The next morning they returned to the *Flintsides Traveler*. "We're back!" Tyler exclaimed. Outside, the fog had cleared and the *Flintsides Traveler* settled down again. There was no clearing or any people. They were in another forest with large trees! They could hear water falling over the paddle wheel, so they knew it was moving to provide power for the computer. There was an odd gleam in the professor's eye.

"Hey! Look! There are more oak and hickory trees than our last time travel," Felicia remembered. "The screen says it's much later in prehistory!" Tyler pointed at the monitor. They read 'Archaic stage, Lauderdale County, Alabama, 7,000 years ago'.

"If we went back 11,000 years ago," Javonda observed, "then this must be 4,000 years later!"

They looked outside wonderingly, but saw no movement beyond the windows.

Professor Flintsides typed, making little noises to himself. "Oh, dear . . ." he mumbled. "Maybe I need to adjust the people-locator beacon? Hmm, maybe it malfunctioned . . ."

Malfunctioned? They looked at each other in alarm. The professor continued puttering around the computer, typing and talking to himself. "Let me check this people-locator beacon."

No one said anything. They waited, anxiously.

"Beep! Beep! Beep!" echoed throughout the room.
“Good! It works!” the professor finally confirmed. “Are these people we’re looking for Paleo-Indians?” Lekendrick asked curiously. They were gazing out the window trying to catch a glimpse of movement.

“No! These people lived later than the Paleo-Indians,” the professor responded. “The Paleo-Indians were early ancestors of the Archaic people. Remember that Alabamians were HUNTERS and gatherers over a very long period, for thousands of years. Archaeologists have divided this period into two stages, the Paleo-Indian stage and the **Archaic** stage.”

He walked over to the windows, searching the woods. “Hmm, I wonder where the people are? Maybe we’ll have to wait for a bit.” The professor shook his head and returned to his chair.

“What’s the difference between the Paleo-Indians and Archaic people?” Josh wanted to know.

“Their life ways were different,” said Professor Flintsides, as he typed some more commands into the computer. “When the Ice Age ended, the Paleo-Indian’s life ways changed forever. Does any one remember what some of those changes were?”

“I do!” T.J. called out enthusiastically. “The megafauna became **extinct** or died out when the ice age ended, but there were deer, black bear, and smaller animals, and plants more like we have today. When the ice sheets melted, rivers carried the water into the oceans and sea levels rose. People had to adapt to all these changes.”
“Uh huh,” the professor nodded, typing some more. “Since big animals like that mastodon became extinct, people had to invent new weapons and tools, right?” Kee asked. “They probably didn’t need those huge spear-type tools anymore.”

“Very good,” the professor said absently. He cleared his throat and squinted at the screen.

“Class,” Miss Annie said. “Add Archaic people to your ‘Comparing Cultures’ worksheet. Write down what you’re learning about the Archaic peoples. Later, we can compare them.”

“Excellent idea!” Professor Flintsides said. “The tools early Archaic people used tell archaeologists how different their diets were from their Paleo-Indian ancestors. Many other artifacts and sites have told us quite a bit about these early peoples. The Archaic stage began about 10,000 years ago . . .”

“That’s about . . .” Javonda interrupted.

“Two thousand years after the first Paleo-Indians probably came to Alabama!” Lekendrick quickly figured out.

“Yes,” the professor agreed, looking up. “Small family groups began to live in their own territories. This was a change in life way and the beginning of the culture we call the Archaic. Remember, the Paleo-Indians roamed constantly, following the animal herds, and didn’t settle down.”

“Are we looking for a band of people?” Chips inquired. “Did the Archaic people still live in small groups or bands like the Paleo-Indians?”

“Yes,” Professor Flintsides answered. “However, the Archaic Indians did not roam as widely. A major difference in their life way occurred because these people became more settled than the Paleo-Indians. Archaeologists have found many more Archaic sites than Paleo-Indian sites. Often, the Archaic sites were larger than the Paleo-Indian sites. This makes us think that Archaic people lived in the same areas for many, many years.”

“It sounds to me like the population grew,” Josh said thoughtfully.
“More sites do suggest that a population growth occurred,” the professor agreed. “Population levels were much lower during the Paleo-Indian stage.”

Suddenly, the professor’s cheerful face became anxious as he looked out the windows. No people yet. We all wondered if they’d come after all!

“Where did these Archaic people live?” Javonda asked.

“Archaic Indians probably began to develop huts,” the professor announced. “They used these huts for short times, when the people were in the area hunting and gathering.”

“Was this the beginning of towns?” T.J. wanted to know.

“Not really towns, but some huts probably stood for several years,” the professor corrected. “The Archaic people traveled to several places in their territory to hunt or collect food as it became available. They may have returned to the same sites repeatedly or for the different seasons of the year. Archaeologists call this method of making a living, **seasonal rounds**. Seasonal rounds mean the people have favorite places they return to at different times of the year, always changing where they live with the different seasons.”

“Well, this is puzzling! Where can our Archaic people be?” the professor said, running his hands through his white hair. He checked out the computer console. “Everything appears to be working. I guess we just wait.”

Kee raised her hand. “Tell us more about these Archaic people,” she said. “It sounds like their life was very simple, yet tough.”

“What was surprising to me about the Archaic people, is how they managed to communicate with people outside of Alabama,” the professor marveled. “You might think that these Archaic people knew very little about life in other areas outside Alabama, but you’ll be surprised. Archaeologists found clues that suggest these later Archaic people knew about peoples throughout most of Eastern North America!”
"That's neat! What kind of clues did they find?" Chips asked curiously.

"Archaeologists found special artifacts that they think the people traded," the professor explained. "Unique things made from materials not available in the area they were found!"

"Like what materials?" Josh asked.

"Oh, materials such as shells from the Gulf Coast, soapstone and greenstone ornaments and tools from eastern Alabama and Georgia, and minerals from the Appalachian Mountains!" the professor explained. "They even discovered flint used in stone tools from the Midwest!"

"Wow! They really did get around! Those things were all found on Archaic sites in Alabama?" Lekendrick asked.

"Yes," the professor replied. "How do you think the Archaic people of Alabama got these artifacts?"

"Maybe the Archaic people made a long journey to where people made the artifacts. Then they could just bring them back home to Alabama with them," Felicia suggested.

"I bet they traded for them," Javonda declared. "I think journeying to get all of those artifacts would have been very difficult. They didn't have roads, cars, planes, buses, or easy and fast ways to travel like we do!"

"Maybe they did both," Miss Annie suggested. "Some may have traveled, while traders came to them. It's possible someone in the Archaic band would become a trader and travel, or some of the leaders may travel to meet with other leaders."

"Yes, I agree," the professor said. "Traveling such long distances on foot through unknown lands would be difficult. Maybe some people were even hostile! However, I think it's more likely that neighbors traded with neighbors, who traded with their neighbors. In this way, artifacts could have been moved back and forth all across the eastern part of North America."

"Why would people in Alabama want those types of things?" Sally wondered. "Weren't they busy enough
making a living? They had to find food! They had to find all the stuff to make all their tools, weapons, huts or shelters, and clothes!"

“All of us want jewelry or art work or things today that we don’t really need to make a living,” Miss Annie pointed out, then winked at Chips. “Video games or a watch, for example?”

“We don’t really know what these special things were for,” Professor Flintsides said. “Some archaeologists think that these special things may have had an important part to play in their religion. Many of the special things are found buried in their grave pits. This shows that the people probably believed in a life after death. We think they included these things in the grave for the person to use in their next life.”

“Yuck! Archaeologists dig up graves?!” Sally sounded shocked.

“Gross!” some other students exclaimed.

“Oh yes!” Professor Flintsides hurried to explain. “Archaeologists used to always dig up graves of early people. Now we consult with modern Indians when we plan excavations. Many of the burials and special things found in the grave are reburied after careful study. There is a law called the Native American Graves Protection and Repatriation Act, NAGPRA, that gives us direction regarding burials.”

“We only know what we do about the earliest Alabamians by the things they left behind. They didn’t leave any written histories or personal witnesses. It does include items from their grave pits. We know little about the religious beliefs of the Archaic people because it’s difficult to know about beliefs, feelings and emotions, laws and rules, or language, unless it’s written down. Sometimes symbols can give us clues about this. Most important are the relationships between the things we find next to each other.”

“Tell us more about these people!” Chips asked.

“The Archaic people learned how to use stone for grinding,” he told them. “They ground plants for food and for other things.”
“I visited a large mound made out of mussel shells along the Tennessee River,” Tyler said importantly. “Were those SHELL MOUNDS made by Archaic people?”

“Yes, Tyler! Archaeologists have found several of those large shell mounds, or MIDDENS,” Professor Flintsides beamed. “You see, as the climate became warmer and drier, water levels became more stable and it became easier to gather shellfish. Middens were piles of trash or other things the people discarded. Then, later Archaic people learned to grow some of their own food.”

“Farmers!” Felicia exclaimed, pleased.

“No, not quite farmers, Felicia,” Professor Flintsides said. “Archaeologists have not yet found evidence for plant tending in Alabama’s Archaic sites. There are clues that Archaic people were intentionally tending plants in other areas, such as what’s now Kentucky and Arkansas.”
"How could they tend plants, but not be farmers?" Felicia asked, puzzled.

"Well," Professor Flintsides explained. "They learned to select and plant certain seeds. It is possible that they knew how to thin and tend wild plants in order to make them grow better and provide more food. At first, they probably did not even stay around to tend the plants. Instead, we think that they only came back to the plants from time to time."

"I keep wondering when people started to use cooking pots," Javonda declared. "Remember? We saw the Paleo-Indians didn’t have pots or dishes. They lined a hole in the ground with deerskin and used hot rocks to heat with, or they cooked over a campfire."

Professor Flintsides chuckled. "No cooking pots yet, Javonda, for most of the Archaic stage! Only the later Archaic people of Alabama began to use stone bowls carved from sandstone or soapstone. People living along North America's east coast began making ceramic bowls by about 2500 B.C. Those early ceramic bowls were like the STONE BOWLS in shape and size, and some were used as containers or cooking pots. Clay pots
first appeared in Alabama along the Gulf Coast. Let me remind you that the Archaic people lived in Alabama for thousands of years, and it was only the very last part of that time that they had the bowls and ceramics.”

Tyler happened to glance outside. “People!” he cried out, pointing out the window. Everyone rushed to look.

Word List

**Archaic**—ancient, old, or surviving from an earlier people. Archaic can also mean relating to an earlier time.

**ceramic**—a hard, brittle material made by baking clay at a high temperature.

**cultivation**—preparing and using land to grow plants.

**extinct**—no longer existing or active; died out.

**grave**—a hole in the ground in which a corpse is buried.

**seasonal rounds**—the pattern of moving from one camp to another following the natural cycle of ripening food.
“Hey, I told you so!” Tyler announced, when a small group of people came into view through the woods. In fact, the group looked very much like the Paleo-Indians they had seen before. Soon the students heard voices.

“They look like they’re doing the same thing the Paleo-Indians did,” Javonda said, echoing Tyler’s thoughts. “They’re just moving along slowly, looking for roots and other edible plants, or nuts and berries.”

“Maybe they’re looking for small animals, like turtles and frogs, which can simply be picked up,” T.J. guessed.

Javonda sighed. “My point isn’t what they’re looking for! It’s that, so far, I don’t see anything different.”

Professor Flintsides just nodded thoughtfully, instead of answering. They watched the several women and children in the collecting party. They moved into the distant woods and stopped.

Then they noticed the river. It explained the soft rushing noise they had been hearing.

The group in the collecting party stood on the riverbank, where they dropped their pouches and baskets. Each of them waded into the water with a single basket and began to pick up something from under the water.

“Are those MUSSELS?” Tyler asked, remembering the shell middens.

“Hey, Tyler! Those women don’t have big muscles, like these!” Lekendrick bragged, holding his arm up and flexing his biceps for all to admire.

“Not those types of muscles, Lekendrick!” Tyler grumbled. “You know, m-u-s-s-e-l-s, the clam-type. 
They're a type of freshwater animal called **mollusks** that live in ponds, lakes, rivers, and streams.

“The word ‘mollusk’ comes from Latin, meaning ‘soft’,” Miss Annie said.

“What's that stuff they're taking out of the water?” Josh pointed.

They watched the women and children pull some type of water plant out of the water and place it carefully in their basket.

“There are little things on the plants! Look, everyone!” Chips said.

They squinted, trying to see. The plants appeared to have small, spiraled shells attached to them.

**Gastropods,”** Professor Flintsides announced matter-of-factly.

“Don’t gastropods include snails and their relatives?” Miss Annie asked.

“Actually, Miss Annie,” Professor Flintsides corrected. “**Gastropod** means ‘stomach foot’. Gastropods are small freshwater snails that live in the streams of the area. They attach themselves to the rocks and water plants. The easiest way to harvest them is to pull up the whole plant.”

“So that’s what those people are doing!” Javonda nodded.

When the women and children filled their baskets, each person waded from the water and gathered on the bank. They picked up the rest of their baskets and pouches, then walked into the woods and out of view.

“So, that’s it?” Josh exclaimed, obviously disappointed.

The professor said, “Be patient, there will be more to see here. Keep watching.”

They were not disappointed for long. Felicia saw them first.

“There’s some animals!” she cried excitedly.

They saw a small herd of **White-Tailed Deer** moving slowly through the woods. The deer stopped to browse on acorns lying on the ground. The males had antlers with several pointed ends or **prongs** on them.
“What’s wrong with that one? It looks hurt or something!” Sally pointed at a lone deer. Trailing a little ways behind the main herd, the deer moved slowly. It kept pace with the others and stopped when the others stopped. However, it looked a little different. In the dim light, it was difficult to know for sure, but was that really a deer?

Abruptly, all of the deer raised their heads in alarm. It happened so quickly, they all gasped!

“That’s a man!” several of them called out, staring in surprise at what they thought had been an injured deer.

“Indeed,” Professor Flintsides chuckled. The man had been stalking the herd. When he was close to the herd, he rose quickly and threw a short SPEAR, using some sort of spear thrower or handle. As they watched fascinated, the short spear whizzed through the air with amazing speed.

“Boing! . . . Whizzz! . . . Whack!” The spear struck the nearest adult deer squarely in the side with considerable force. The deer dropped in its tracks. The other deer rapidly leaped away into the forest, disappearing into the dense foliage.

“Eee . . . !” A piercing whistle echoed through the forest. It was the deer hunter, signaling to others hiding behind the trees. When the hunter removed his deer disguise, several other men appeared from the forest and joined him. The men began working together to clean the fallen deer.

“Are they going to eat it?” Kee asked.

“Let’s see what happens,” Miss Annie suggested.

The men skillfully removed the deer hide by cutting around its legs just above the hooves, around the upper neck, and then down the stomach and inner lines of the legs. Starting at the neck, they quickly removed the stomach, intestines, and other organs in one bundle with their sharp flint knives. The men bundled the organs and hide into carrying baskets. After cutting the head from the body and cutting up the meat, each man shouldered part of the deer. Silently, they moved away through the forest with their load.
"That's the end of the hunt! OK, everyone! Please move back to your seats," Professor Flintsides gestured. "Let me talk a bit about this amazingly effective weapon system we just saw!"

"That was amazing! Did you see how fast and powerful that man's spear was?" Josh agreed.

"What you saw demonstrated was the spear thrower or ATLATL and the spear or DART," Professor Flintsides said as he typed the words for the big screen. "The atlatl was a spear thrower. The short, light spear was the dart. It required great skill and much practice to use it."

"As you saw, when in expert hands, the atlatl and dart worked very well for hitting the target," the professor continued. "The dart traveled faster and struck with greater force than a hand-thrown spear alone. Maybe Miss Annie will let you try the atlatl sometime."

"I noticed a heavy object attached to the atlatl," Josh said. "What was that?"

"You mean the carved stone weight?" the professor answered. "The hunters weighted the atlatl with the stone. They carefully carved some of those weights into very fancy shapes. The carved weights may have served as emblems of status or social importance for the hunter that carried them. Because of this, some archae-
Mussels, Gastropods, and Deer Hunting

ologists call them BANNER STONES. The stones may advertise, like a banner, the hunter's status in his group.

"Professor, what next?" Miss Annie gently interrupted.

"Next? Oh, er . . . I think we'd better catch up to our Archaic hunters!" the professor answered, glancing toward the forest where they had disappeared with the butchered deer.

"Catch up to them? They're gone!" Chips pointed out.

"We can easily see where they went," Professor Flintsides laughed, heading for his seat. "It's a touch of magic," he winked.

Archaic Cooking and a Flintknapper

An Archaic Settlement in Lauderdale County, Alabama, 7,000 Years Ago.

"Here they come now! I can see the deer hunters!" Javonda cried, spying them first. The scene on the window screens had changed.

The hunters appeared out of the forest, walking in single file through the woods. Each hunter carried an atlatl, several darts, and most had a part of the deer.
"Wow! Look at this place!" Lekendrick exclaimed. They seemed to be in a broad, open area or clearing. They had to squint. After the dim light of the forest, the clearing was very bright! High limestone cliffs towered on one side of them; its white rock glowed in the sunlight. Several women and children moved about the clearing, tending the fire or doing other chores.

"A small child looked toward the hunters and squealed in delight! It looked like he was sounding a welcome! Sure enough, everyone in the camp turned to look in that direction. Soon all of the people surrounded their returning hunters.

Meanwhile, Professor Flintsides typed in some commands and the Flintsides Traveler seemed to settle down just behind the crowd of people. They could hear the people outside loudly expressing their glee at the hunter's good luck!

"Cool! There's a cave!" Josh pointed. They looked up at the limestone cliffs and saw the wide ledge and dark opening of the cave. Attracted by the commotion, several other people had emerged from the cave and stood on the ledge. A small trail of smoke came from the cave's entrance behind them.

"Do all of these people live in that cave?" Lekendrick wanted to know.

"Watch," the professor suggested. "In our time, we know this cave as Dust Cave. Of course, people don't live in it during our time."

The students watched the deer hunters drop their loads and sit down near the fire. Two women quickly moved to the deer carcass. The women cut strips of meat from the bones using large flint flake knives. They dropped the thin strips into a basket.

"What do you think they're going to do with those thin venison strips?" The professor quizzed them, adding, "We call deer meat, venison."

"I bet they'll smoke and dry them over the fire, to make jerky!" Felicia guessed.

"Yes, just like the mastodon meat!" Kee said. "See? There's already a drying rack in place!"
She had no sooner finished answering, when a woman picked up the basket of fresh venison strips and carried it to the fire. She began carefully laying the strips on the rack.

“Oh, gross!” T.J. exclaimed, as the women butchered the deer. They carefully cut the meat away from its legs.

“I think they’re doing a great job!” Sally declared, when the women gently teased out the long white strings from the meat.

Felicia nodded. “I’ve helped with animals on the farm, and it isn’t easy,” she admitted. “Those women are really fast!”

“Those strings are what attach the thigh muscles to the deer’s hooves,” Miss Annie told the class. “The red meat is muscle. The white stringy stuff is sinew.”

“People highly prized the sinew,” the professor added. “They used it for thread for sewing, making clothes, bags, and other materials. They used sinew for binding handles to stone tools.”

“Why keep the bones and antlers?” Josh asked. The class noticed the women were careful to save both the antlers and the long bones of the deer’s legs, scraping them and putting them in yet another basket.

“They used bones and antlers to make many of their tools and weapons,” the professor explained. “The people stored them until they were needed. Atlatls had hooks and handles of antler. Antlers also made excellent tools to work with flint, bone, and stone. Sometimes, these people even made spear projectile points from deer antler tips. They made other points from flint, bone, and stone.”

More women began to help with the deer. They pulled the deer skin from its carrying basket to spread it out on the ground, fur-side down. They staked the skin securely to the ground, using slivers of wood. Once the skin was secure, the women scraped the hide. They used a short-handled tool from their belts to scrape any tissue or meat residue from the hide.

“What are those little tools? They look something like a small hoe,” Felicia observed.
"Those tools are **HIDE SCRAPERS,**" the professor told them. "They have a wooden handle attached at an angle to a sharp flat stone scraper. Scrapers are often made from a used or broken projectile point. They simply chip the broken piece into a sharp, flat scraper. These tools were resharpened by re-chipping the edge."

"Cleaning that hide takes a long time," Sally said in admiration. "I'm glad we don't have to do that!"

"It does take a lot of work," the professor acknowledged. "Once the hide is cleaned, they will bury it in a pit of wet ashes for several days. This loosens the hair. Then they'll stake out the hide once again and scrape all of the hair off. After that, the hide must be TANNED to make it like leather and to preserve it so that it won't rot. They will probably use deer brains or bear grease to tan the hide."

"Oh, gross! Yuk! Deer brains!" Many of the students reacted.

The professor chuckled. "In addition to tanning, bear grease or deer fat was used to oil the leather and protect it from moisture."

"That deer was used for many things!" Chips observed.

"Exactly! For thousands of years, deer hides were very important to prehistoric Alabamians," the professor confirmed. "They used tanned hides for most of their clothing, tents, bags, pouches, and many other everyday things."

"Hey, Professor! What's that man doing?" T.J. pointed.

They noticed T.J. pointing to an older man, maybe 40 years old. He sat off to the side of the camp, along the base of the cliff. He was thinking so hard about his work, he seemed unaware of the activities going on around him.

"Hmm, I believe he's making a new stone point, probably for one of his darts," the professor guessed.

Two boys ran over to the old man. The kids looked about 10 years old. They figured they were probably the man's grandsons. They watched the man carefully.
"Those boys are probably his students," Professor Flintsides guessed. "Soon the boys will be considered men and expected to join the adult hunters. Boys had to learn the finer techniques of weapon-making in order to survive. You're looking at what was probably one of the first schools in Alabama!"

"It's not like our school, that's for sure!" Josh pointed out, then added curiously, "You said 'weapon-making.' Is that all they taught at their school?"

"Adults taught all of the children in the band to do the same daily chores as the adults, beginning at a young age," Professor Flintsides explained. "For boys, these chores included hunting, fishing with nets, traps or weirs, fishline and hook, and making or repairing weapons. They became experts at hitting their marks because they practiced and played at hunting for years. During their little hunting trips near the camp, they regularly speared rabbits, squirrels, frogs, and other small animals. They proudly contributed their share to the band's stew pot!"

"I'd like doing that for school," Josh announced.

"Professor, what about the girls?" Javonda demanded.

"Ah yes!" he answered. "The girls learned all of the necessary skills needed by an adult woman in the band. They learned about making baskets; cooking and food preparation; sewing and tanning hides; first aid; caring for and teaching children; gathering plants, nuts, and berries; and many other adult activities."

"Those boys have a small atlatl and several darts at their sides!" Chips commented, drawing their attention back to the boys and the grandfather.

"The boys probably made them," Professor Flintsides guessed.

"How?" Lekendrick wanted to know.

"The grandfather may have taught them," Professor Flintsides answered. To make the atlatl and darts, the boys probably first carved the shafts from sturdy wood and straightened them over the fire. Then they ground and polished the antler hooks, handles, and the stone..."
weights for the atlatls. Finally, they'd assembled these things, using sinew to tie it together.”

“The gentleman is also probably an excellent flintknapper,” Professor Flintsides continued. “The art of making a stone projectile point and shaping flint is called FLINTKNAPPING. It looks like the grandfather is teaching them some flintknapping right now. Let’s see what they learn!”

The grandfather sat cross-legged on a large, flat limestone slab. The two boys sat copying his pose, directly across from him. Each had a large stone cobbble, about the size of a grapefruit, resting on a piece of deerskin on their left legs. In their right hands, they each held a smaller cobbble, about the size of a baseball. The grandfather was talking and gesturing, obviously explaining what he would do.

“The larger cobbble is the CORE,” the professor said. “While the smaller cobbble is the HAMMERSTONE, for obvious reasons.”

The grandfather began hitting the large core along one side with his hammerstone, using small taps. “Crack!” There was a sharp noise when the end of the core broke away. Below the stone core’s surface, they could see the stone was dark and shiny.

“That dark and shiny stone is the core,” Professor Flintsides explained. “The piece of rock that broke away is a FLAKE.”

They watched as the boys copied the grandfather and struck their own cores, tapping them with their hammerstones. When the end of their cores broke away, the boys presented their split cores to their grandfather. He nodded his approval, and both boys smiled.

Now the grandfather turned his core so the dark stone, or flint, faced him. He struck the dark core repeatedly with the hammerstone, removing large flakes from its side.

Soon, there were several large flakes lying at his feet and not much left of the core. The boys copied the man, their own flakes falling to the ground. The grandfather carefully selected one of the large flakes at his feet. Then
he set his hammerstone aside and picked up a piece of antler about the size of a baseball bat handle.

"That deer antler is called a **baton**. It is one of several flintknapping tools he probably kept in his pouch all the time," Professor Flintsides said.

Using the baton, the grandfather struck long, thin pieces off the large flake. 

"**Antler** is softer than the hammerstone, so it makes thinner flakes from the stone instead of chunks," the professor explained. "Antler batons also make longer flakes. The grandfather is using the baton to make a **PREFORM** out of the stone flake. The preform’s leaf-like shape makes it easy to carry until a new projectile point is needed. By using the tip of a deer antler he can later finish shaping the projectile point out of the preform."

"Why not just make the projectile point now?" Josh asked.

"Because finishing it at the place where you’re going to use it assures it will be sharp," the professor replied. "If it’s a preform, it probably won’t cut through the pouch while it’s carried. This was much easier than trying to find the right stone when you needed it or carrying the heavier cores around."

The boys copied him, making their large flakes into similar preforms.

"What’s he doing to the preform now?" Sally questioned.

"He’s making the projectile point," Miss Annie replied.

To make the projectile point from the preform, the grandfather changed tools for the next step in flintknapping. This time, he picked up a long, narrow, pointed tip of a deer antler called a **PRESSURE FLAKER**. He placed the tip of the pressure flaker very near the preform’s edge. By pressing, instead of hitting with it, he knocked off a long, thin flake from the underside of the preform. Repeating this action all along each edge of the preform, he finished the shaping of the **PROJECTILE POINT**. That done, the man created small notches near the point’s base to use to attach the point to the wooden shafts.
“Later, they will mount their projectile points on the tip of a dart,” Professor Flintsides said, as the students watched the boys using their pressure flakers on their preforms. “The boys obviously passed their tests and their grandfather is happy with their points.”

The boys and grandfather gathered up their tools and joined some of the 15 or so people from this small Archaic band in the warmth of their cozy cave. The cave was large, about the size of a classroom. The cave’s ceiling was almost 8 feet (2.4 meters) high!

“Although these people didn’t know it,” the professor winked, “this cave was once much larger. People probably used this cave off and on as a winter home over thousands of years. All of those years of use caused dirt and debris to build up, and made the cave smaller over time.”

Outside of the cave, on its ledge, a small campfire burned. Several people were preparing the evening meal.

“Well, this is a familiar sight!” Josh remarked. The students watched some women and girls cut up deer meat and tubers.

“What’s that? Next to the campfire?” Kee asked.

“That’s a small basin they dug into the cave’s floor and lined with a tanned deer hide,” the professor informed the class. They remembered seeing something similar during their visit to the Paleo-Indian camp.

The women added water, spices, and meat to the basin. Finally, they added hot rocks from the fire. Soon the stew was boiling and steam was rising into the air.

“Oh, that stew looks really good!” Lekendrick sighed. They all laughed. Lekendrick’s stomach was not the only one growling!

Everyone in the cave shared the stew, eating until it was gone. Then they crawled into their bedding in the cave for the night.

“Their day was usually over soon after sundown,” Professor Flintsides said. “Then, everyone was up and working by sunrise.”

Chapter 5-12
He beckoned them to their seats. “Come, let’s leave these people to their dreams!”

Word List

antlers—A bony growth found on the head of such animals as deer or antelope.

atlatl—A spear thrower that extended the range of a thrown spear. Using it caused the spear to go faster and farther than when it was thrown without an atlatl.

baton—A thin stick.

core—The central or most important part.

dart—A small thin object with a sharp point. Darts are usually thrown.

flake—A small thin piece of something.

flint flake knives—A knife made from a flint flake.

flintknapper—A person who makes tools by flintknapping.

flintknapping—A method used to make spear points, projectile points, scrapers, and knives from stone. A stone is struck against another stone, making smaller pieces of stone fall from it. The flintknapper continues to knock off chips or flakes of stone until the object is complete.

gastropods—a mollusk of the class Gastropoda, comprising the snails.

hide scrapers—a scraper used to scrape hides.

mollusks—Any of a group of sea animals that usually live in water and have a hard outer shell, such as clams and snails.

mussels—shellfish with narrow, dark blue shells.

projectile point—sharp pointed tools or tips attached to a spear, dart, or arrow.

prongs—One of the pointed ends of a tool.

sinew—a strong band of tissue that joins a muscle to a bone, a tendon.

weir—a fence or basket, made usually of brush, put in a stream to catch fish.
“Okay, I believe I’ve got the Traveler ready,” Professor Flintsides announced. Green letters, reading “3,000 years ago—Woodland Indians,” flickered on the large monitor screen. The professor pushed the glowing “engage” button, and off they went!

“This will be a time after the end of the late Archaic period in Alabama’s history,” said the professor. “First, we’re traveling to an early Woodland temporary settlement about 3,000 years ago. Then, we’ll visit a later Woodland village roughly 2,000 years later, or about 1,000 years ago. Remember that we should observe everything very carefully. Write down your observations on your Comparing Cultures Worksheets. What is some different information we need to know about prehistoric people? What do archaeologists try to discover?”


“Yes, indeed, all good answers. Let’s see if we can help fill in some of those details about the Woodland Indians,” the professor suggested, moving to the windows. “The Woodland Indians developed new tools, including ceramic POTTERY and other things. They learned more and more about farming and agriculture. Do you remember that the late Archaic Indians in Alabama may have been farmers in a minor way? By
the time of the Woodland Indians, the people probably spent a lot of time farming. Cultivating those weeds was just the beginning!” He paused.

“About those weeds,” Miss Annie said, “remember, Class, those plants weren’t weeds to prehistoric Indians. They were food plants that we call weeds. It’s very important to keep that in mind.” The professor nodded in agreement. Most of the students wrote down ‘food plants’ in their journals.

“If the people spent quite a bit of time farming,” Josh wondered, “were the Woodland Indians still hunters and gatherers?”

“Absolutely!” Professor Flintsides said, beginning to pace. “Hunting animals and gathering food remained very important activities. Hunting and gathering or added to, their field crops. Seeds, like sunflowers and their distant cousins—marsh elder, goosefoot, wild barley, and a wild gourd that was an ancestor to summer squashes—all made nutritious seeds and were important wild foods. Nuts (like acorns, walnuts, hazelnuts, beechnuts, chestnuts, and hickory nuts), roots (shoots and tubers), berries (grapes, persimmons, raspberries, blackberries, strawberries, blueberries, honey locust pods, and paw paws); and fish and shellfish were also major parts of their diet.”

Then the professor paused, looking around at the class. “Everyone have your notebooks readied? Good! Let’s get to know the Woodland people!”
Gradually, the fog outside the windows cleared. They were by the riverbank next to a small settlement of tent-like structures built on the top of a large earthen mound. The tents looked like they were made of deer hide.

The professor turned off the paddle wheel. The class looked out the windows on yet another ancient world.

"People have probably lived on this site, off and on, for hundreds of years," the professor told them. "Life ways changed from the Archaic to the Woodland periods when people began to live in the same places most of the time. These early Woodland farmers were more settled in their life way. They didn't move around as much as the Archaic people and probably preferred to live close to their crops. This way, they could protect their crops from animals or other humans. Let's watch and learn about some other differences for the Woodland life way, shall we?" He beckoned them over to the windows.

About 25 people were moving around the Woodland settlement. The students noticed the vegetation looked disturbed. Bright sunlight shone on the settlement area. The people dressed much like the Paleo-Indians and Archaic people they had seen before. Every man, woman, and child in this band looked very busy. Everyone was involved in different activities.

"If you haven't noticed, the woods around this settlement are less dense than the Archaic and Paleo-Indians places we visited," Professor Flintsides noted. "The Woodland people made clearings like this one in the forest. They still have temporary shelters, but now they move to some of the same places again and again. They move depending on the time of year."

"Hey, look! Those women are coming this way!" Chips exclaimed, drawing the class's attention to two women walking toward them.

The women stopped when they reached the riverbank. They were close enough to the students that they could almost see inside the big baskets that the women were carrying under their arms. The baskets looked finely woven.
Along the riverbank grew a great many weedy plants that still had their seeds. The women stripped the seeds from the plants and dropped them into their baskets. They worked carefully to collect all the seeds.

"Are those food plants? I think they look just like weeds!" Felicia exclaimed.

"As Miss Annie reminded us earlier, they might be weeds to us, but are a good food source for them," Professor Flintsides chuckled. "These Woodland Indians used those seeds to make a type of flour. Those wild plants grew naturally in disturbed areas, especially near places where people lived. Gradually, people learned a very basic lesson in farming—saving the largest and best seeds to plant the following year, made the crop a little larger."

"Then they were farmers!" Felicia said happily.

"No, Felicia, they weren't yet full-time farmers," the professor corrected. "That took hundreds and possibly thousands of years. At first, the Woodland people just scattered the best seeds where they wanted them to grow. However, they didn't plant the seeds. Gradually, they learned that putting the seeds in the soil made them grow. They would simply plant a small area."

"Didn't they fertilize the plants? What about picking bugs off them or putting up a fence to keep animals from eating them?" Felicia asked.

"No," the professor shook his head. "They didn't do anything else to care for the plants, except saving the seeds and planting them in the soil. They only harvested them if there were seeds to harvest. These people also learned that burning the area in the early spring kept trees and larger plants from taking over. Burning also made feeding areas for deer, bringing another food source."

"The Woodland people probably didn't get much food that way," Lekendrick pointed out. "Maybe they got some seeds, or maybe not."

"That's true, Lekendrick," the professor nodded. "The Woodland Indians depended mostly on hunting and gathering."
“Again, the shift from hunters and gatherers to farmers happened over a long period of time,” the professor reminded them. “It took awhile to learn about planting seeds and taking care of the crops. The seeds became an important food source. They could store seeds for late winter use and even into the early spring. They crushed the seeds for a type of flour or for their oils. Seeds were an excellent source of protein and fats.”

“I keep wondering how they built that big mound their tents are on!” T.J. pointed at the settlement.

“Ah yes, the mound!” the professor said, cleaning his glasses. “Mussel shells and earth make up that mound. Since mussels were an important food source for this area, people dumped mussel shells on this site over hundreds of years.”

“How many shells do you think are in there, professor?” Kee wanted to know.

“There are literally millions of shells left on the site from the many meals over the years,” the professor replied. “The shells made a rich and fertile mound, like a compost pile, except it’s very large. Archaeologists call those mounds created from human use, a *midden*.”

“Did they plan to build a shell mound?” Chips probed.

“No, no, we don’t believe so,” the professor said. “The people probably didn’t think they were building a shell mound, just throwing away the shells from their meals.”

“I thought a midden was a garbage pile!” Josh pointed out, then slapped his forehead. “Oh! It just hit me! Those discarded mussel shells people dumped here are garbage!”

“I want to know about those ornaments people are wearing in their hair and on their clothes!” Sally said.

“Some of those ornaments are bone pins or beads,” the professor answered. “These people made carved bone pins from deer bone. They made their beads from bird bone or carved them from stone and shells. They decorate clothing with the pins and beads.”

“What are those men wearing?” Javonda pointed.

“Those large breast ornaments worn by some of the men are *GORGETS*,” the professor explained. “They
carved the gorgets out of large shells, or from stone.”

In the middle of the settlement was a centrally-located campfire. Some women and girls worked around it, preparing the evening meal. A few others attended another small fire and the drying venison on its meat racks. The rest of the band sat together in small groups, each busily working on different projects.

“Cool! They’re weaving baskets and stuff!” Lekendrick noticed, pointing at one group of several women and girls. They were chatting while they made their baskets and mats. One woman carefully cut RIVER CANE into long, narrow strips. She expertly used her large, sharp flint flake like a blade, splitting the strips from the cane shafts. After cutting each strip, she carefully placed it into a basin of water. The basin was a hole in the ground lined with deerskin, like the cooking basins at the Archaic cave site.

“Soaking the cane in water softens it,” Felicia said. “My mom taught me to make baskets at home. We still do it that way, soaking the cane or grass stalks. It makes them easier to bend and to work with.”

“That woman is sooo fast!” Felicia said enviously. She was watching another woman weave the wet cane strips into a basket, about the size of a grocery sack. Her hands flew!

“She sure is! I wish I could lace and weave those wet strips into a new basket like that!” Javonda agreed. “I’m all thumbs, myself!”

Two girls about the age of the students were also making baskets, under the watchful eyes and occasional suggestions from the adults.

“I think basket-making looks like fun!” Sally said. “What did they use the baskets for?”

“They had many, many uses,” the professor replied. “They used baskets for all kinds of storage. Baskets stored their seeds, berries, fruits, nuts, roots, jerky, herbs, and other foods. Baskets became packs for all the small tools, ornaments, extra clothing, and food when the band moved to another location. They also wove
River Cane, Mounds, And Seasonal Rounds

cane into flat mats for sleeping and other uses.”

“Why are they pounding stones together?” Javonda wondered, pointing. Sure enough! There was a woman and young girl kneeling on the ground in front of two large flat stones. The two looked like they were holding small stones and pounding them on the large one.

“They’re probably grinding food, like herbs or maybe seeds!” Felicia said.

“That’s right, Felicia, they’re using **GRINDING STONES** to grind seeds,” the professor said. “As you can see, the grinding stone is a large, flat stone with a scooped bowl-shaped hole on its surface.”

“I bet they created the slight bowl in the stone to keep the seeds from rolling off!” Kee guessed.

“Exactly! They use the smaller stone in their hands to first crush, and then to grind their seeds into a type of flour,” the professor confirmed.

The class watched the pair grind all of the seeds until only powdery flour remained on the surface of the grinding stone. They carefully brushed the flour into a basket, then began the whole process again. They added a new handful of seeds to the grinding stone. The women and girls worked very fast.

“It takes a lot of flour to have enough for food,” Miss Annie told the class. “It takes awhile.”

“Are those the same seeds those other two women collected from the weedy plants?” Lekendrick asked.

“Yes, I believe so,” the professor nodded, pleased that Lekendrick had made the connection.

“Now what’s she doing? Is she looking for bugs?” Javonda asked, pointing at the grinding stone group. The woman hadn’t begun to crush her seeds right away, but instead was inspecting and sorting through her seeds.

“Not bugs, Javonda. I think she’s picking the best seeds,” T.J. guessed. “See? She’s choosing the largest and fattest seeds and separating them.”

Sure enough! The woman picked some seeds and placed them in a small basket by her side.

“Why do you think she’s doing that?” Miss Annie asked.
Josh replied, "She’s probably going to save them for planting."

"That’s what I think," Miss Annie agreed. "Remember, we learned that planting larger seeds the next spring would likely produce better plants with bigger seeds?"

"Professor, what do they make with the flour?" Kee asked.

"They used flour in several ways," the professor replied. "Usually, they mixed the flour with water to make a dough, then shaped it into small, flat cakes."

"Like our pancakes?" Josh asked.

The professor nodded. "Probably flatter than pancakes and more like tortillas or crepes, because the dough didn't rise when it cooked."

"How did they cook it?" Sally asked.

"They baked the cakes over the fire," the professor told them. "Sometimes, they mixed the flour with bear grease, what we call 'tallow', and ground-up venison jerky. The tallow-jerky flour mix formed a very nutritious food, almost like a trail mix. This mix was a favorite food for hunters or even the whole band when they were on the move."

"Professor! What’s happening over there?" Lekendrick drew attention to a group sitting near the water’s edge, not far from the Traveler.

"I think they’re making a fishing net!" Tyler guessed.

"Hmm, let’s watch and see," the professor suggested.

A man worked close to the students. Three boys carefully observed and copied him. He pulled something large and black out of the river.

"What’s that?" Miss Annie asked.

"I think it looks like a big piece of bark peeled off from a large tree," Javonda said. The rest of the class could now see it better. It was dark and heavy. It looked like it must have been soaking in the water for some time. The boys pulled their own bark out of the water.

Carefully, the man began peeling long, thin, thread-like, fibers from the bark. He took several of these fibers
and rolled them together against his leg, twisting them. Soon, he held a loose fiber bundle. The students saw that he had a pile of similar bundles next to him on the bank. He added the newest bundle to the pile. Taking two of the fiber bundles, the man rolled them tightly together against his leg.

"He's making rope!" T.J. guessed.

"Cord, T.J.. That's a short cord," the professor nodded. "Good guess, though. Several cords usually make up rope. Cord is string, or a thinner rope."

The man continued to roll the cord against his leg, keeping the twisted fiber bundles tightly together. He added even more fiber bundles, and continued twisting it. Gradually, the cord grew longer. By the time he had used most of his bundles, the thin cord was very long. He took the finished cord and began tying it into knots and shaping it into a rectangular pattern.

"Hey, he's making a net!" Chips exclaimed, as the tied cord took shape. It did look like a FISH NET! The three boys next to him were much slower, and struggled to make their own cords.

"After some practice," Professor Flintsides chuckled as a younger boy dropped his fiber bundles and had to start over again, "the boys will become expert cord and net makers, too!"
“I wonder how long it will take them to make the net?” Sally asked.

“Class,” answered Miss Annie, “when we return to school we’ll try some experimental archaeology. I have some material with which to teach you how to make a simple cord.”

“Excellent!” approved Professor Flintsides. “Perhaps you can use your math skills to figure out how long it will take the weavers to make their net.”

“Professor, I think their tents look a lot like the Archaic people’s did,” Josh suddenly declared.

“Yes the tents are similar. Later, the Woodland people built stronger and more permanent homes,” the professor replied. “We’ve seen how these people lived and used what’s in their environment to provide for their needs.”

“Will we see these later Woodland people?” Javonda asked hopefully.

“Ah yes, this reminds me, let’s move on to this later settlement, only about 2,000 years later, shall we?” the professor suggested. “I’m just about ready for our next adventure. Everyone ready?”

The professor’s eyes twinkled merrily when they all hurried back into their seats and buckled in.

“Engage!”

They were off . . . again.
Word list

gorget—a decorative collar or necklace with holes to suspend it from a cord, usually made of stone.

grinding stone—a large flat rock used as a mortar for crushing seeds and nuts.

middlen—a garbage pile.

river cane—plant found along river banks and used for making things. This is what we make cane fishing poles from today.

Woodland Indians—a term used by archaeologists to describe the Indians in the southeast during a certain period in time. (ca. 300 B.C. to 1000 A.D.) Archaeological period between Archaic and Mississippian.
By now, they were used to the excitement of time travel in the Flintsides Traveler. The class simply sat back and waited to see where they would be next.

Soon the window screens cleared and bright sunlight again seemed to surround them! The class rushed to the windows to look out. They could see that they had returned to the same place they had just visited, but things were different.

"Those huts sure look like better homes than the tents did! I mean, the earlier Woodland Indian tents!" Lekendrick remarked.

Instead of small tents, there were five OVAL HUTS on top of the higher shell mound. The huts looked very sturdy. They were about 12 feet long, or 3.7 meters. A doorway opened on one side of each hut, but the students could not see any windows. Thin streams of smoke rose into the air from openings in the bark roofs.

"These later Woodland Indians built their huts with posts set firmly in the ground," the professor told them. "They wove small branches and vines between the posts to make the walls. The walls were plastered, inside and out, with mud."

"Wattle and daub," Miss Annie murmured.

"Waffles and what?" Lekendrick laughed.
"Wattle and daub," the professor said. "Miss Annie knows that's what we call this type of construction. The wattles are the woven branches and vines between wooden posts. The daub is the mud that dries like cement. These huts were cozy during the winter, but too small and dark for much activity inside. This is why most of their daily activities took place outside, even in the winter."

The sun seemed brighter, but then the students realized the clearing was much larger than others had been. In fact, most of the big trees that had been forest before were now dead. There were no leaves on them. Next to the small settlement in front of them on the riverbank, was a field with clumps of plants.

“What happened to the forest?” Javonda wondered.

“It’s the tree trunks!” Josh exclaimed, pointing at the trees. They noticed that the trees had cut marks completely around their trunks.

“This was how the late Woodland Indians killed the trees and made clearings,” Professor Flintsides explained.

“You mean they destroyed the trees on purpose?” Felicia frowned.

“Absolutely,” the professor assured them. “These early foresters learned that cutting the tree trunk through the bark and into the layers below it, killed the tree. Once the tree began to die, it lost its leaves. Sunlight could then reach the Woodland Indian’s gardens. By now, people realized plants grew better in the sun than in the shade.”

“Don’t try this on trees at home,” Miss Annie told the class. “Your parents would be mighty angry with me!”

“Is that a garden? Those clumps of plants?” Tyler asked.

“Yes, Tyler,” Professor Flintsides nodded. “Each of those clumps of plants include a few stalks of corn, or MAIZE. Beans and squash are growing around the maize stalks. Maize, beans, and squash were the people’s main foods during the Late Woodland period in Alabama.”
“It looks like a good idea, to me! The bean vines can climb up the corn stalk. The squash grows on vines that spread out all over the ground, so it shades the soil and gives some protective cover for their roots!” Felicia explained. “The Early Woodland people didn’t have maize, beans, or squash, did they?”

“No, Felicia, you’re right about that!” the professor replied. “The earlier Woodland Indians harvested wild seeds, but didn’t grow any of those crops.”

“In some areas of the world, farmers still plant their crops in bunches like that,” Miss Annie told the class. “Are you writing on your ‘Comparing Cultures’ worksheets about wattle and daub construction, maize and agriculture, and about the trees?”

“How many people lived in these villages?” Felicia asked.

“I think it’s really small for a village!” Chips noted.

“That’s why we call these very small villages, hamlets, Chips,” the professor explained. “Felicia, about 25 people lived in this Late Woodland period hamlet or tiny village. For the most part, they spent their days in the same ways as their ancestors—hunting animals, fishing, and gathering wild plants, berries, and roots.”

“But that’s a big garden!” Josh pointed out.

“Excellent observation, Josh!” the professor beamed. “Unlike their ancestors, the Late Woodland Indians grew a good portion of their food. This food was grown in their gardens near their hamlet. They either ate the corn, beans, squash, and sunflowers fresh or stored them in large pits for later use. The Late Woodland people ground corn into flour either on a grinding stone, or with MORTAR AND PESTLE. The mortar was a thick log and the pestle was made from a smaller stick. Look! There’s a woman using the mortar and pestle now!”

They saw a woman standing by an upright log as high as her waist. She held a long wooden stick in her hand.

“That log, the mortar, has its top deeply hollowed out in the shape of a deep bowl,” the professor explained.
“The large, rounded stick she’s holding is the pounder, or pestle. Many people around the world today still use these types of wooden mortar and pestles to grind their grain into flour.”

The woman poured a small portion of corn kernels from her basket into the mortar. Taking the long, carved pestle in both hands, she pounded the corn in the top of the log. The basin shape kept the pieces from scattering. Again and again, she raised the long stick-like pestle over her head and down, pounding the corn.

“The mortar works like the grinding stone,” the professor said to the class. “The corn is ground until it’s mashed into corn meal or flour. Corn meal is coarser than the powdery flour.”

The woman scooped out the corn meal, dumped it into her basket, and then added more corn to the mortar. She continued the process to fill her basket.

“Professor! Those people are leaving! Where are they going?” T.J. pointed. Several people left the settlement and entered the field, carrying baskets. The class watched them begin moving from one clump of crops to another, filling their baskets with the ears of corn, bean pods, and squash. Some of the children were even collecting some of the maize stalks and squash vines that no longer had vegetables on them.

“Where are the men?” Lekendrick asked. They noticed for the first time that there were few men around the fields or the settlement.

“They’re probably hunting deer,” the professor guessed. “Venison, or deer meat, was their main source of protein. They also hunted animals like bear, wild turkey, ducks or geese, and many smaller animals. They would leave their small hamlet to hunt in the forest.”

“Class, as time went on, the Woodland Indians learned more and more about farming and agriculture,” the professor continued. “You remember that the Late Archaic Indians in Alabama may have been farmers in a very minor way. We learned how the Early Woodland
Indians made much more progress by saving the best seeds and scattering or planting them in small plots. Usually, that was where they grew best—wild and not in cleared gardens."

"That sounds like a lot easier work than planting large fields of crops!" Felicia said. "I get so tired during planting season at our farm!"

"It probably was easier, Felicia," the professor laughed. "The Late Woodland period was about 2,000 years later than the first Woodland settlement we visited. Late Woodland Indians probably spent a lot of time farming. Cultivating those first plants was just the beginning."

"Did these Late Woodland people still gather wild foods?" T.J. asked. "I can see they hunt and care for crops."

"Wild foods were still very important," Professor Flintsides acknowledged. "Hunting animals and gathering food remained important additions to their field crops. Because these people stayed in one place longer, they built large underground storage pits for their food."

"Professor, what's that woman teaching the girl? Look, over there!" Javonda asked, pointing.

"The girl's learning how to make POTTERY," the professor replied. "Ah! I'm glad you can see this, because the invention of pottery is one of humankind's greatest achievements! As you probably know, pottery is something made from clay and heated at a high temperature
Discovering Archaeology in Alabama

to make it very hard. Some archaeologists also call pottery ceramics. Pottery was made in different ways and with different materials. The remains of pottery often helps us to identify who the people were and when they lived.”

At first, they could not figure out what she was doing. The woman showed the girl how to place a flattened, round-shaped piece of clay on a piece of bark. The young girl copied her, although her circle of clay was smaller.

“They’re making the bottom of their pots,” Kee told the rest. “I’ve made pottery before,” she added with a smile.

They watched the woman take more clay and roll short, snake-like pieces called coils between her hands. She applied a piece around the edge of the clay bottom, showing the girl how to do it. They both rolled more pieces and continued to stack them, one upon another, around their clay bottoms. Gradually, both began to look like pots, although the girl’s pot was much smaller.

Next, the woman mashed and smoothed the coils of clay on the sides into shape. She waited and nodded when the girl copied her. For a final touch, she added thicker coils or pieces of clay for the pot’s rim.

Their pots were now formed, but were still soft. The
woman picked up a small wooden paddle wrapped with cord. The woman pressed the paddle against the soft sides of the pot, then pulled it away. She showed the girl a design made from the cord pressed into the damp clay. The woman continued until there was an interesting design on the outside of the new pot. She handed the paddle to the girl, who made her own design on her small pot.

"Those pots are beautiful!" Kee exclaimed, wistfully. "My mom and I cut designs into the soft clay with special metal tools. I haven't thought of using cord before. I think it's pretty. Oh, now they're setting the pots near the fire to dry. I guess they didn't have special firing ovens or kilns then, did they, Professor?" The students saw that they had put their finished pots about five feet (1.5 meters) from the fire.

"No, Kee, they didn't have kilns," the professor acknowledged. "They used their fire to bake their pots. The young girl has to carefully turn the pots so that they will slowly dry out evenly on all sides."

"I can see why," Kee nodded. "If they dry too quickly, they will crack. They might even break into a zillion pieces! The temperature is very important. It takes many hours to dry clay so it doesn't crack. I've done it wrong and broken some myself before."

The that pots the woman and girl were making did not break. Instead, while the new pots were drying, the woman started to work on a pot that had completely dried. She used a small mussel shell to scrape the inside of it.

"Scraping the clay makes it smoother, thinner, and pushes the clay particles close together," Kee said. "Mom and I use plastic or wooden scrapers at home, but I bet the mussel shell works great, too!"

When the woman was satisfied with her work, she sat this pot next to the other two by the fire, to dry some more.

"Professor, drying it by the fire doesn't bake it. How do they bake the clay?" Kee asked.
"In the open fire," the professor said, smiling when he saw Kee's surprise. "When those pots are very dry, the women will build a new fire with kindling and small pieces of wood placed around the pots. They will lay the pots on this fire with their open tops pointing down. More wood will be added. When the fire reaches a high enough temperature, the clay becomes very hard. The heat chemically changes the clay to become pottery."

"The pots are more waterproof than pitch lined baskets," Miss Annie added. "Pottery or ceramics are very strong and water resistant, unlike the soft clay they are made from."

Kee began chuckling. "Now I know why we call baking the clay pot in our kiln, 'firing it!' Before they had kilns, they really did fire it!"

"Professor, how did they keep the fire at the right temperature? So it didn't get too hot or make the pottery cool too fast?" Chips asked.

"Good question, Chips," the professor smiled. "When the fire burned down, it was partly covered with fresh
leaves and dirt. The leaves and dirt kept the heat in and ensured that the fired pottery would cool very slowly.”

“Like insulation, huh? How did they figure out how to make pottery?” Lekendrick wondered.

“No one yet knows where the idea for making ceramic pots came from,” the professor shrugged. “The Southeastern Indians were very early producers of ceramic pots. The lived along the Atlantic coast in southern Georgia and northern Florida. Maybe they discovered the way to make ceramics. Maybe the idea came from somewhere else. Archaeologists continue to search for answers.”

“Didn’t people make pottery during the Late Archaic?” Felicia asked.

“You’ll remember the Late Archaic people learned to make a very thick, heavy form of pottery, but it broke easily,” the professor explained. Later, they experimented to produce thinner, stronger pots. They discovered that adding temper, or tiny bits of a different material, to the clay resulted in better pottery. Temper kept the pots from exploding as easily during firing. It made the pottery sturdier.”

“What exactly did they add to the clay?” Kee asked curiously.

“They tried sand, crushed limestone, and old crushed pottery. They mixed the temper with the new clay before making and firing the pottery,” the professor replied. “Each of these tempers was an improvement over the leaves and twigs they used in the earliest pottery.”

“Where did they get the limestone? From trade?” Josh wondered.

“There was a time during the early Woodland when all materials archaeologists have found were local,” the professor answered, “and we think trade had broken down. However, by the middle of the Woodland period and this later time, trade had again started up. Archaeologists found copper, shells, and other materials in their dome-shaped and cone-shaped burial mounds. They discovered pottery with limestone and old pottery pieces baked within the clay.”
“Did these people have cemeteries?” Chips wondered, changing the subject.

“Not like we have today,” the professor answered. “Archaeologists can often tell a lot about past people from their graves. Scientists learn by the way the people buried their dead, what they buried with them, and where they buried the dead. The construction of these dome-shaped tombs was the biggest change archaeologists found between the Archaic people and the Woodland people. In addition to their dome-shaped mounds, sometimes these people used caves as burial chambers.”

“Professor, are some modern people upset about people digging up the graves of their ancestors?” Sally asked.

“Yes, Sally. That is true,” Professor Flintsides answered. “Archaeologists are more careful about excavating burials than they used to be. They have to balance two things. One is their need for scientific information. The other is the need to be respectful of the wishes of the modern people who are related to the earlier people.”

Just then, a movement caught our eyes.

“Look! There are some men! They’re coming now!” Javonda pointed.

Several men walked out of the forest beyond the dying trees and into the clearing. They were carrying parts of a deer.

“Wow! They have bows and ARROWS!” Josh observed excitedly. The men carried the bows over their shoulders and quivers full of arrows on their backs.

“Yes, bows and arrows were a weapon we’ve not seen before,” the professor agreed. “Bows and arrows first appeared in Alabama about A.D. 800 or 900, more than 1,000 years ago. We’re not sure if they were developed in Alabama or if the idea was brought here by other people. They were very important weapons because of their small size, lightweight, accuracy, and speed. With practice, a person could shoot several arrows in a very short time.”
"Was life better for these Woodland People than for
the Archaic people?" asked Lekendrick.

"Lekendrick," the professor answered, "as Felicia
mentioned, agriculture did not always make life easier for
ancient farmers. They had to work longer hours than they
would have as hunters and gatherers foraging for foods.
Sometimes the farmer's diets were limited to what they
could grow. Hunters and gatherers sometimes had better
and more varied diets than the farmers. With better
diets, the hunters and gatherers lived longer and were
healthier."

"If there was a fire, or a flood, or insects got their crops,
then farmers might have starved, too," Felicia guessed.

"Exactly, Felicia," Professor Flintsides said. "Agricul-
ture, the growth of cities, increase of human population,
a bigger economic and trade network are sometimes
called improvements. These were not always better ways
of life than living completely off the land and its
animals."

"I think the professor is right! There isn't better or
worse—only different," Miss Annie added. "It's more
important to appreciate the variety and the differences of
people. It's not important to decide who was more civi-
lized or who made the most progress."

"Hey! Look what's happening over there!" Javonda
shouted, pointing beyond the field along the riverbank.
Something was taking place across from the students.
A teenage boy on the riverbank was having a very good
time trying to land a fish! He was holding a line and
jigging it in the river.

"I bet he's using a bone fishhook," Professor Flintsides
guessed.

"What are those rocks and things?" Lekendrick asked,
pointing to a V-shaped formation of rocks sticking out of
the river. Some sort of basket container stuck out of the
water at the point of the V.

"That is a FISH WEIR," the professor explained. "The
rocks guide the water into and through the cane basket.
Any fish swimming between the rocks become trapped in
the basket."
"What a great way to fish!" Felicia said enviously.
"Yes Felicia," the professor agreed. "The hamlet's fish weir provided a few fish every day with very little effort."

They watched the boy land his fish and take it into the hamlet. The people working in the fields carried their baskets full of harvested vegetables into the hamlet, too. The hunters had all carried their deer into the village earlier.

"We think some other important changes happened with the Woodland Indians, too," Professor Flintsides added. "With more people living together in one place, people needed new rules to keep the village orderly. They probably had rules about who could farm each area and where each house could be built."

"This may have been the first time people felt they owned certain land," the professor said. "Land was probably owned by certain groups of related people, called a kin group. That group would raise their crops, build their homes, and care for and protect their area."

"Who were the leaders of these groups?" Javonda asked curiously.

"We aren't completely sure," Professor Flintsides said. "With the late Woodland Indians, we think that leadership became inherited or only chosen from a certain class of people. As today, society began to change so there were people of different social ranks. Everyone wasn't equal any more."

"You keep saying you 'think' and 'probably', professor," Tyler pointed out. "Why don't archaeologists just know these things?"

"We don't know that much about these people because many clues disappeared or were destroyed," the professor responded. "Many things that were made from plants don't last in the soil. Many aspects of the Woodland Indians life, and those of earlier peoples, can only be guessed at. So, we have to use words like 'think' and 'probably'."

Miss Annie pointed at her watch.
“Oh dear, look at the time! We must move on. There’s still so much to cover and so little time,” the professor fretted, as the students hurried into our seats. “Let me get the Traveler programmed and away we’ll go!”

Word List

fish weir—a fence or barrier set in the water to help catch fish.

kiln—An oven or furnace used to harden, dry, or burn pottery.

kin—A person’s relatives or family.

maize—The corn plant or its kernels.

mortar and pestle—A mortar is a large stone with a bowl shaped basin used to grind seeds. A pestle is a large round stone used to pound seeds in a mortar.

pottery—Objects shaped from moist clay and hardened by heat, such as pots, bowls, and other containers.

temper—to harden a material by special treatment.

wattle and daub—a form of construction. Cane (wattle) was threaded between the wall posts and then plastered with mud (daub) inside and out to make a smooth surface.