

**LEARNING GOALS**

As backyard detectives, discover how life in the West has been changing for millions of years. The answers lie anywhere from inches to miles deep below your feet.

**STANDARDS**

History  
1.2, 1.3, 2.1, 4.1

Science  
1, 3, 4

**ESTIMATED TIME**

5–10 minutes per region, totaling 30–60 minutes for all six regions

Pick a few regions or questions to explore, or do them all.

**BACK IN YOUR CLASSROOM****Sea Lily Reef Life**

Draw a detailed diagram of the Sea Lily Reef diorama you described at the Museum. Use the diagram labels to explain your choices of plants, sea floor, animals, and other organisms. Then draw a colorful picture about your diorama and write a story to match!

**JUNIOR PALEONTOLOGIST: Discovering the Ancient West**

*If Earth's age was compared to a calendar year, our planet would have formed at midnight on January 1. In the context of this calendar year, when would life have emerged, dinosaurs roamed, and humans evolved? Find answers to these questions on displays throughout Prehistoric Journey.*

**Diversity in the Sea: Underwater Revolution** *Paleozoic, 425 million years ago*

In an ancient sea, carnivorous cephalopods stalk bug-like trilobites hiding beneath lily-like crinoids in a reef teeming with new life.

**Take a closer look:** Pick out a cephalopod in the Sea Lily Reef diorama. Describe how this predator used its bulging eyes and tentacles to catch and eat trilobite prey. Next, imagine how a trilobite might avoid becoming your cephalopod's dinner! (Trilobite hint: What would help your trilobite survive—seeking shelter? camouflage? swimming habits?)



**Activity:** Play Fossil Memory. At the Sea Lily Reef diorama, pick a creature that depended on some other living thing for shelter or food. Match your pick to a fossil in the Diversity in the Sea evidence area.



**Your life:** Imagine making an aquarium like the Sea Lily Reef diorama for your room. What creatures would you include? Why?

**Forests and Flight: Prehistoric Sounds** *Late Paleozoic/Early Permian, 295 million years ago*

Kansas forests are alive with sounds of giant insects. Fast forward 20 million years where a protomammal and an amphibian are fighting in a weird, wet Texas.

**Take a closer look:** Close your eyes in front of the Kansas Coastline diorama, listen, and ask yourself how flight helps creatures survive in this forest, where giant millipedes and dangerous fin-backed pelycosaur protomammals lurk. Open your eyes. Can you find the creatures you heard? What other adaptations did you notice the animals had to help them survive?



**Activity:** In the Forests and Flights evidence area, find an insect, protomammal, amphibian, or reptile and decide what sounds it would make. Make the sound out loud. Can your friends guess how your sounds would help you survive in the forest?



**Your life:** Imagine Halloween in the Permian and make an imaginary wing costume. In the Forests and Flights evidence area, pick the wings you'd want, ones that fold, stand out rigidly, or tuck against your body. Describe your choices and design to someone in your group.

## Time of the Dinosaurs: Small Mammals, Flowers Thrive *Cretaceous, 66 million years ago*

Two *Stygimoloch* dinosaurs fight in an oddly familiar forest of birds, flowers, and small mammals hiding from a stalking *Tyrannosaurus rex*. For 200 million years, a huge variety of dinosaurs dominated the ancient West.

**Take a closer look:** In the Cretaceous Creekbed diorama, how do sounds you hear tell a story about what happens to the fighting dinosaurs, the marsupial mammal, the ostrich-like *Ornithomimus*, and the herd of hadrosaurs? (Dino hint: Can you find these creatures in this diorama?)



**Activity:** In the main dinosaur exhibit area, pick out a dinosaur skeleton and make up a story about it. What do you think was happening to your creature? Pick some fossil flowers to plant alongside your dinosaur. Why did you pick them, for food or scenery?



**Your life:** Evidence suggests that duckbill dinosaurs were social and that they took care of their babies. What are examples of the socializing you do? How do other people or species help you?

## Tropical Rockies: Primates Safe in Trees High Above Forest Floor *Early Cenozoic, 50 million years ago*

About 65 million years ago, dinosaurs were wiped out during one of the largest mass extinctions on Earth. Mammals and primates thrived in the branches of forests covering the newly forming Rocky Mountains.

**Take a closer look:** In the Rainforest Treetop diorama, what body parts help the primate *Notharctus* mother leap from branch to branch to find pea pods for her infant? How does this baby hold onto the mother? How are their bodies and limbs suited for life high above the forest floor? (Primate hint: long arms)



**Activity:** In the Tropical Rockies evidence area, pick a fossil and find a part that would help your fish, mammal, primate, or plant move. Play 20 Questions to see if your friends can guess your fossil!

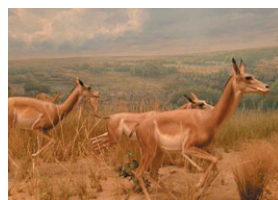


**Your life:** How is your body like the primate *Notharctus*? What helps you grip, grab, climb, balance, or leap on the playground or sports field?

## Expanding Grasslands: Run Well or Be Eaten *Early Miocene, 20 million years ago*

A storm threatens as the drooling, fierce *Dinohyus*, a giant pig, startles a herd of camel-like, grazing *Stenomylus*. An *Achaeologus* rabbit peers out from its hiding place amid the grasslands of this ancient Nebraska landscape.

**Take a closer look:** What helps the animals thrive in the flatlands of the Nebraska Woodlands diorama? Which adaptations do you think help the most? (Grasslands hint: Who could run? Find the *Dinohyus*, *Stenomylus*, *Archaeolagus*, and the horse-like *Merycochoerus*).



**Activity:** Play Motion Commotion Charades. In the Expanding Grasslands evidence area, pick a fossil skeleton part that helps with motion, decide what machine this part reminds you of, and act out your machine part. Can your friends guess your part and its modern-day machine equivalent?



**Your life:** Make up a new species that you think would thrive in this environment. Describe how your creature escaped from *Dinohyus*, which had a skull almost as big as *Tyrannosaurus rex*.

## Dawn of Humankind: Lucy and Her Tools *Late Pliocene, 3.2 million years ago*

Lucy and her *Australopithecus afarensis* family wake from their sleep to a bright dawn. She stands up, stretches on her two legs, and looks out across the great African savanna. From her upright position, she sees a pack of hyenas approaching.

**Take a closer look:** At the Dawn of Humankind diorama, look at Lucy. If you were her, how would you use your eyes, hands, and feet to escape the hyenas? (Lucy hint: There are a few trees and rock outcrops nearby. What will you do?)



**Activity:** In this section, imagine using the natural materials you see to make a tool to help Lucy eat. How is your invention like tools you use for enjoying breakfast, lunch, dinner, or snacks?



**Your life:** Imagine meeting Lucy. What would you want to teach her about today's world? What modern-day tools would you give her to help her survive in her world?