

WEEK 2

Prehistoric
Alabama

Alabama Studies Weekly

GRADE
4



The First People in Alabama

Most scientists think the first people came to Alabama as early as 12,000 B.C. That's about 14,000 years ago! We refer to those ancient people as Paleo Indians, but, of course, we have no idea what they called themselves. They came to North America during the Ice Age, probably following herds of animals traveling in search of food from Siberia to Alabama. Scientists believe the islands of the Bering Strait were once a huge land bridge at least as wide as the distance from Disney World to the Statue of Liberty. When the Ice Age ended, the land bridge was covered with water again, and the people were here to stay.

When the first people arrived in our territory, the land was very different from the Alabama we know today. The plant life fed many large animals. Some of these animals weighed thousands of pounds. Herds of giant deer, camels, buffalo, sloth and mammoths (large elephant-like animals) grazed on the prairies. Mastodons, which also looked like elephants, roamed the woodlands. They used their trunks to

reach for leaves and tear off tree bark. Giant armadillos, some the size of a small car, searched for roots and insects to eat. Saber-toothed tigers stalked their prey.

The first Paleo Indians were hunters of big game. Because their lives depended on meat from wandering animals, these bands of hunters were nomadic, which means they had no permanent home but wandered about in search of food. Their shelters could be set up and taken down quickly. At night, the people camped near rivers or streams. During the day, they followed the great herds and hunted. Imagine how hard it was for these people to kill a giant mammoth. The animal stood as tall as a house and had tusks as long as a pickup truck. They used stone spears to bring them down. (We'll talk more about the way they hunted next week.) To do their job, the Paleo Indians had to work as a team. From just one mammoth, a band got enough meat to last for months. Nothing went to waste. The hide was used to make clothing and shelters, and the bones became tools and weapons.



Prehistoric Alabama

Alabama trees do such a great job at preventing erosion that our local dinosaurs remain buried. Most dinosaur fossils are found in creek gullies, new construction sites and rock quarries.

Where Are Alabama's Dinosaurs?

How can you talk about prehistoric (before written history) life without talking about dinosaurs? The answer is simple: You can't! Scientists believe there were dinosaurs roaming around just about everywhere in North America millions of years ago, but finding their remains takes some real detective work, especially in the eastern United States. Sometimes, in western states, like Arizona, New Mexico, Colorado and Utah, people find dinosaur bones, footprints or even eggs just lying on top of the ground.

Here in the East, we have a lot more trees and vegetation than they do out West, and all this vegetation has built up layer upon layer of topsoil. Topsoil is great for growing things, but it's lousy for hunting dino fossils. To find fossils, you have to be lucky enough to find rock poking out of the topsoil, rock that was around when dinosaurs were alive. That kind of rock is called cretaceous rock, and Alabama happens

to have more of it than just about any other place in the eastern United States. That means we've also got a lot of dinosaur fossil sites for an eastern state. Pretty lucky, eh?

So where are these treasures located? Well, most of our state's dinosaur digs are on a line running east to west through Dallas, Montgomery and Russell counties. Scientists think this "line" used to be on or near a shoreline millions of years ago, when the sea came up that far. They also think the bodies of dinosaurs that died were washed out to sea by ancient rivers and floated around until they sank to the bottom near the shoreline. After sinking to the bottom, the bodies were covered by mud and other material, where they lay for millions of years to fossilize.

Nowadays, scientists have found a total of about 21 different kinds of dinosaur remains in Alabama. Of these 21, a couple of the most common in Alabama are the albertosaurus (also known as the dryptosaurus) and the hadrosaur.

The albertosaurus was a lot like the raptors shown in the movie "Jurassic Park." One of their favorite meals was probably a nice big hadrosaur.

The hadrosaurs were herbivores, which means they ate veggies. Scientists think we'd find a lot more dinosaur fossils if we could just lift up the topsoil that covers the cretaceous rock. Of course, that's much too big of a job, since in some places the cretaceous rock is buried nearly 20,000 feet down.

Age of Mammals

The Age of Mammals spans about 65 million years, beginning with the death of dinosaurs and ending when the Age of Man began about 6,000 years ago. Think of as many Alabama mammals as you can. There are rabbits, squirrel, deer, plenty of rats and mice and even some big carnivores. (A carnivore is a flesh-eating animal.) That's enough to fill your whole brain with mammals, isn't it? But scientists think that, long ago, there were as many as three times more mammal species than there are today. Imagine sloths as big as mini-vans, huge mammoths, saber-toothed tigers and a few hornless rhinos. Where did they all go? Were they killed by comets or disease? Did they freeze to death during an ice age? Nobody knows for sure. Some scientists think many of these mammals were destroyed by a new and interesting animal, which was brand new to the Alabama scene: prehistoric man!

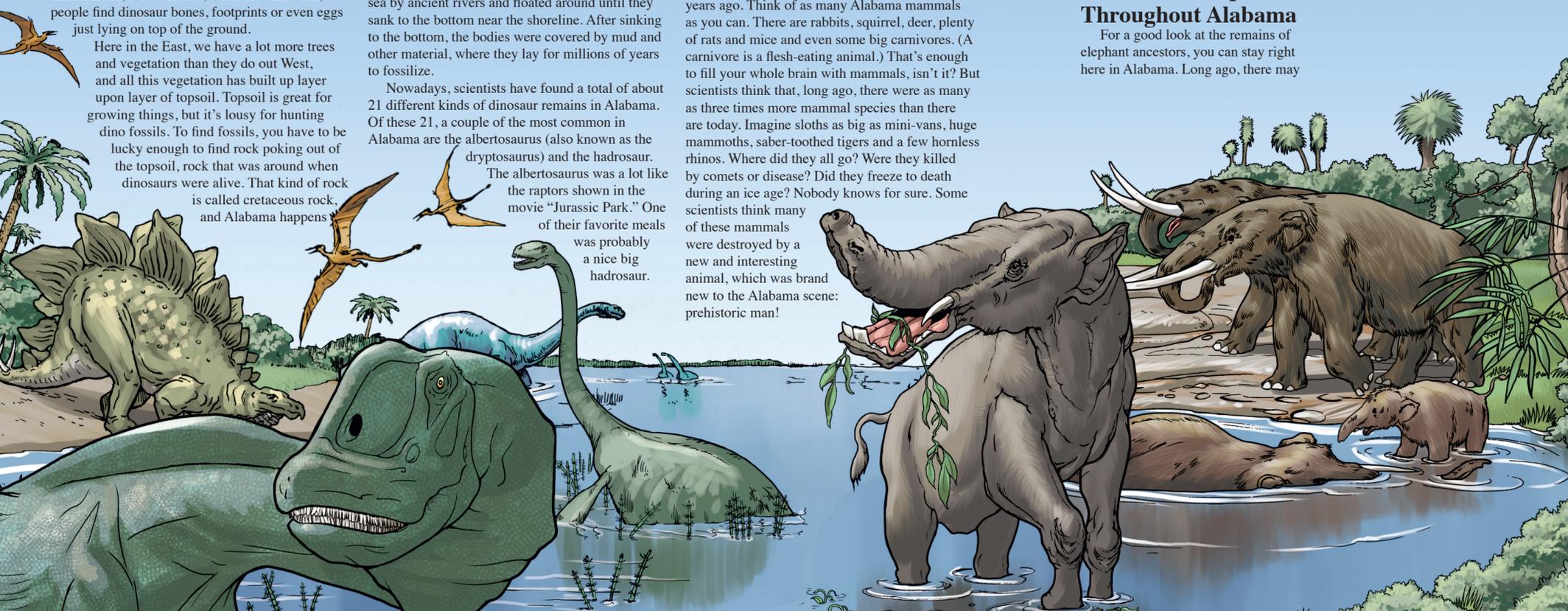
Man: The Mighty Hunter?

How did humans contribute to the extinction of prehistoric animals, like mammoths and mastodons? This mystery takes detective work. For example, scientists have found man-made tools and weapons close to mammoth fossils. Did humans hunt these giant animals, or did they just happen to live where mammoths once lived? For many years, proof of humans hunting mammoths, such as a mastodon fossil with an arrow point stuck inside it, hadn't been found. Then in 1983, at Edisto Beach, South Carolina, a fossilized elephant rib was found. What was special about this rib? It had cut marks on it that were made by ancient stone-scraping tools.

Prehistoric Elephants Throughout Alabama

For a good look at the remains of elephant ancestors, you can stay right here in Alabama. Long ago, there may

have been more mammoths than any other mammal in Alabama. Mammoths came in all shapes and sizes, and their fossil remains are found throughout most of Alabama. Prehistoric elephants evolved into a great variety of animals, some of them as big as houses. Modern elephants often have long, upward-curving tusks, but prehistoric elephants had tusks you wouldn't believe. Some were short and curved downward like fangs. Others were as long as a car and straight as a spear. Some looped like a roller coaster, huge and round. Still others were shovel-shaped, like a built-in spoon. In some very cold places, like Siberia, nearly complete mammoths have been found frozen in the ice. Some of them even have hair and skin!



Woolly Mammoth

How to make:

You will need some newspaper torn into small pieces, an old stocking, 12 pipe cleaners, wool yarn, two buttons, and a needle and thread.

1. Cut off the end of the stocking so it's about eight inches long. Then stuff it with newspaper. Put very little in the toe, and stuff the rest firmly.



2. Wind wool around the open end of the stocking to make the tail. Bind the toe end to make the trunk and head, as shown in the picture.



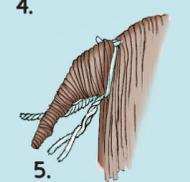
3. Join three pipe cleaners, and wrap them around the body behind the head. Tie in a knot underneath and leave the ends to make the legs. Repeat for the back legs.



4. Wind wool around a friend's hands, and then cut one side of the wool to make lots of pieces. Put the yarn over the mammoth's back, and stitch it onto the stocking.



5. Join two pipe cleaners, and poke them through the wool near the trunk. Make the ends the same length and twist them around each other. Do this again for the other tusk.



6. Sew on the buttons for eyes and a few short pieces of wool for the mammoth's ears. Then make sure the legs are the same length so that the mammoth will stand up.



Alabama Adventures

Time Traveler

I was a little nervous as I stepped into the strange machine. I'll admit that right up front. Oh sure, it was an honor being the first kid to travel through time, but, since it had never been done, can you blame me for having the jitters? Doctor Brown strapped me in, and then he sat down himself. With the push of a button, the journey began. At first, nothing happened. Then, outside the window, the lab fell down. Well, it didn't "fall" exactly; it sort of looked like it was being torn down in super-fast motion by a construction crew. Soon we were sitting in an empty lot, and the whole neighborhood started to disappear—just like the lab did. In a moment, I knew what I



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Learning About Prehistory

How do we learn about prehistoric (before written history) times? We're talking about millions of years ago when prehistoric creatures roamed the world. Now that is a difficult task!

Archaeologists (scientists who look for things left behind by ancient people) work long hours to uncover fossils and other evidence. Sometimes they have to dig way below the ground to find fossils in rock that was around during the time of dinosaurs. This rock is called cretaceous rock, and Alabama has lots of it.

But you don't have to be an archaeologist to discover fossils. In 1999, a high school science teacher discovered the largest fossil track site ever found. He made his discovery at a former coal mine in northwest Alabama called Union Chapel Mine. Paleontologists (scientists who study fossils and ancient forms of life) came from all over the world to study the fossils. They collected, organized and photographed thousands of slabs of fossilized tracks and other evidence of prehistoric life.

These fossils show that about 310 million years ago, this part of Alabama was a tidal mud flat (a type of muddy shore) for a prehistoric sea. The rest of North America was just a great big swamp then. The mud was soft enough that even very small creatures left tracks. As the tides piled up more mud each day, the tracks were buried while they were still fresh. That left layers of fossilized tracks.

The footprints range in size from less than an inch to nearly a foot long. Many of the tracks are so clear that you can count the number of toes an animal had and even the number of bones in each toe. Scientists hope that the Union Chapel Mine will give us much more information about the creatures that once lived there.

What happened to the dinosaurs?

This Week's Question

It's been a long time since anyone has seen a real-life dinosaur. In fact, in the grand scope of history, scientists believe that humans missed dinosaurs by about 63 million years. But where did dinosaurs go? Nobody knows for sure, but there are a few good theories (or ideas with evidence) about how the dinosaurs became extinct (no longer existed).

Some scientists believe that at the end of the Cretaceous Period, about 65 million years ago, the world's shallow seas dried up, changing the climate around the whole planet. Summers became hotter, and winters cooler. Dinosaurs, without fur or feathers for protection, couldn't keep warm enough in the winter or cool enough in the summer to survive.

Other scientists believe a huge asteroid collided with the Earth, causing massive fires and darkening the Earth with smoke and dust for many months. Without light, plants died. Without plants, plant-eating dinosaurs died. Without plant-eating dinosaurs, meat-eating dinosaurs died.

Another theory says that many dinosaurs did survive and evolved into birds. There's good evidence for all of these theories and many more. Maybe someday, you'll have a theory yourself!



Alabama Wildlife

Firefly

Do fireflies really have tiny light bulbs that switch on and off? It may look like it, but their little lights are really caused by a chemical process that happens inside their bodies. There are more than 1,500 different types of fireflies on Earth, but only about 50 kinds are found in the United States. They like warm, moist areas and are found mostly near creeks, marshlands and lowland areas.

Fireflies are dull brown or black when they're all grown up. Male fireflies use their lights as mating calls to attract females. When the females blink back at the males, they live happily ever after—but only for a very short time! The adult firefly lives about three weeks. The female dies after she lays her eggs. Not long after that, the male dies, too.

Did you know that fireflies, or lightning bugs, are members of the beetle family?



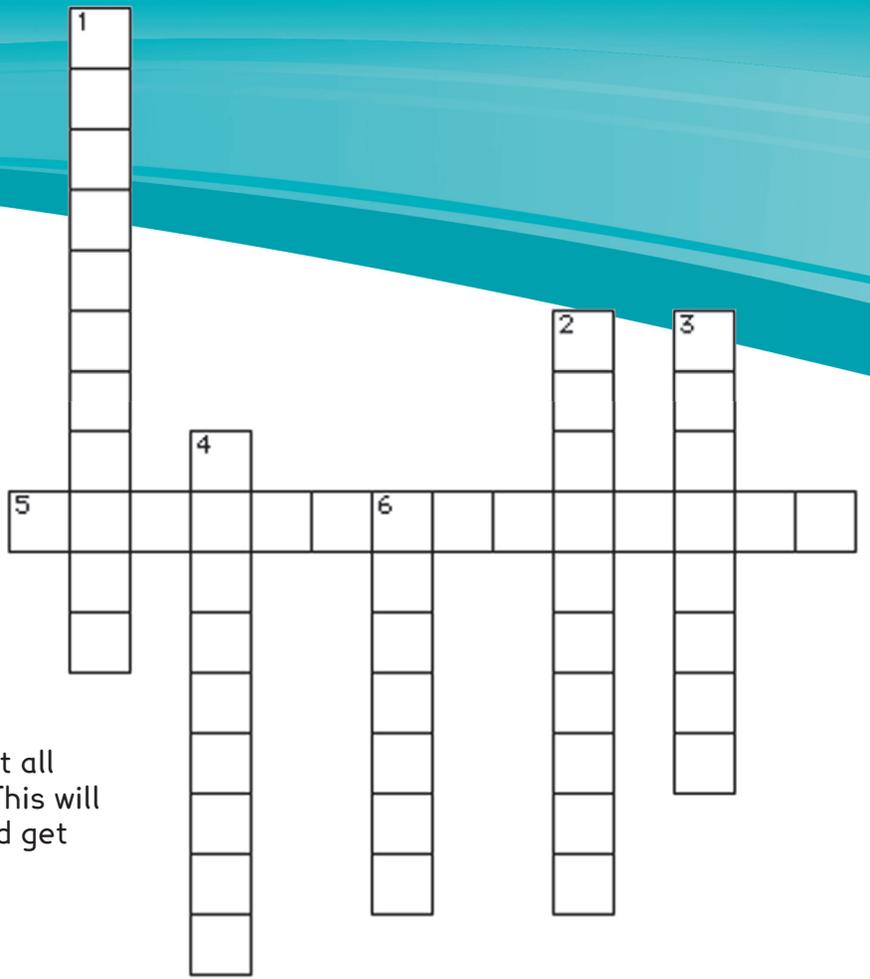
Name _____

ACROSS

5. the type of rock that surrounds most dinosaur fossils

DOWN

- 1. before recorded history
- 2. a giant prehistoric reptile of the sea
- 3. a giant prehistoric reptile of the land
- 4. a giant prehistoric reptile of the sky
- 6. no longer in existence



As you read this week's lesson, circle or highlight all proper nouns with any color pen or highlighter. This will help you find some of the crossword answers and get ready for this week's test.

Dinosaur Timeline

Age of Reptiles: 140 Million Years

Arkansas's dinosaur land is covered with topsoil and trees.

There were three main kinds of giant reptiles during this age:



Dinosaurs of the land



Plesiosaurs of the sea



Pterosaurs of the sky



Woolly Mammoth
14 ft. tall, with tusks 13 ft. long



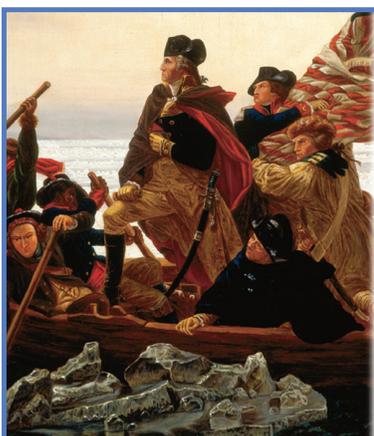
Recorded Age of Man: 6,000 Years

Time Traveler CONTINUED FROM PAGE 2

was seeing: Right outside the window, I was witnessing the whole history of this spot, only in high-speed rewind. In a moment, there was nothing but grass as far as I could see. Buffalo zipped by, going backwards. Snow gathered all around us. At times, it covered up the windows. Other times, we could see it falling upward from the ground to the sky. One moment more, and we were surrounded by water. The wind was blowing, and, in the blink of an eye, mountains formed all around us. I gasped. The time capsule was being buried beneath layers and layers of heavy soil and rock. It was dark and frightening. "Don't worry! I expected this!"

shouted Doctor Brown, as he switched on powerful lights inside the craft. My knuckles were white from gripping the arms of my chair. Right against the window, I could see a rock that looked just like pictures of dinosaur bones I had seen. Before my eyes, the rock seemed to melt away, and, in its place, I thought I saw a white bone forming. Moments later, the dirt began to blow away from the top of the window, and I could see the sun. The bone I was looking at lay now on the surface of a strange landscape, with great, green plants all around. I could hear strange calls outside the time capsule. In an instant, other bones blew into view,

joining the bone I was looking at. I stared in astonishment as muscles and cartilage, and finally skin, formed around the bones. My hair stood on end as a huge dinosaur opened its eyes and stood up, staring right into our window. I had seen him die, decay and fossilize—only backwards! About then I fainted. When I woke up, the face of my mother was staring down at me. "We were worried about you," she said, stroking my hair. "Doctor Brown told us what happened. Are you going to be all right?" I smiled, thinking about the amazing things I'd seen. "I'm going to be fine, Mom," I said. "But have I got a story for you!"



By George,
we did it.

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You are living in Alabama at the time that huge mammals roam the state. What is your favorite prehistoric mammal and why? Is he your pet? Is he scary looking? What does he eat? Can he do work for you? What does he look like? Write about him.

Let's Write