 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.

By exploring the Museum's wildlife exhibit halls, students can better understand the complex relationships within ecosystems and the fascinating diversity of life on Earth. This enriching environment not only stimulates curiosity but also inspires students to consider future careers in STEM fields related to ecosystems and biology.

### **Science 5.B**

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

Visit the Atwater chicken and sea turtle displays. Discuss what happened to these animals. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 5.D**

The student is expected to examine and model the parts of a system and their interdependence in the function of the system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors). Encourage them to find examples of interdependence within the system, such as one animal feeding upon another or an animal using a burrow in the earth for shelter.

### **Science 5.F**

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

Encourage students to observe the animals shown in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to the functions they serve. For example, Animals with webbed feet can move more effectively in aquatic environments.

### **Science 5.G**

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

Ask students to consider what could occur to one of the ecosystems that would cause it to change, for example, the overuse of water or lack of rainfall. Then, ask them to consider how this would affect the animals living in that ecosystem. How could this affect the stability of the ecosystem?

### **Science 11.B**

The student is expected to describe human dependence and influence on ocean systems and explain how human activities impact these systems.

Visit the oyster reef display, read the information, and observe the reef. Invite students to explain our dependence on food sources such as oysters and human behaviors' positive and negative impacts on these environments.

### **Science 12.A**

The student is expected to diagram the flow of energy within trophic level and describe how the available energy decreases in successive trophic level in energy pyramid.

Ask students to observe one of the dioramas and create an energy pyramid using the animals found within it. Then, invite students to explain how energy decreases at each successive trophic level.



## **8<sup>th</sup> 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.

By exploring the Museum's wildlife exhibit halls, students can better understand the complex relationships within ecosystems and the fascinating diversity of life on Earth. This enriching environment not only stimulates curiosity but also inspires students to consider future careers in STEM fields related to ecosystems and biology.

### **Science 5.B**

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

Visit the Atwater chicken and sea turtle displays. Discuss what happened to these animals. What was the cause-and-effect relationship? Discuss other possible cause-and-effect relationships in other ecosystems they saw in the exhibits.

### **Science 5.D**

The student is expected to examine and model the parts of a system and their interdependence in the function of the system.

Invite students to observe the various dioramas of ecosystems and identify the parts that make up the whole (abiotic and biotic factors). Encourage them to find examples of interdependence within the system, such as one animal feeding upon another or an animal using a burrow in the earth for shelter.

### **Science 5.F**

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

Encourage students to observe the animals shown in the dioramas closely. They should pay attention to specific anatomical features such as the shape of beaks, types of limbs, fur or skin texture, and body size. Invite students to relate these anatomical features to the functions they serve. For example, Animals with webbed feet can move more effectively in aquatic environments.

### **Science 5.G**

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

Ask students to consider what could occur to one of the ecosystems that would cause it to change, for example, the overuse of water or lack of rainfall. Then, ask them to consider how this would affect the animals living in that ecosystem. How could this affect the stability of the ecosystem?

### **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.

Encourage students to choose a diorama and develop hypotheses about the effects of natural or manmade environmental changes on various organisms, such as floods, droughts, overhunting, or introducing an invasive species. Then, ask them to explain the consequence of the loss of any organism on the transfer of energy within a food web, whether by natural disaster or human intervention.

### **Science12.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.

Invite students to pick a diorama and explain how events such as forest fires or humans' creation of sand dunes might affect populations and species diversity.

### **Science12.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.

Challenge students to find the diorama with the most biodiversity. Invite them to explain how this level of biodiversity could contribute to the stability and sustainability of the ecosystem and the health of the organisms within the ecosystem.