

Deposition Story 1

Introduction

During the Eocene Epoch, from about 56 million to 34 million years ago, the planet's temperature was warm. There was heavy rainfall and no glaciers. The sea covered much of Texas, including the location of your strata. In your area, sand was deposited on the shoreline and buried by other sediment.

Over time, the sand is compacted and cemented to form sandstone, a sedimentary rock. Other rock and sediment layers overlay the sandstone but are eroded over time, leaving your sandstone back at the surface.

READ

Over time, the exposed sandstone is weathered by water, wind, and other factors, leaving the rock cracked and broken into smaller pieces. Living things, like moss and fungi, can begin growing in the weathered material and the cracks in the rock. As more vegetation grows and decomposes, the rock and sediment are weathered more. As more time passes, soil has formed, with trees, shrubs, and grasses growing.

As people begin living in the area, they hunt small game, such as rabbits and squirrels. They also gather marine animals from the nearby river, such as mussels and snails, as well as pecans, prickly pears, and other edible plants.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Bury one **snail shell**, one **pecan**, and one **rabbit** in the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS



READ

After consistent heavy rainfall, the nearby river overflows and floods the area many times. The traveling water deposits a layer of sand and silt, burying the soil and objects left behind.

The plants in the area are frequently waterlogged, causing many to die. The area is abandoned by the people who had lived there; therefore, no objects are deposited in this stratum.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layer! No artifacts are deposited.

ARTIFACTS

No artifacts are deposited.

READ

Following the period of frequent flooding, rainfall lessens, and vegetation can grow again in the area. As more plants grow and decompose, new soil forms.

With the return of vegetation and animals to hunt, people return to the area. Using bows and arrows, they hunt large game like bison and deer. In the river, mussels and snails are collected. Pecans and prickly pear cacti, along with mesquite beans, are still prominent food sources. Pottery is made from clay found near the river.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layers! Bury one **clay jug**, one **bison**, and one **arrowhead** within the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS

READ

After a period of frequent flooding, the area experiences a long, severe drought. Without as much vegetation, wind erosion increases, transporting sediment from nearby areas and depositing it in this area.

With the arrival of European colonists came new trade goods, animals, and plants. People still hunt deer and other wildlife, but bison no longer visit the area. Europeans brought horses to the area for transportation. Some trade goods used in the region are porcelain dishes, metal eating utensils, and weapons like muskets and cannons.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layer! Bury one **porcelain plate**, one **horseshoe**, and one **clay marble** within the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS

Deposition Story 2

Introduction

During the Cretaceous Period, between about 146 and 66 million years ago, the Earth's climate was warm, the sea level was high, and dinosaurs roamed the earth. Most of Texas was underwater, beneath the Western Interior Seaway. This shallow sea divided North America, running from the Arctic Ocean all the way to the Gulf of Mexico. Teeming with life, various animals lived in the Western Interior Sea, including mosasaurs and sharks. Many creatures with calcium carbonate shells and skeletons, like mollusks and coral lived there as well.

When these organisms died and sank to the seafloor, their shells and skeletons were broken down into small pieces, buried, and compacted to form limestone rock. This limestone was buried by other rock and sediment layers, but over time they eroded, leaving the limestone layer exposed at the surface.

Staple Here

READ

After heavy rainfall, the nearby river overflows and floods the area. The traveling water deposits a layer of sand and silt, burying the bedrock.

No people have been through this area; therefore, no artifacts have been left behind.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. No artifacts are deposited.

ARTIFACTS

No artifacts are deposited.

Event 1

READ

After a period of frequent flooding, the area experiences a drought. Without as much vegetation, wind erosion increases, transporting sediment from nearby areas and depositing it in this area.

As people begin living in the area, they hunt small game, such as rabbits, squirrels, lizards, and snakes. The river nearby offers mussels and snails for them to gather as well. In addition to animals, plants like agave and buckeye seeds were eaten. In addition to its use as food, fibers from agave were used to weave baskets, sandals, and even animal traps.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layer! Bury one **basket**, one **snake**, and one **agave** within the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS**READ**

As the drought comes to an end, the area's climate cools slightly and rainfall increases. With increased rainfall, plants like sotol, yucca, and grasses become abundant. As more vegetation grows and decomposes, desert soil develops, allowing more grasses to grow.

Bison make their way to the area and are hunted with bows and arrows, along with deer and smaller animals. The prickly pear cactus becomes a significant food source, as the fruit was harvested in late summer, and the pads could be eaten year-round. In addition to prickly pear, people harvested the stem of sotol for food and its leaves for weaving baskets and mats.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layers! Bury one **prickly pear**, one **bison**, and one **arrowhead** within the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS

READ

The cooler, wetter period comes to an end, bringing in a drier and warmer climate. As some of the vegetation dies, erosion by wind increases again, depositing sediment in this area.

With the arrival of European colonists came new trade goods, animals, and plants. People still hunt deer and other wildlife, but bison no longer visit the area. Europeans brought horses to the area for transportation. Some trade goods used in the region are porcelain dishes, metal eating utensils, and weapons like muskets and cannons.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layers! Bury one **horseshoe**, one **metal fork**, and one **glass bead necklace** within the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS

Deposition Story 3

Introduction

Over 100,000 years ago, the Last Glacial Period began, marked by advancing glaciers, cooler temperatures, and the roaming of mammoths and other megafauna. With much of Earth's water locked in ice, sea levels were over 300 feet lower than today, and the Texas shoreline was much farther east. In this area, a dynamic braided river system developed. As this river made its way to the Gulf of Mexico over thousands of years, it experienced numerous flooding events and other changes to its stream channels, depositing large amounts of sediment, like sand, gravel, and clay.

Near the end of this period, at around 20,000 years ago, average temperatures slowly began to increase, causing many glaciers to start melting. As glaciers retreated, sea level rose, and the Texas shoreline slowly made its way westward.

READ

With sea level still rising and the shoreline creeping farther inland, the river meets the ocean much closer to your area. A shallow bay forms nearby, and as the river meets the ocean, it deposits sediment. Over time, grasses and other plants can take root as a marsh develops. Soon the marsh is populated with a variety of flora and fauna.

The people in the area periodically visit to gather oysters and clams for food and leave shell waste behind. Small amounts of fishing occur, and a few bones are left behind.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Bury one **clamshell**, one **fish**, and one **crab** in the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS



READ

A period of rapid sea level rise begins, inundating the area with seawater and depositing silty, muddy sediment. Salty water submerges the marsh for long periods of time, cutting the marsh plants off from oxygen and killing them.

With the decreased availability of food sources like oysters and clams, the people in the region do not travel to this area and, therefore, do not leave anything behind.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layer! No artifacts are deposited.

ARTIFACTS

No artifacts are deposited.

READ

As sea level decreases again, the shallow bay nearby re-forms. Sediment is deposited in your area by the river and from the ocean's wave action. The marsh ecosystem develops again, serving as a habitat for numerous animals. Among these are marine animals like shellfish, crustaceans, and fish and terrestrial animals like coyotes, rodents, and deer. Not too far from this area, bison can also be found periodically.

Sea level remains stable, and people inhabit the area. They fish extensively, dig for shellfish, and hunt larger game like deer and bison with bows and arrows and spears. Shells are used to make ornaments, like necklaces and beads, and pottery is made from local clay.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layers! Bury one **clamshell**, one **bison**, and one **clay jug** within the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS

READ

A strong storm hits the area. After heavy rain, the river overflows and floods the marsh. Additionally, seawater floods the marsh as high winds push ocean water to the shore. Water from both areas carries large amounts of sediment that deposit over the marshy soil, burying the objects left behind. After the high water recedes, a new layer of marsh soil develops as vegetation puts down new roots. The diverse mix of flora and fauna repopulate the area, attracting people to return and resettle.

With the arrival of European colonists came new trade goods, animals, and plants. The people who returned to the area still mostly relied on hunting and fishing for sustenance. Europeans brought horses to the area for transportation. Some trade goods used in the region are porcelain dishes, metal eating utensils, and weapons like muskets and cannons.

DO

Deposit a layer of sediment that's from 0.5in - 0.75in thick. Be sure it is a different color than the previous layers! Bury one **deer**, one **coin**, and one **horseshoe** within the sediment layer. Be sure the artifacts are completely covered!

ARTIFACTS

