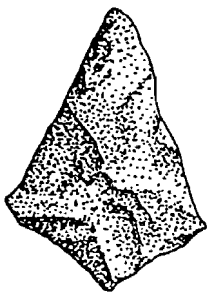
Fact Sheet on

ARCHAEOLOGY

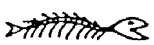
WHAT is ARCHAEOLOGY?

Archaeology is the study of artifacts that have been left behind by people in the past. An artifact is anything that was made or used by people. We study artifacts left by people in ***history*** and ***prehistory***. Prehistory means more than about 400 years ago, before explorers and colonists came from Europe and Africa, in other words, when the Indians were the only people in America. We call it prehistory because "pre" means before, and "history" means to write things down. The Indians did not write things down, so that is why it is called prehistory.

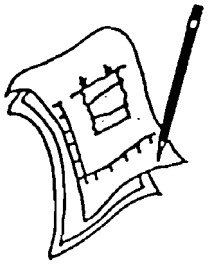


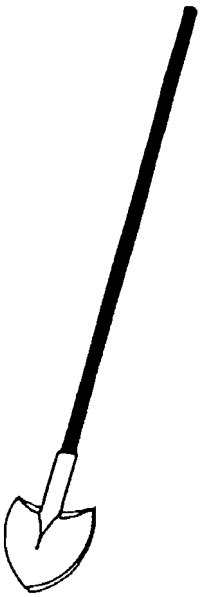
WHY do ARCHAEOLOGY?

Archaeologists do archaeology to learn about how people lived in the past, both in prehistoric and historic times. They are interested in learning what they ate, where they slept, how they raised their children, and what they liked to do. They do this by studying ***artifacts*** that have been left behind in the ground. An



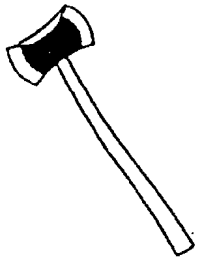
artifact is anything made or used by people, old or brand new. Archaeologists are interested in old artifacts, from a long time ago. Archaeologists look carefully at what they find in order to share what they learn with students, and other people. The places in the ground where artifacts are buried are called sites. As long as the artifacts are buried, they are safe from getting messed up, but sometimes people want to build a road or a building where there is an archaeological site underground. Archaeologists try to learn as much as they can about the people who used to live on the land from the artifacts, because artifacts are like clues left in the ground. Archaeologists study the artifacts to try to find answers to their questions about how people lived a long time ago, since the people are not around anymore to ask questions. After archaeologists study all the artifacts, they use a computer to write a report that tries to create a truthful story about how the people lived a long time ago.

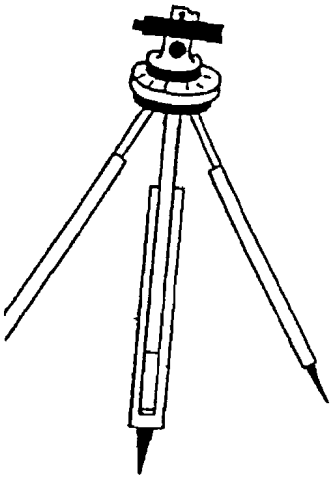




WHERE do you do ARCHAEOLOGY?

Archaeology can be done almost anywhere. That includes the woods, a farmer's field, and even in a downtown city. An archaeologist is likely to find clues of ***past life*** almost anywhere they look on land that has not been too messed up by buildings, roads, or other big construction projects. Sometimes archaeological sites are buried way below the ground. Some things give archaeologists good clues that they might find artifacts and sites, like if the land is close to a river or stream. This is because everyone needed water, and the animals that prehistoric people hunted for food came to drink from the rivers and streams. An archaeologist has to think about how the land has changed over time, remember, everything was wilderness before cities and suburbs started being built.

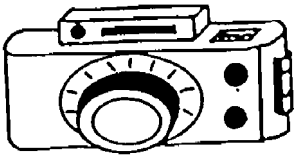




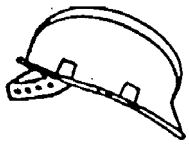
HOW do you do ARCHAEOLOGY?

Archaeologists use their hands, and their heads to do their work. After an archaeologist finds some artifacts on the ground, they begin digging to see if there

are more artifacts buried in the ground. Sometimes archaeologists have to take off a lot of dirt on the top of the ground to find the artifacts that are buried below. Once they have taken off the newer layer of dirt on the ground, they can begin carefully looking for artifacts in lower layers of soil. They call the layers in the soil ***strata***. Archaeologists have to keep track of where each artifact comes from, so they dig in square units. They give each unit a special number. Then they begin taking off thin layers of soil with a special tool called a ***trowel.*** They put the soil into a bucket, then dump the bucket out into a screen. They shake the screen so that the dirt falls out of the bottom, and the artifacts are left in the top. They carefully pick out the artifacts, and put them in special bags with special numbers that tell which unit they came out of. It is very important to write down where an artifact came from, because this can help us better understand what was going on in certain areas of the site. Archaeologists also take samples of the ***soil*** itself, and do special studies in the laboratory to look for very tiny things, like burned seeds or bits of bone, which can tell what prehistoric people were eating

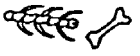


from their environment. After the dig is over, archaeologists clean and study each artifact. Each artifact gets entered into the ***computer***, to help create a record that will not get lost. After all the field work and lab work is done, archaeologists write their report on the site, so that other interested people, and other archaeologists, can learn from the finds.

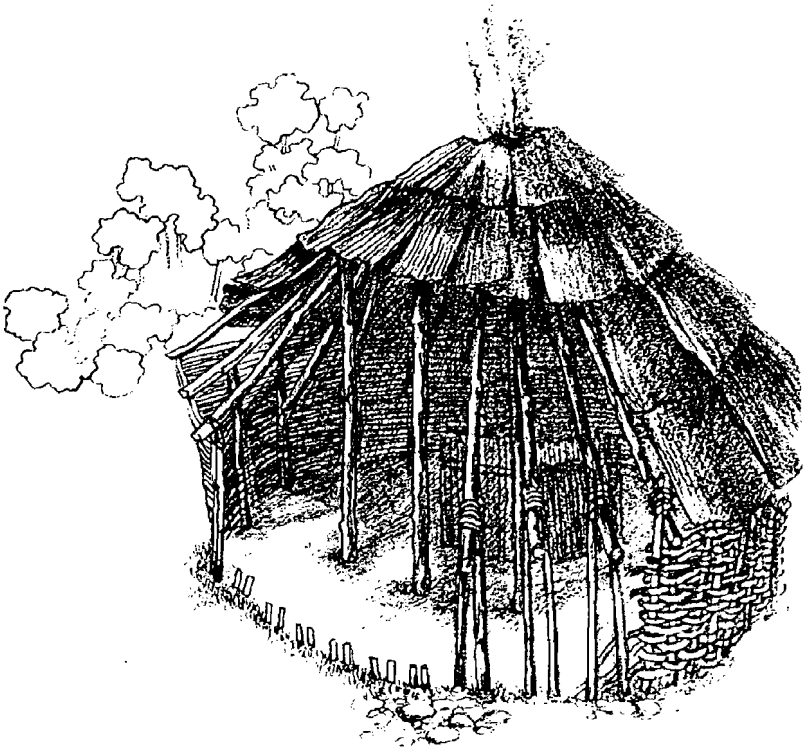


WHO can do ARCHAEOLOGY?

Anyone can do archaeology, this includes ***women and men***. An archaeologist has to be willing to put in hard work in the field, as well as at in the ***laboratory***, and even writing at the ***computer***. Once the work at the archaeological site is done, archaeologists must examine, measure, and try to identify each artifact they collected from the site. They do all of this work in the laboratory. Sometimes, if an archaeologist needs help identifying artifacts, or wants to learn more about something they found, they ask advice from other scientists in jobs that are like archaeology in some ways. Some of these similar scientific fields include



anthropology (study of culture and the origin of people), ***geology*** (study of the earth and rocks), ***history*** (study of past events), ***paleontology*** (study of fossils), ***palynology*** (study of seeds and pollens), ***climatology*** (study of weather and climates), and even ***biology*** (study of living beings and life processes). You must go to ***college*** if you want to be an archaeologist, or any of these other types of scientists. While in college, you get to learn a lot about archaeology, often at "field schools," which are outdoor classrooms where young archaeologists get hands-on training and experience.



ABOUT THE HICKORY BLUFF ARCHAEOLOGICAL SITE

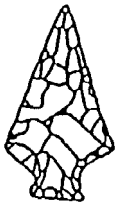

CERAMICS

The Hickory Bluff archaeological site is located on the eastern bank of the St. Jones River in Dover, Delaware. ***Parsons Engineering Science, Inc.*** is a company that is helping ***Delaware Department of Transportation*** do the archaeology at this site. This prehistoric site was first identified in 1994, during an archaeological survey. The site lies in the proposed corridor for the Puncheon Run Connector, which will connect Route 1 with Route 113. Phase III archaeological investigations, or an ***excavation***, is being performed on the site so that we can learn as much from it as possible before construction of the road begins. Archaeologists do not often have the luxury of excavating an entire site, so they must determine an appropriate ***sample*** of the site to excavate, enough to allow us to learn as much as possible.


ADENA

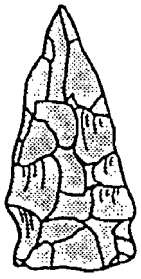
The entire site is over 5 acres in size, and appears to have been occupied by prehistoric people during the ***Woodland I*** period, about 3,000 B.C. - 1,000 A.D. The Woodland I period had two main culture

complexes, called the ***Barker's Landing*** (about 3,000 B.C. to 1000 A.D.) and ***Delmarva Adena*** (about 500 B.C. to 1 A.D). Occupation of this site was not confined to this period, traces of both the earlier Archaic period, and the later Woodland II period have also been found. Artifacts found at Hickory Bluff include spear points and arrowheads, as well as other sorts of chipped stone tools, and pieces of pottery. The ***raw materials***, or rock, used to make these stone tools includes both locally available ***jasper, quartz, and quartzite***, as well as tools made from rocks that came from further away, such as cuesta quartzite (from northern Delaware), Flint Ridge chert (from Ohio), argillite (from northeastern Pennsylvania and northern New Jersey), and rhyolite (from northern Maryland). The presence of tools made from the rocks that came from further away means that prehistoric people were either doing a lot of traveling to get their resources, trading with other ***cultures*** further away, or ***migrating***. More likely, it was probably a combination of all of these possibilities. The ***pottery sherds*** that have been found at the Hickory Bluff site have been identified as steatite-tempered Marcey Creek Plain Ware, which was made during the early Woodland I period, as well as later



BROADSPEAR

CARVED STEATITE (SOAPSTONE) BOWL



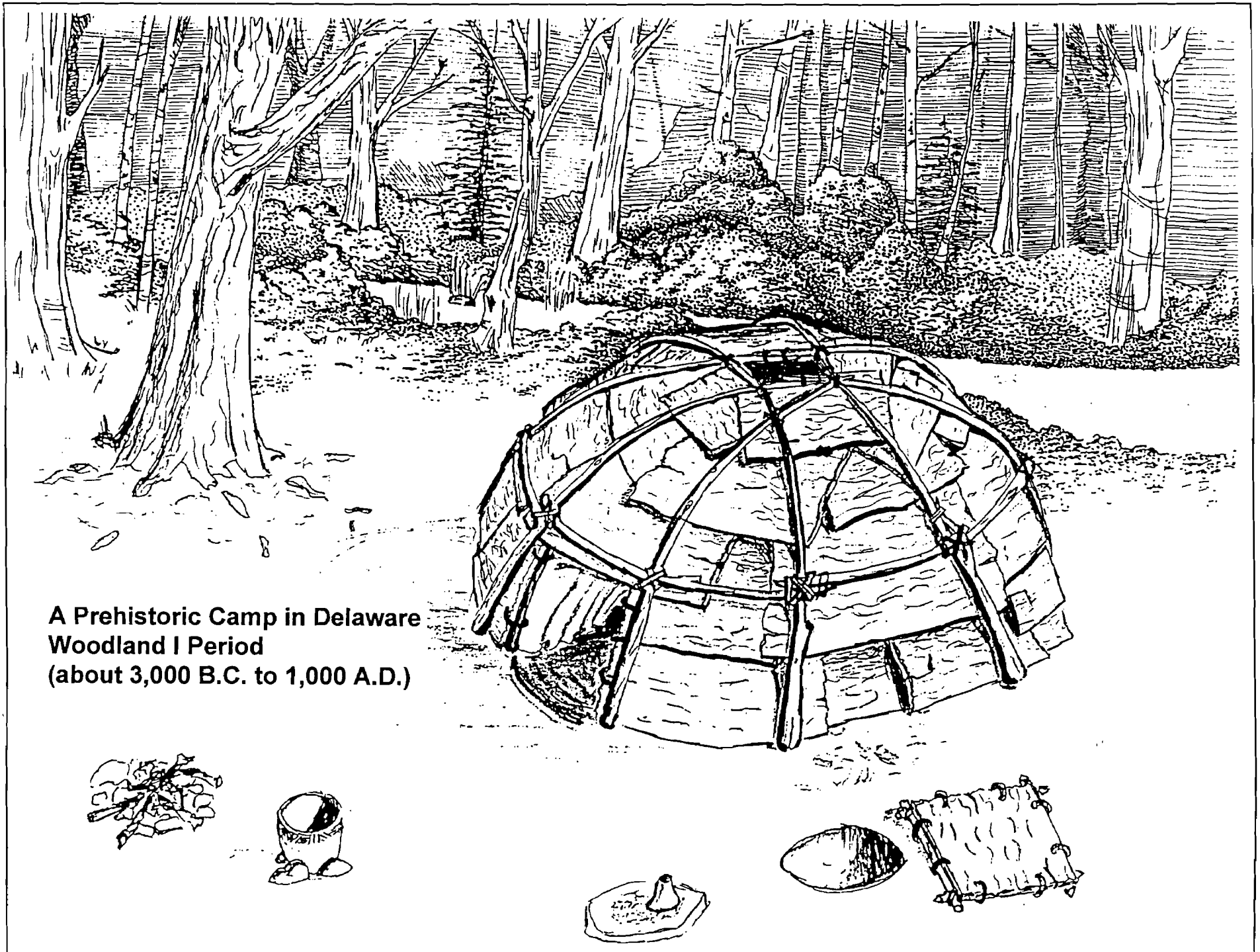
Woodland I pieces of clay tempered pottery, which are associated with the Delmarva Adena complex, represented by several cultures including the Coulbourn, Wilgus, and Nassawango.

BROADSPEARS

This site is very important because in addition to a large number of prehistoric artifacts, a large number of ***pit houses*** have also been found. Pit houses are shallow holes, where people lived underneath bark and reed shelters. There are many pit houses at the Hickory Bluff site, which may mean that people were coming back to this site year after year. Prehistoric people did not remain in one place for very long, they were ***nomadic***, which means they moved around quite a bit each year, according to where ***resources*** like food (animals and plants) and water were located. Archaeologists are able to take samples of the different layers of soil they dig through, and they can use special techniques to find seeds and other tiny plant remains, that help tell us what plant resources were like in the past.

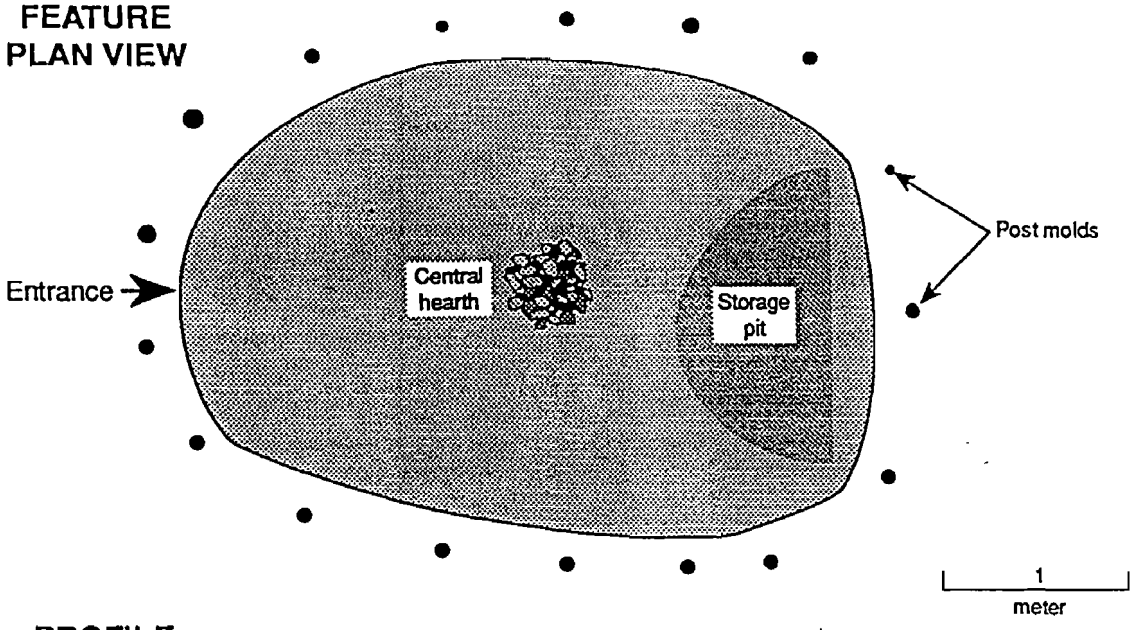
BARE ISLAND / LACKAWAXEN

GROUND STONE AXE

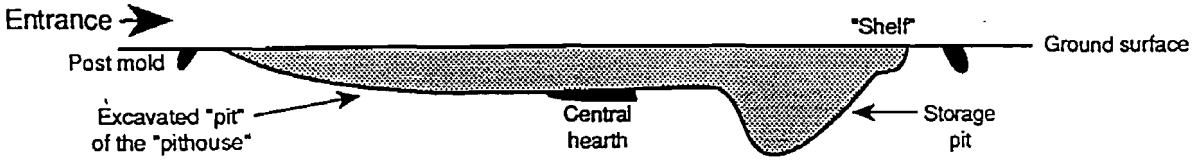


A Prehistoric Camp in Delaware
Woodland I Period
(about 3,000 B.C. to 1,000 A.D.)

ARCHAEOLOGICAL FEATURE PLAN VIEW

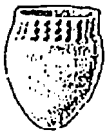
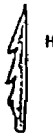
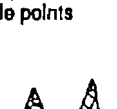
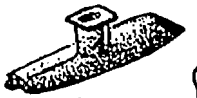


PROFILE

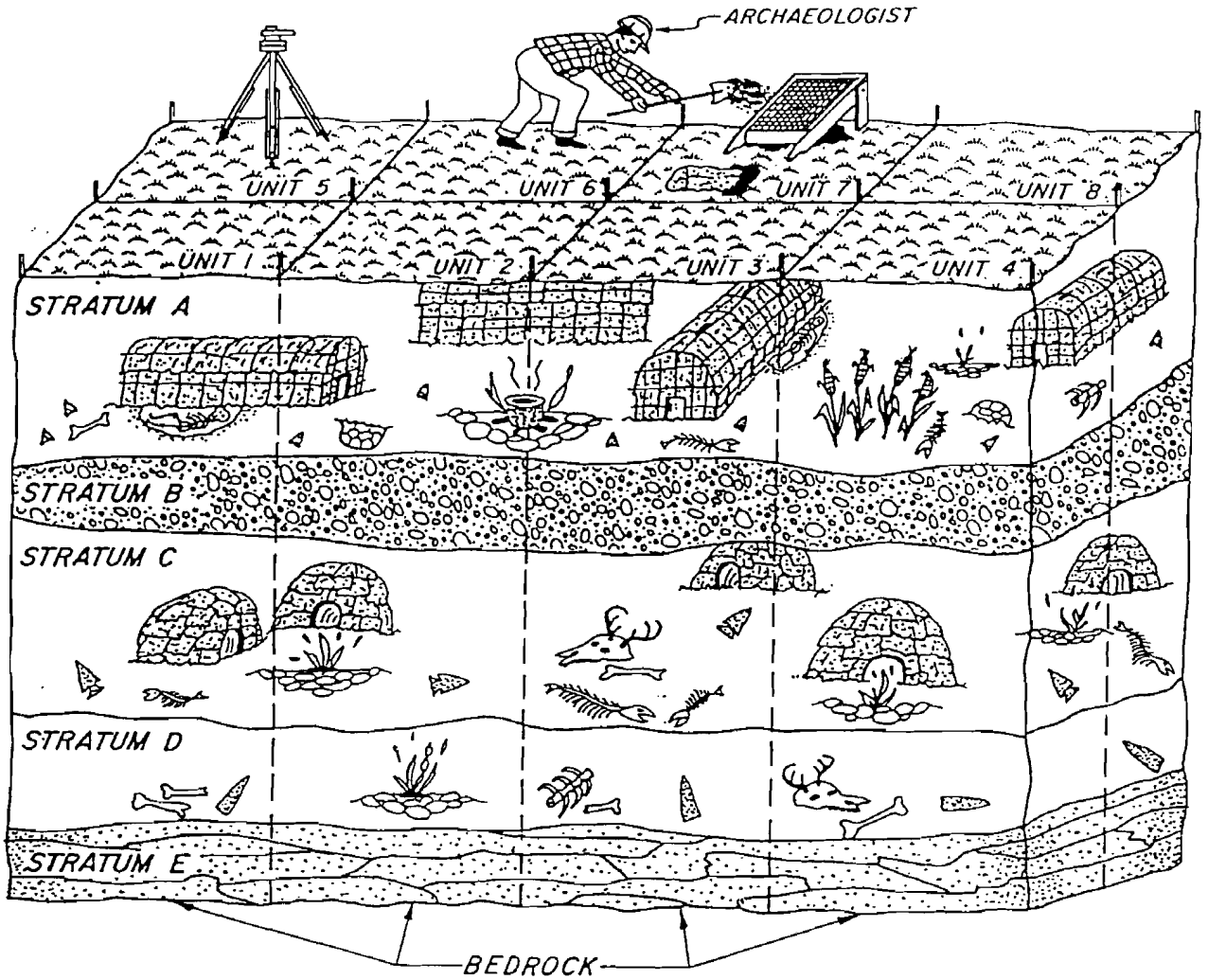


RECONSTRUCTION CUT-AWAY VIEW

Prehistoric Chronological Chart

DATE	PERIOD	LOW COASTAL PLAIN	HIGH COASTAL PLAIN	PIEDMONT / FALL LINE
1600 A.D.	WOODLAND II	 TRIANGULAR PROJECTILE POINTS SLAUGHTER CREEK COMPLEX Townsend Creek ceramics Triangular projectile points	 CERAMICS	MINGUANNAN COMPLEX Minguannan ceramics Triangular projectile points
1000 A.D.		 LARGE TRIANGULAR POINT LATE CAREY COMPLEX Mockley / Claggett ceramics Large triangular projectile points	WEBB COMPLEX Hell Island ceramics Misc. stemmed points Jack's Reef pentagonal projectile points	 ANTLER HARPOON DELAWARE PARK COMPLEX Hell Island ceramics Misc. stemmed projectile points
500 A.D.		 ROSSVILLE LAGOON CAREY COMPLEX Mockley ceramics Rossville stemmed projectile points Fox Creek projectile points	 JACK'S REEF  FOX CREEK CAREY COMPLEX Mockley ceramics Rossville stemmed projectile points	 PIPE  CACHE BLADES CAREY COMPLEX Mockley ceramics Rossville stemmed projectile points
WOODLAND I		 CERAMICS WOLFE NECK COMPLEX Wolfe Neck ceramics Misc. stemmed projectile points		
0 A.D.		 FISHTAIL	DELMARVA ADENA COMPLEX Adena side and corner notched projectile points Misc. stemmed projectile points Coulbourn ceramics	 CACHE BLADES WOLFE NECK COMPLEX Wolfe Neck ceramics Susquehanna Series ceramics Misc. stemmed projectile points
500 B.C.		 BROADSPEARS CLYDE FARM COMPLEX Bare Island / Lackawaxen projectile points Marcey Creek & Dames Quarter ceramics Broadspears Fishtail projectile points Steatite bowls Experimental ceramics	 CERAMICS BARKER'S LANDING COMPLEX Bare Island / Lackawaxen projectile points Marcey Creek & Dames Quarter ceramics Broadspears Fishtail projectile points Steatite bowls Experimental ceramics Heavy reliance on argillite	 BROADSPEAR CLYDE FARM COMPLEX Bare Island / Lackawaxen projectile points Marcey Creek & Dames Quarter ceramics Selden Island ceramics Broadspears Fishtail projectile points Steatite bowls Experimental ceramics Long broadpoints
3000 B.C.	ARCHAIC	 BARE ISLAND / LACKAWAXEN  LE CROY  ST. ALBANS  KANAWHA	 CARVED STEATITE (SOAPSTONE) BOWL	GROUND STONE AXE 
6500 B.C.				
12000 B.C.	PALEO-INDIAN	 CLOVIS  MID-PALEO  DALTON-HARDAWAY  PALMER  KIRK STEMMED  KIRK CORNER NOTCHED		

Stratigraphy of an Archaeological Site

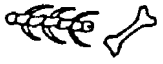


Key to symbols in the strata:


Spear Points


Turtle Shell


Fish Bones


Deer Bones

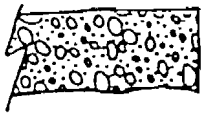

Deer Skull


Human Burial


Campfire


Long House

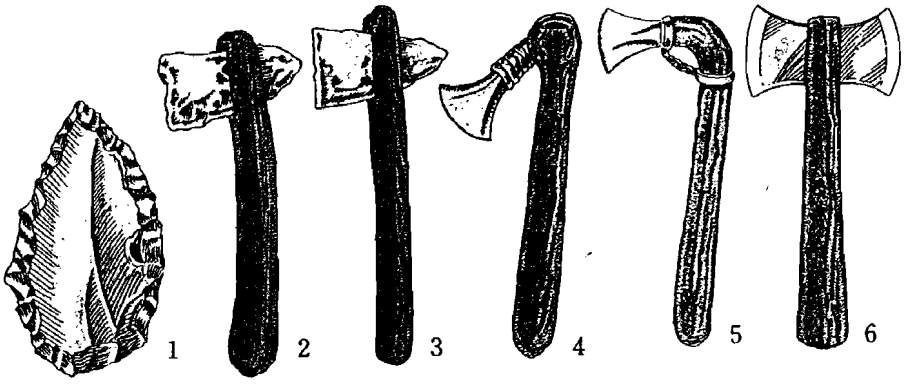

Small, Round Bark Hut


Flood Deposits, Muck, Silt, Sand from Nearby River


Corn

Figuring Out a Date

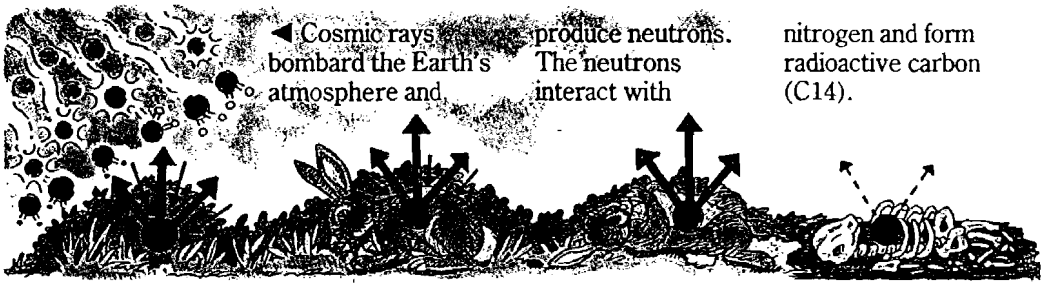
Archaeologists cannot always immediately give a date for some things they find. One way archaeologists try to figure out dates is by comparing kinds of materials used to make things. Early people used stone tools. Eventually, people discovered metal, which was better than stone, and they began using that. Archaeologists know that stone was used before metal because they find stone in deeper layers in the stratigraphy.



How the ax developed:

1. **The first axes were held in the hand.**
2. **Polished stone axes were used by the earliest farmers to clear land.**
3. **The first bronze axes copied the stone ones**
4. **Bronze axes developed to fit in wooden handles.**
5. **A new development used a loop to hold the ax to the handle.**
6. **A strong modern ax has a steel head.**

In the 1940s, there was a revolution in archaeology. An American chemist named Willard Libby discovered a new method for dating objects from the distant past, called radiocarbon, or carbon-14 dating. It is based on the scientific principle that all living things contain a certain amount of radioactive carbon. Once a living thing dies, carbon begins to decay. Scientists know that half of the carbon decays in 5,730 years. Measuring how much radioactive carbon is present in a sample gives a date. This kind of dating can be used for rocks, pottery, and glass. Charcoal is always a good sample for radiocarbon dating.



▲ Plants take in this radioactivity through carbon dioxide. Animals and humans take it in when they eat plants.

▲ In living plants and animals, the amount of C14 is constant. Dead plants and animals don't take in C14. Radioactivity gradually decreases.

▲ It takes 5,730 years for half the radioactive carbon to decay.

▲ The remaining radioactive carbon can be accurately measured in wood and other plant remains and in animal and human bone.

If you are intersted in Archaeology, see if your library has these books on Archaeology.

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