

# DIGGING UP THE PAST



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Fourth Grade  
Genesee Community Charter School  
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Rochester, New York 14607  
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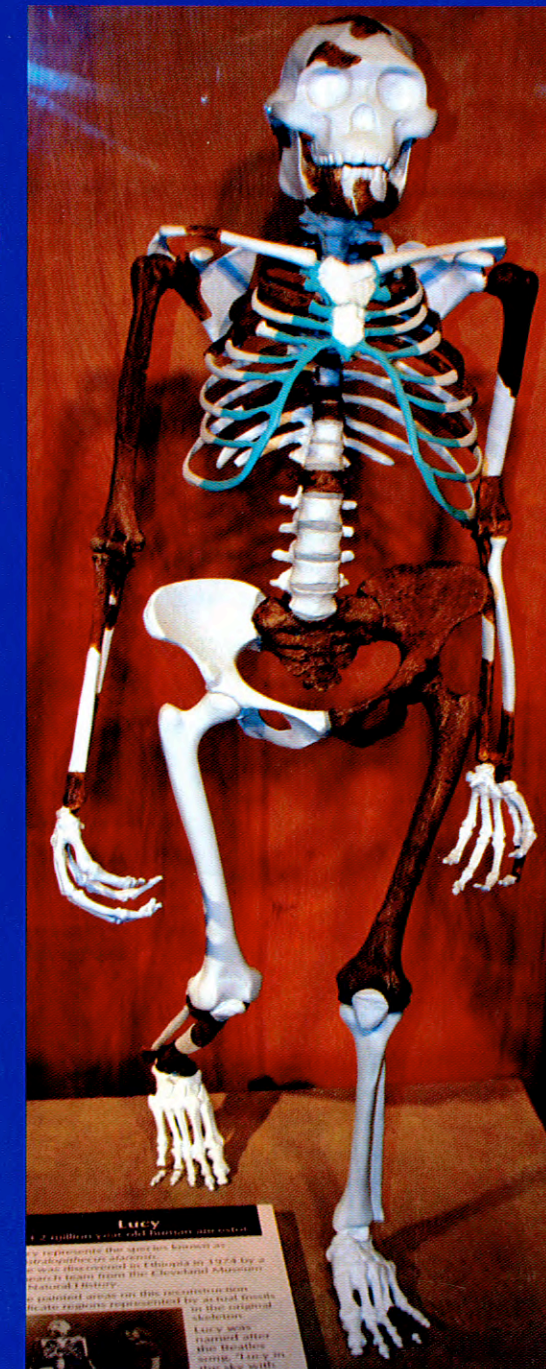
# Leaving Traces

EVOLUTION: THE KEY TO  
THE PAST OR NOT?

NON-LAND BRIDGE:  
SHOCKING EVIDENCE

DIG DEEPER - BEYOND  
CLOVIS:  
A LOOK AT  
MEADOWCROFT

3.2 MILLION YEARS  
AGO: ABOUT LUCY





2005-2006 GCCS Fourth Grade Class  
 Classroom Teachers: Stacey Cicero (not pictured) and Dan Walpole  
 Teaching Assistant: Carol Aspenleiter

Dear Reader,

Our magazine is about early humans. We are an Expeditionary Learning school. This means going out of your comfort zone, but then going out of your comfort zone becomes your comfort zone. Our charter school has a community of our own and a culture of our own. Expeditions are part of that culture, and we have three expeditions during each year.

The 4<sup>th</sup> grade class put much thought and time into this magazine for our expedition about early people. Each student was assigned an article topic, a sidebar topic, and a graphic and caption topic. Then we got right into researching, researching and more researching. We got right into work; we went to the Rochester Museum and Science Center to sketch also for the articles and sidebars doing a ton of research. The process was very difficult and frustrating. At the end of each expedition we have an exhibition night where we share our work with our families and friends. The 4<sup>th</sup> grade class hopes you enjoy our magazine.

Sincerely,  
 The Fourth Graders at



THE REAL DISCOVERY OF JAVA MAN  
by Amelia

**"The Change Over Time"**  
by Hannah

**Early people, hunched transformations, LUCY, 2 legs**

unhunched

more people-like  
 unlike them all  
 very very old  
 one of a kind  
 differences  
 similarities from early people to apes  
 bipedal, upright  
 Homo erectus, Homo sapiens sapiens,  
 Homo habilis

**LUCY!**

# Leaving Traces

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# HOW DO WE DISCOVER THE PAST?

Article by Michaela, sidebar by Charlie, sketch & caption by Alexander

**A**rchaeology... What is it? Archaeology is a very complicated matter. A person can't just walk into a site saying "Let's find bones." They need to go into the site with knowledge about early people, human organs, math, science and much more. Archaeologists search through earth matter to uncover remains of early people, including features and artifacts. Math and science are key tools of archaeology because uncovered items need to be dated.

What is an archaeologist? He or she is someone who spends their life looking for evidence of people of the past, such as Lucy. What is the difference between an archaeologist and a paleontologist? (Many people confuse the two professions.) A paleontologist looks for animal remains, not human remains. An archaeologist looks for human remains and not animal remains.

What do archaeologists do other than dig? (What?! They don't just dig?)

Yes, they do more than just digging. Archaeologists actually have three jobs: troweling, recording and sieving. Troweling is when archaeologists

Archaeologists are scientists who look for human remains. On the other hand, detectives are people who solve crimes. Archaeologists also look for evidence.

Here are two steps archaeologists do:

1. Before an archaeologist begins a site survey the area's background is researched. This is like what a detective does because detectives look for evidence before they catch criminals.
2. Large artifacts are left in place until fully uncovered. This is like what a detective does because detectives look at all the evidence before they accuse someone of a crime.

excavate (dig) looking for bones. Recording is when they mark down all the findings in that particular spot. This is also where they record what kind of shape the bone is in, what time the

bone dates back to, and who found it. Sieving is when they take a sifter and the dirt gathered from troweling and look for smaller bones and smaller artifacts.

Archaeology has changed in the last ten to fifteen years. Now we have more technology than we did back then. For example, radar is a popular way to find dig sites and artifacts. We can also find sites through aerial views which are taken from airplanes. Sometimes, when people build villages, at the same location for many, many years, the elevation of the particular spot will rise, which provides them with a clue that early people lived there. Sometimes construction workers find bones when demolishing or constructing buildings. Also, a farmer may find bones when working in the field tilling or farming.

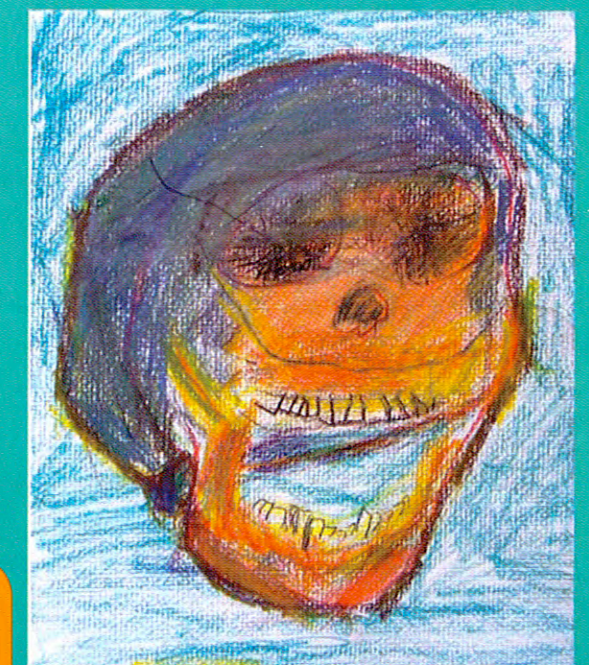
Where do archaeologists take their bones after discovery? They take them to a specialized lab. At the lab, there are different archaeologists that specialize in many different skills. For example, a morphological archaeologist is a person who studies evolution. After being processed at the lab, the bones will be specialized and saved for future studies. Once these studies are done, the bones will go to a local depository (museum).

What tools do archaeologists use? Archaeologists use many different types of tools. One of them is called a plum bob. This is a tool used to measure how deep the artifact is. They also use cameras to take pictures of the excavation. Did you know that

archaeologists use nothing bigger than a shovel, and that they don't dig straight down? That is so that they don't hit a bone and crack it, losing evidence. Some of the tools archaeologists use are pointed bricklayers' trowels, brushes, tape recorders, cameras, video recorders, plum bobs and line, rulers, sifters, and dental picks. Archaeologists use many tools that we use in our everyday living.

Archaeologists have very important roles in our scientific community. They provide us with evidence of history. Archaeologists have given us the knowledge of how people evolved from ape to human. If you want to get more knowledge on archaeology, you can talk with a real life archaeologist, Dr. James Adovasio, by visiting the Meadowcroft Rock Shelter's website at

[www.meadowcroftmuseum.org](http://www.meadowcroftmuseum.org)



**This is one of the many finds that archaeologists have found. This one, as you may see, is a Neanderthal, which is a hominid species that lived 100,000 years ago in Europe, Asia and Africa.**

# Scientists' Fabulous Find

Article by Katrina, sidebar by Adem, sketch & caption by Gwynnie

## 'Fossilized Human found in Ethiopia'

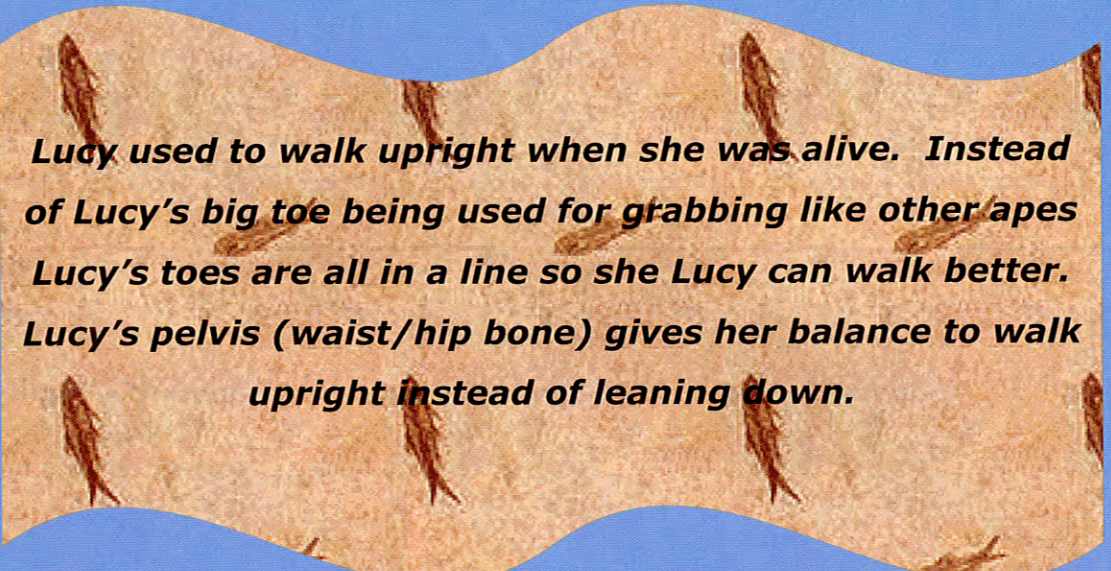
Above is a headline from New York Times in 1974. Is this particular skeleton important? Why would it be important? It seems to be an ancestor of the humans and apes together. A link to our hominid evolution may have been found. Lucy was found by Dr. Johanson.

Lucy is very important because she was the oldest biped to be found until 2005. Lucy is important to hominid evolution because she was moving on out from ape to human. Also Lucy was the most complete individual found that lived 3.2 million years ago. Forty percent of her skeleton was found. Scientists know Lucy was a biped by looking at the pelvis, the tibia (shin bone) and femur (thigh bone). That is also how they found out that she was a female. They know that the pelvis is a bipedal pelvis because it is more curved in than a quadrupedal pelvis. A quadruped is a hominid that walks on four legs. Also the shape is different which causes the femur to curve in more. So it looks like they were "knock-kneed."

If you've been wondering what a biped is, it's a hominid that stands on two legs. Lucy is important to Dr. Johanson

and Tom Gray because they found a huge change to the scientific theories about early humans. Before Lucy they didn't know when bipeds came in.

Dr. Johanson and Tom Gray found Lucy in Ethiopia in 1974. Lucy was about twenty years old when she died. Scientists know her age because they



**Lucy used to walk upright when she was alive. Instead of Lucy's big toe being used for grabbing like other apes Lucy's toes are all in a line so she Lucy can walk better. Lucy's pelvis (waist/hip bone) gives her balance to walk upright instead of leaning down.**

found her wisdom teeth were slightly worn. Scientists don't know how she died, but they have a theory. There is a leopard tooth mark in her pelvis. Lucy's bones were so well preserved because there was a river and trees only grew near water. The leopard was chasing her. Lucy climbed the tree then the leopard got up in the tree, got Lucy, and she fell in the river and died. Her bones settled and the sediment fossilized Lucy preserving her bones. This is the theory given by Allison Ball of the Cleveland Museum of Natural History. Some scientists don't believe that is how she died. They think it may have happened after she died.

Lucy is about 50% human and 50% ape. Lucy was about 3 to 4 feet tall, about the height of a modern six-year-old

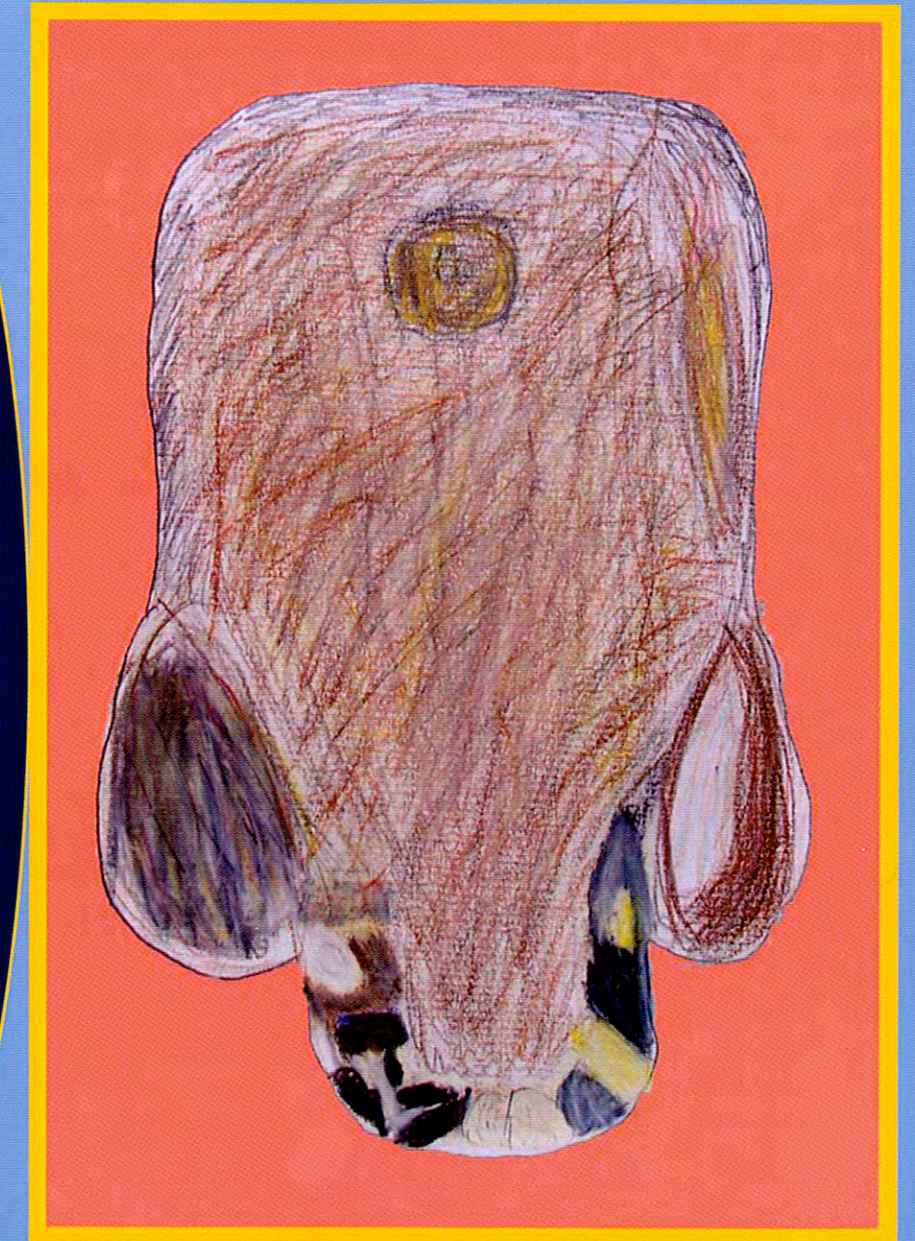
child. Her brain was about the size of an orange.

Some people in Ethiopia called Lucy "Denkenesh" because it means "you are wonderful." Lucy was nicknamed at a party after she was found. How she got the name is the song "Lucy in the Sky

with Diamonds" by the Beatles was playing and someone said let's name her Lucy.

Lucy was important because much more research was able to take place. She was one of the biggest changes in the scientific theories.

If a scientist finds a skull they can tell if it's bipedal or quadrupedal. All the scientist has to do is look at the foramen magnum, which in other words is where the spine meets the skull. If the foramen magnum is near the back of the head the specimen is quadrupedal and if the foramen magnum is near the middle of the skull the specimen is bipedal. This sketch is an Australopithecus afarensis' skull and the hole near the back is the foramen magnum.



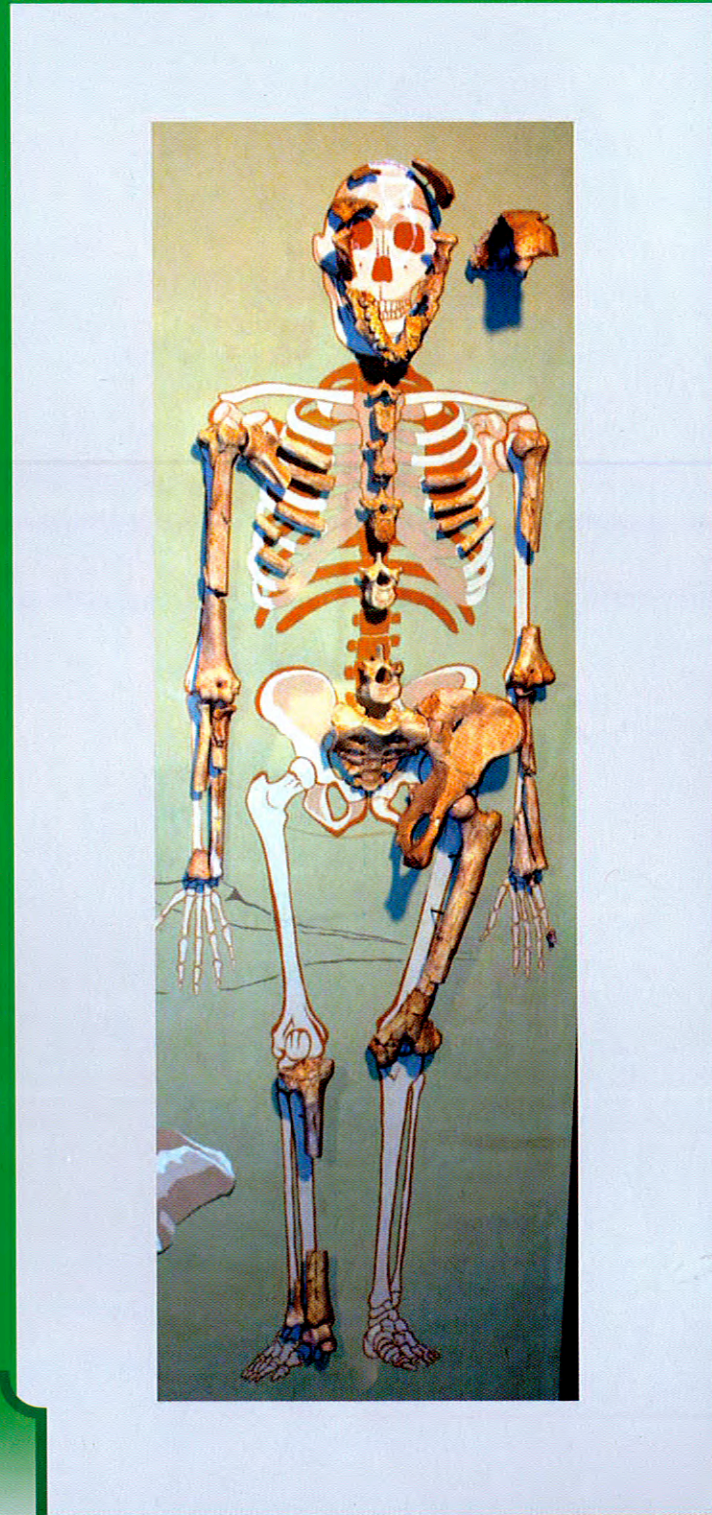
# JOHANSON'S BANANAS OVER LUCY!

Article by Garrett, sidebar by Amelia, caption by Victoria

Donald Johanson was excited, he had just found a fossilized thigh bone. Johanson started to dig more. Johanson was discovering a skeleton! Johanson didn't find the entire skeleton, but found more than half. Johanson took the bones back to his office. Lucy was found!

Lucy, the skeleton Dr. Johanson had just uncovered, is an Australopithecus Afarensis. "Australo" means southern, and "pithecus" means ape. The word "Afarensis" comes from the peninsula (in Ethiopia) called Afar. Together it makes "Southern ape from Afar."

Did Lucy make tools? Scientists don't have proof, although tools have been found near Lucy. The tools scientists found aren't like the tools we have now, although some of the tools serve the same purpose. Australopithecines could have used round stones to crack nuts (like a hammer would) or to throw at predators to protect themselves. They also could have used a stick to dig roots and bones.



This is a cast of Lucy's skeleton over a drawing of a complete Australopithecus afarensis skeleton.

Female Australopithecines were different compared to males, they were also different compared to you. Female Australopithecines were about 3.5 – 4 feet tall and weighed about 60 pounds. Male Australopithecines were about 5 feet tall and weighed about 120 pounds. Most scientists believe

Australopithecine's arms were longer and their legs were shorter compared to modern humans. Australopithecines' hand joints were tilted a little, which made their hands stiffer.

According to scientists, Australopithecines had large jaws and condyles (knee joints). Their feet,

	Height	Weight	Characteristics of face	Locomotion
<b>Modern Human</b>	1.82 Meters (6 feet)	104.3 Kilograms (230 pounds {man})	Round cheekbones, high forehead, un-projecting mouth, slightly sunken eyes	Perfect Bipedal (moves on two legs)
<b>Lucy</b>	1 Meters (3.2 feet)	27 Kilograms	A projecting mouth, a low forehead, and eye ridges that stick out. Big back teeth.	Perfect Bipedal (moves on two legs most of the time)
<b>Difference/ Similarity</b>	Different- Lucy is half as tall as a modern human.	Different- Lucy is one quarter the weight of a modern human.	Different shape of forehead and mouth. Different eye sockets.	Similar

Based on this data, we can safely guess that Lucy, even though she walked upright, is still very different than modern humans. Or put another way, humans have changed a lot since the days when Lucy was around.

If you want to find out more about Lucy, you can go to the internet:

[www.lucytheape.com](http://www.lucytheape.com)

[www.historicallucy.com](http://www.historicallucy.com)



however, were similar to ours except they had bigger toes. The body parts that gave the most evidence of Lucy walking upright are the knee joints, feet, and pelvis.

The night Lucy was found, Donald Johanson (and other scientists) celebrated. While listening to "Lucy in the Sky with Diamonds" (by the band the Beatles) one man shouted out, "Let's call this hominid Lucy." Lucy, the southern ape from Afar! The missing link between humans and apes was found!

Have you ever wondered what life was like back in the day, oh, about 30,000 years ago? (Well if you have, today's the day to find out!) Close your eyes and picture in your head a tropical forest. As you step in you get blinded by the bright colors that surround you. Plants with huge leaves guide your path. After a little while you see a standing figure moving steadily but erectly forward to grasp a handful of leaves on an outstretched branch. It's an Australopithecus afarensis! You happened to walk in on a family of the species.

# LITTLE HOMINIDS,



You are looking at an Australopithecus skull, which was Lucy's type of skull. Lucy ate a mostly vegetarian diet, along with some meat, probably obtained by scavenging. Lucy survived better by walking on two legs, not four!!!

A small clearing proposed itself as a temporary living area. When the food in and near the clearing runs out the afarensis will have to move to another spot in the forest for living.

Australopithecus is the genus (a group with common characteristics) of the oldest creatures that clearly belong to the human family. Like gorillas, orangutans and

other primates, Australopithecus males were much larger than the females. This is also true with the smaller species, Australopithecus afarensis and Australopithecus africanis. And with the more robust (heavy) species, Australopithecus robustus and Australopithecus boisei.

Australopithecus afarensis is the species of Australopithecus that is considered the most important of the Australopithecines by archeologists. Afarensis, the species name, comes from the Afar Triangle of Ethiopia where the hominid was first discovered.

# BIG WORLD

Article by Clara,  
sidebar by Endya,  
sketch & caption  
by Maya

Large predators and carnivores prowled the savannas where this species of Australopithecus once lived. This made them vulnerable in their everyday life. A hungry animal that might eat an Australopithecus for a snack: hyenas, cave lions, dogs with huge teeth, saber tooth tigers, giant sharks, bears and cheetahs. Australopithecus afarensis could escape from these ferocious animals by running.

Evidence from their knee joints, feet and pelvises, is proof that these human-like hominids could stand upright. Hands, feet and bodies are practically identical to the Homo sapiens sapiens. Their heavy muscle make it seem unbelievable that their small ape-like primitive hands, large thrusting jaws, small chins, and small brains all belong to the same individual. This evidence helps scientists predict what Australopithecus afarensis might have done in their everyday lives.

Archeologists look in many different areas so they can find a new species and have their name in historical documents. The area in which Australopithecus afarensis were unearthed, was filled with silt from rivers and streams. Then from the pressure of each layer of silt, the goopy mixture turned to stone. This happens over thousands of years. Now present day streams and rivers have cut deep channels through the hardened deposits to reveal a missing chunk of history.

Lucy is an Australopithecus. She is a biped. Biped means she walked on two feet. Because she was upright she could see farther. She could also see when danger was coming. She could get away from her predators by running.

# If It's as Old as the Hills,

Article by Matan, sidebar by Timothy, sketch & caption by Addie

**H**ave you ever thought, "How do scientists know how old something is?" What do scientists do, ask the bones? Well, let's dig into one incredible find "Lucy" (discovered in Hadar, Ethiopia 1974).

When scientists found Lucy they faced a dilemma. They could not use carbon-14 dating, the standard method at the time. Carbon-14 dating is only effective on artifacts that are 50,000 years old or younger. Scientists needed a different method to find out Lucy's age. James Aronson, a former Case Western Reserve University geologist recruited Robert Walter to apply potassium-argon dating on the volcanic deposits around her remains. Robert Walter went to Case because the group of scientists that were involved in discovering Lucy invited him. They knew that he studied the dating of rocks, and he could be of help dating her. (What a relief to many scientists that was!) Finding the age of the volcanic deposits surrounding Lucy gave scientists an idea of what her age could be. They were able to pinpoint her age by looking at the clusters of ages of the rocks and their locations.

Now, what is potassium-argon dating? How is it done? What is potassium? What is argon? Argon is a gas and potassium is a common mineral found in materials such as micas and clay minerals. Potassium breaks

10 minutes	$\frac{1}{2}$
10 min.	$\frac{1}{4}$
10 min.	$\frac{1}{8}$
10 min.	$\frac{1}{16}$

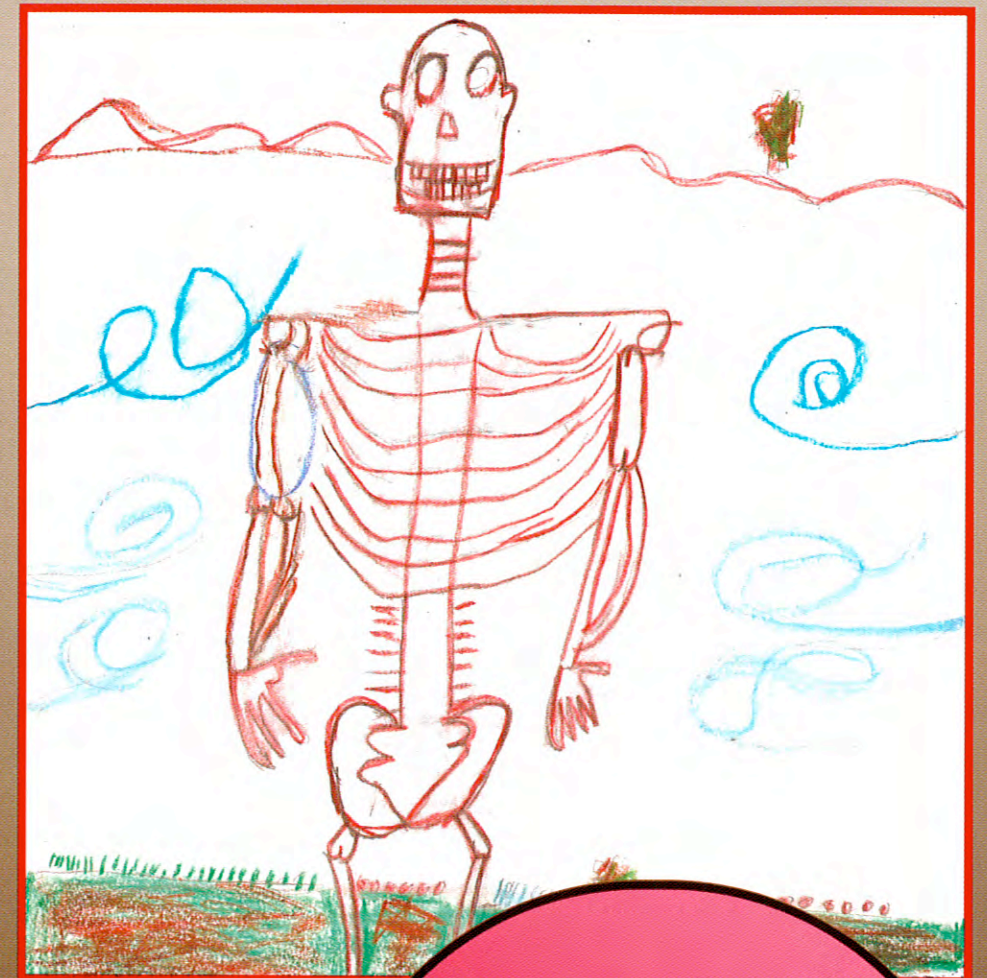
**Half-life is the time it takes for half of the material to decay, or break down into another form. For example, if it takes 10 minutes for half of a pizza to be eaten, it would still take 10 minutes for half of what's left to be eaten, and so on.**

The half-life of Carbon-14 is 5,730 years. This means that it takes half of the carbon in biological material (once alive) 5,730 years to decay. Then it will take another 5,730 years for a  $\frac{1}{4}$  of the material to decay, or half of the half that was left. Then again, it will take another 5,730 for  $\frac{1}{2}$  of the  $\frac{1}{4}$  to decay. This continues until so little of the carbon-14 remains that scientists can't see it under a microscope.

# How Do You Find Out?

into argon and carbon. Because argon is a gas, a rock must be melted to measure the argon. (Well isn't that wacky, melting a rock?!) Scientists take the percentage of argon and carbon and compare those against the amount of potassium. Factoring in the half-life, which is 1.3 multiplied by 10 to the 9<sup>th</sup> power years (1.3 billion years), they can get the age of an artifact (roughly).

You've just reached the end of your journey through science. There are just 3 more things you need to know. One, finding the age of artifacts is important because scientists can use what they know about the time period and base some inferences on the age, and it's just cool. Two, dating has come a long way. If they had potassium-argon dating 85 years ago, Piltdown Man would probably never have been a hoax. Now scientists have more accurate dating methods to make inferences from. And three, DO NOT try this at home. It takes skill and special equipment.



Lucy, an Australopithecus, was found in late October of 1974. She was found in Ethiopia. Lucy is believed to be one of the oldest and most complete skeletons in archeological history. This is a sketch of a cast of Lucy's skeleton. There is a background behind her.



# ANCIENT FOSSILS OR AMAZING HOMINID FIND?

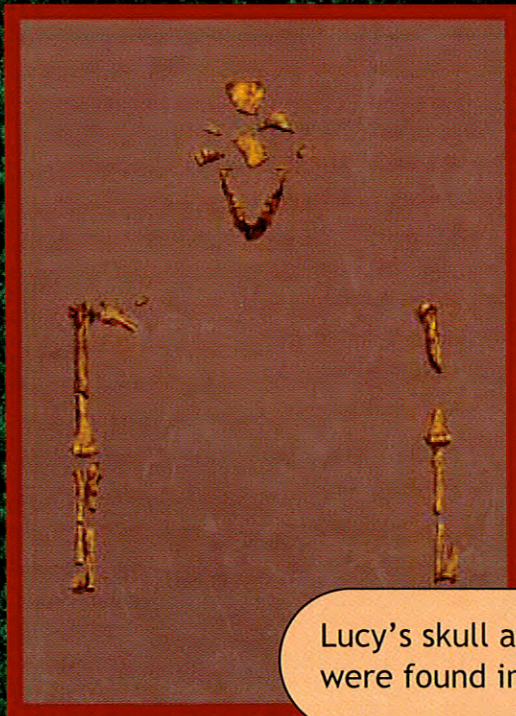
Article by Jack, sidebar by Adryana, caption by Matt

In the year 1974 two scientists, Donald Johanson, who is one of the most well known archaeologists in the world, and Tom Gray, also a well-known archaeologist, went out to look for hominid fossils. They had been going to the site for years and the temperature was about 100 degrees Fahrenheit. Tom Gray was the one who wanted to go searching for fossils, so he had to persuade Johanson to go. Finally he got Johanson to go. What they found was a

SOME SCIENTISTS BELIEVE LUCY DIED WHEN A CARNIVORE BIT HER AND LEFT A TOOTH MARK ON THE TOP OF HER LEFT PUBIC BONE. WHEN THE CARNIVORE KILLED HER THE CARNIVORE DRAGGED HER UP IN A TREE. SHE DIED THERE AND FELL IN A RIVER OR STREAM. A STORM CAME AND THE SEDIMENTS PILED ON TOP OF HER WHICH TURNED HER INTO A FOSSIL.

fragment of head. Johanson ended up finding many bones that later proved to be from the same hominid. In all, Johanson and Gray found 40% of the Australopithecus Afarensis (40% is a large amount to find for opposable parts, a bone on one side and no bone on the other). They named her Lucy. Lucy was 3.2 million years old and she was also 3.6 feet tall, and weighed 62 pounds.

Lucy has changed the way scientists think about human evolution. She was one of the first hominids to be bipedal (walked on two legs). Right now Lucy is in a vault in the National Museum of Addis Ababa of Ethiopia. She is kept in a museum because Lucy's bones are very fragile and could get broken. They're also there because that is where they were found. There have been many casts made of her bones. A cast is a 3-D version of the bones. The casts were sent around the world so that other people can see her bones.



Lucy's skull and arm bones were found in Hadar, Ethiopia.

lot more than they had expected. It was found when Johanson and Gray went looking for fossils in a place known as Area 162.

What they found was an Australopithecus Afarensis, which means southern ape from Afar. They were about to leave when Donald Johanson saw a fragment of skull in the ground. So Johanson started digging around the

# Once Upon a Fossil

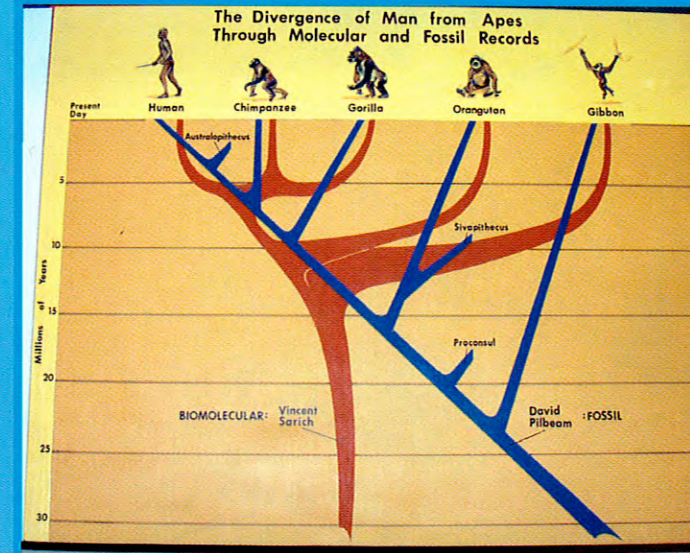
Article by Noah, sidebar by Margo, caption by Kenneth

Where are humans from? How did we get here? Every person asks these questions. Have you ever heard of someone named Charles Darwin? Well, if you have then you have probably heard of his book called On the Origin of Species by Means of Natural Selection. Charles Darwin's book made it hard for theories other than evolution to become popular.

Evolution is the idea of every living thing developing from simpler forms. Imagine yourself existing 1.6 million years ago! You wouldn't be a Homo sapiens sapiens (modern human)! You'd be all hairy (no offense, Homo erectus) and in a full scale hunt as a Homo erectus!

*Some scientists believe in evolution because the fossil record shows how people and animals have changed over time. The fossil record shows how long ago early man may have been alive.*

*There is another record supporting human evolution, bio-molecular record. This record shows how the chemicals making up our bodies have changed over time. Scientists believe in evolution for many different reasons based on evidence.*



This is a timeline of evolution using evidence from the biomolecular and fossil record. It shows how long ago human ancestors lived. An ancestor of Lucy would be like an ape. Lucy lived about 3.2 million years ago.

Scientists have evidence of evolution like early human bone structures. Australopithecine's bodies, the earliest humans, have features such as small jaw bones, big teeth, smaller hip bones, smaller brains, and smaller skulls. Now compare these to a Homo erectus's features. The Homo erectus are not only smarter than Australopithecus, but bigger and stronger and resembled a modern (hairy) man. They also had bigger legs but smaller teeth. Can you see the evolution in effect? This happens continuously through generations of early humans to today. Modern humans have the biggest brains and are the tallest by far.

The human race is still evolving. Many people wonder what the mysteries of evolution will hold for the human race in the future.

**D**id you know Homo erectus and Homo habilis lived between 250,000 and 1.6 million years ago? Lucy was the first found hominid to walk upright. There are many groups of hominids that came after "Lucy." Homo habilis and Homo erectus walked upright, too.

Java Man, the oldest Homo erectus ever found, is a whole other story. His remains were found in Java, which is a small island to the south of Asia. Homo erectus migrated from Africa to various parts of the world.

There are smaller names that fit into these

# Life After Lucy

groups. Some other examples are Australopithecus robustus, Pithecanthropus, and Sinanthropus pekinesis.

One million years later they had traveled to Asia. And 750,000 years ago, Homo erectus were in Europe. All early people's names that began with Homo were bipedal, which means they walked upright.

Homo habilis was the first hominid to make tools. They lived on the ground. Their name means "handyman." Their hands could grip objects. They ate plants and meat. After a predator picked at a dead creature, they finished off the dead carcasses. The skull bone of an ordinary Homo habilis was very thick. Their forehead was short and sloping. They also had heavy brow ridges that jutted out.

Homo erectus lived in many environments, and usually made his Czech Republic

This is a Homo erectus skull. Homo erectus was one of the later hominids. Notice the protruding brow and lip, clues that this species is still far from being Homo sapiens.



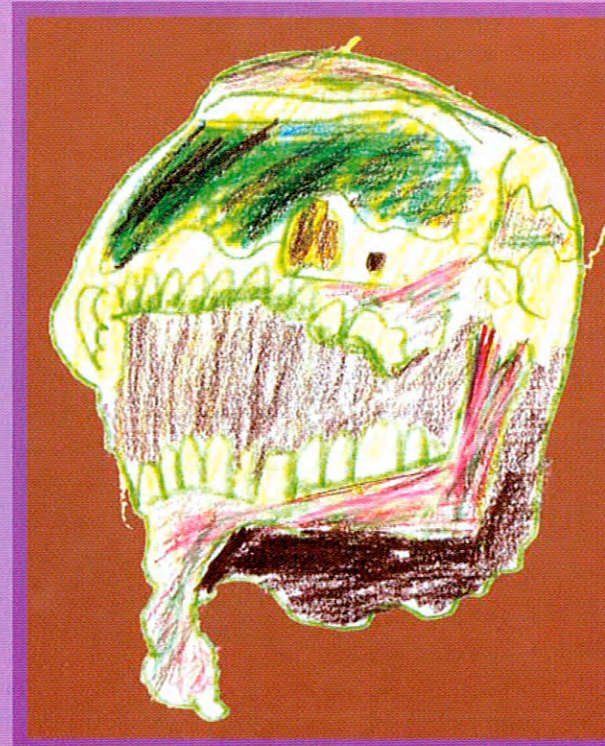
Between 1960 and 1963 at Olduvai Gorge in Tanzania, a team led by Louis and Mary Leakey discovered remains of an early human that seemed different from the Australopithecus. In 1964 Louis Leakey, and a paleoanthropologist named Philip Tobias, and British primate researcher John Napier concluded these were remains of a new species they named Homo habilis. According to scientists Homo habilis was placed in the genus Homo because the brain was bigger than that of an Australopithecus.

home in caves. Such caves were also located in Germany, Hungary, Spain and France. Homo erectus also lived in large oval shaped structures that were close to forty feet long and twenty feet wide. For cooking they used fires of charcoal and charred bones. For food they hunted many different animals including: elephants, rhinos, goats, giant boars, oxen, sheep, giraffes, donkeys, deer and warthogs. They hunted using homemade tools and weapons made from bone. Examples were the pointed hand-axe, the cleaver pick, cutting tools, trimming flakes, the flake scraper, and spearheads.

Homo erectus had poorly developed chins and small teeth similar to a modern human's. Although their jaws were long with strong muscles, they protruded less than those of the Homo habilis.

After "Lucy," many hominid forms have evolved. Among these were the different types of Homo erectus and Homo habilis. They relied on hunting, lived in caves, and spread to many parts of the world.

This is a sketch of Homo sapiens sapiens (modern human) skull, another hominid.



# THE ONE AND ONLY

Did you know that Homo habilis lived in Africa from 2.5 to 1.5 million years ago? Homo habilis means "handy man." Although Homo habilis looked like a smaller Australopithecus in some ways, they were more advanced with the body and brain.

A Homo habilis was discovered in 1960. In 1964 a team of scientists, including Dr. Leakey, announced the new specimen Homo habilis.

Homo habilis walked upright. The big toe was moving from being able to walk on four legs to being able to walk on two. Homo habilis is an obligate biped. This means that he can walk on four legs and two legs. Dr. Leakey believed that Homo habilis was a direct human ancestor of modern humans.

If it wasn't for Homo habilis' skillful tool making and hunting, Homo erectus wouldn't have learned how to hunt and create tools. Homo erectus was more skillful at hunting. Homo habilis was important to evolution because, at the time, he was the first discovered hominid.

When the Homo habilis skull was found, it was in 300 pieces. It took 5 weeks for it to get put back to-

## An Unfortunate Event for George!

Homo habilis lived in Africa from about 2.5 to 1.5 million years ago. Scientists have never found a whole skeleton of a Homo habilis. But scientists have remains of a Homo habilis skull that was named George.

When scientists were recovering George, they weren't able to dig him out because there wasn't enough daylight left in the day to remove George from the ground. That night a herd of cattle stampeded over poor George's head. What did he ever do to them? Most of poor George's skull became powder. All that scientists were able to save of George were small fragments and teeth.

gether. The specimen included many things such as a nearly complete left side of the skull, a fragmented right side of the skull, most of the jaw, 21 fingers, a hand, and wrist bones. The jaw included an upper molar and 13 teeth. One of the most important Homo habilis fossils found was the nearly complete skull. The first fossils found were important because they were evidence of the first known Homo habilis.

What you are looking at is a tool that Homo erectus used. It could have been used in their hands. Maybe they used it for carving or beating into something they needed. This tool is called a hand axe. Homo erectus was more advanced when making tools and hunting because he came later and also had a larger brain than Homo habilis.

There is a debate on whether Homo habilis is in the Homo family or more like Australopithecus africanus. Scientists have not yet decided. Hmm...

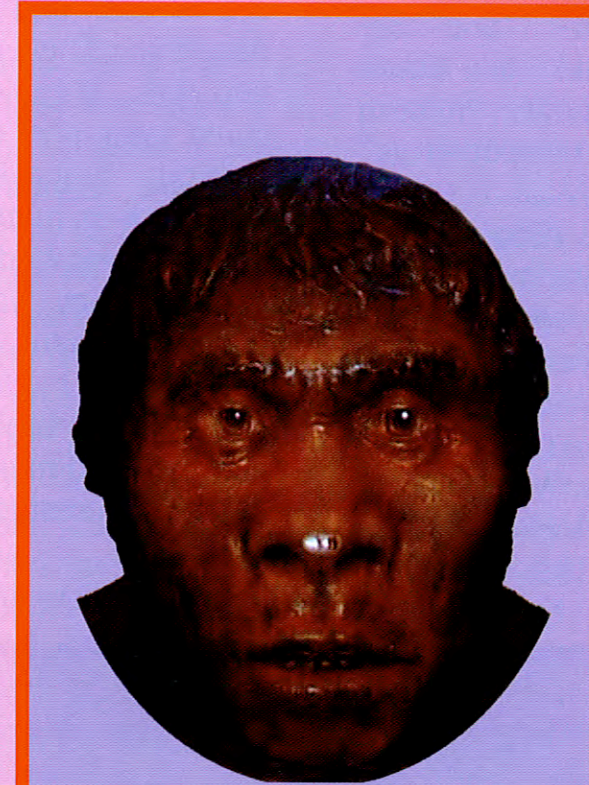


# MR. DUBOIS' DELIGHTFUL DISCOVERY

Article by Lauren, sidebar by Cameron, sketch & caption by Allison

In 1891 Eugene Dubois' crew of volunteers were digging in a cave by East Java in Indonesia. One person found a skull cap, which was almost thrown away. But in later weeks, Mr. Dubois became very suspicious about the bones.

After months of researching and discovering, Mr. Dubois finally found information on his find. He decided it was a skull cap from a Homo erectus. He named



This picture of Homo erectus is what some scientists think Homo erectus may have looked like, even though scientists are not sure.

his find Java Man because the diggers found the skull cap in East Java. Mr. Dubois estimated Java Man was about 1.8 million years old. The brain size was about 850 cc. (cubic centimeters) about the same size as 2 1/2 soda cans. He weighed about 140 pounds. Java Man hunted elephants, rhinos, mountain goats, giant boars, wild oxen, giant sheep, antlered animals, giraffes, wild donkey, deer, and wart hogs. Scientists believe that his favorite meal was deer. He also ate the shells of ostrich eggs, oysters, and mussels. There was a wide

supply of bulbs, grass, bark, berries and fungi for him.

Java Man lived near lightly wooded places, near streams or sandy beaches, or by shores of lakes and seas. To hunt for food Java Man used strategies to kill his food. One trap he used was to drive animals into bogs. Another one is using fire to drive elephants into a marsh. Java Man's shelter was made of sturdy posts and rocks on the side.

Java Man is important to scientists because he handled fire and he was a good example of a Homo erectus. Java Man was the first Homo erectus to be found in the scientific community.

The Java Man's bones were found over forty feet apart from each other. This made scientists argue that these bones were of two different species. But, what gives the debate life is the fact that the Java Man's bones were found on the banks of a river. What gives life to the scientific theory is the fact that the bones could have easily parted one another by drifting away in the current of the river.

## The Discovery of

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**H**ow did humans evolve from ape to upright man? Scientists have wondered and researched to figure out how modern people developed.

Who came first? According to scientists, the first people were Australopithecenes. They were plant eaters who lived from 5 to 4 million years ago. They looked a lot more like apes because their bodies were covered with hair. Their faces and skulls were shaped like apes with big brow ridges and jaws. Australopithecenes mostly walked upright, but sometimes walked on their feet and hands.

The next hominid was Homo habilis. They were gatherers and they only sometimes hunted. They lived from 2 to 1.6 million years ago. They had long arms.

Next came Homo

erectus. They lived 1.6 million to 250,000 years ago. Homo erectus was an upright walker. Walking upright helped Homo erectus protect themselves and their babies from dangers. They could run faster on two feet. They were taller, so they could hear and see if animals were coming. Homo erectus looked more like modern humans, but with more hair on their bodies and heavy brow ridges. They were about as tall as modern humans. Their brain was  $\frac{3}{4}$  the size of modern humans. They had a bigger brain than Homo habilis and they had more skills.

Homo erectus learned how to use

*Did you know homo erectus made their tools out of rock? They did so by hammering a soft rock on a large, hard rock.*

*Did you also know homo-erectus stands as upright as we do? They were much like us, in standing upright. On their skull they had a wider nose and a larger brow ridge.*

fire about 700,000 years ago. Scientists think that lightning struck a tree and created a fire. Then the Homo erectus nervously brought burning branches over to their campsite to keep them warm. Over time, they learned how to control the fire. They used it to keep them warm, cook their

W A N

food, light the campsite, and keep animals away from the campsite. They carefully carried it with them when they traveled because they didn't know how to make fire yet.

Eventually Homo erectus learned how to make fire. They first learned to make fire by rubbing two sticks together over dried grass, leaves, and sticks. Later, they learned how to make fire by striking two rocks together.

Homo erectus were gatherers and hunters. They gathered nuts, seeds, and roots. They were more skilled hunters than Homo habilis. They hunted larger animals like rhino, bison, mammoths, wild goats, giant bears, wild oxen, sheep, giraffes, wild donkeys, wart hogs and elephants. Their favorite

meat was deer.

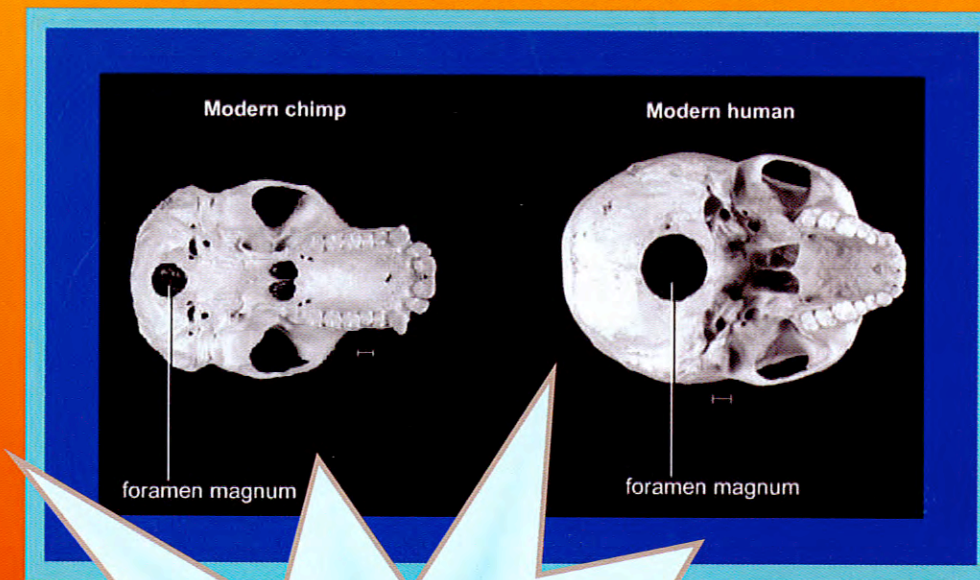
Their tools were more complex and skilled, and harder to make. These tools were called Acheulean tools. This means tools that were more difficult to make and to use. The number of types of tools increased over time so that they had different tools for different projects. These tools were made from stone, bone, wood, and antler. Some of the tools scientists discovered were axes, scrapers, backed knives, small choppers, picks, points, and borers.

Tools helped Homo erectus travel farther and move out of Africa to different places like Europe and Asia. They probably left Africa to go to other parts of the world around 1.8 to 2 million years ago. They followed groups of

animals to hunt them. Some scientists think that they built rafts and traveled over seas. However, a lot of scientists don't believe in that.

Scientists don't agree on everything because they have different opinions based on fossils and artifacts of early people. Scientists will continue to argue

about how early people lived and what they looked like as long as they continue researching and finding new discoveries.



The hole on the skulls is called a foramen magnum. One of the skulls is a modern human skull and the other one is an ape like skull. The ape-like skull's foramen magnum is more towards the back but the human skulls foramen magnum is more towards the center.

Article by Shelby,  
sidebar by Rosie,  
caption by Wolde

# How Did Humans Get to America?

Article by Rosie, sidebar by Wolde, caption by Shelby

Did you know that a land bridge existed 21,000 to 10,000 years ago? Because one did! The Land Bridge was a very barren area. It was cold and dry, with hard dry soil. There were few plants. There were lemmings and mammoths that were always foraging for food since there were not many plants. There were also saber-tooth tigers. The land bridge theory is one of the ways many scientists believe explaining how the first Americans came to the Americas.

The land bridge was not man made. It was a wide expanse of a very flat grassy area without many trees. An ice-free corridor on the other side of the land bridge could have been used to come to what is now America. Scientists have no proof

The land bridge was not a bridge. It was not man made. It was formed by nature because, the land bridge existed 14,000 years ago. When the climate got colder a glacier formed. Then the climate got warmer the sea level got higher. Then the land bridge disappeared under the ocean water.

that it was used, but scientists know there was a land bridge between America and Beringia.

There was also a glacier at the time that did two things. It grew and it lowered the level of the sea by about 400 feet. The giant glacier blocked the path for the first Americans, but thou-



**DO YOU KNOW EARLY PEOPLE TRAVELED ON THE LAND BRIDGE? ON THIS MAP IT SHOWS WHERE EARLY PEOPLE HAVE TRAVELED.**

sands of years later the glacier melted just enough to let the first Americans through.

Since the glacier was melting the ocean water was rising. The land bridge became covered, but some scientists believe humans got to America before the land bridge was underwater again.

When the land bridge did exist the animals that survived on plants (vegetation) never had full bellies because there were very few plants. Neither did the meat eaters because the animals that they ate started to die out. But humans survived somehow.

Today the land bridge is under water and it blends in with the sea. The land bridge might or might not have been used by who we believe were the first Americans. Nobody knows... yet.

Imagine yourself in cold, dry, hard ground and standing in the middle of an ice age. You're looking for food and there's no supermarkets, only a few plants and shrubs. There are different animals moving in herds. On the ground you see stone-made spear points used for hunting parties. You see hunting groups planning to kill an animal and early people looking for food desperately. They need to survive. Early people did not have to pay a toll when they moved from place to place. Lucky Ducks! How come we have to pay tolls and they didn't?

## Where is the Toll Booth?

Article by Addie, sidebar by Nathan, sketch & caption by Timothy

### On With the Land Bridge

What is a land bridge? A land bridge is made when the ocean level drops and exposes the ocean floor. Did you know that 12,000 years ago, a glacier covered one-third of the earth? Then the glacier sucked up all of the sea water. The water was 400 feet lower than today. Early people traveled from Siberia to Alaska. But when people arrived in Alaska, the glacier was blocking their way.

### Big Ice Cones

Glaciers only blocked routes south between 23,000 and 13,000 years ago. Some scientists believe an ice-free corridor opened up 13,000 years ago. It took about 12,000 years for the glacier to open up. The glacier was receding (melting) and the water flowed back into the ocean. Then the water from the glacier covered the land bridge.



Clovis people used spear throwers made out of stone and flint for hunting.

Clovis points have been found all over North America. The first Clovis point was found in Clovis, New Mexico in the early 1930's. Clovis points all date back to a little after when some scientists believe there was a ice-free corridor. They have a unique wear pattern that makes them identifiable. The fact that they have been found in a lot of places makes them evidence of the theory "Clovis first."

### Did They Play "I Spy"?

People hunted and followed the mammoths that were migrating into the Americas (North). Ice age hunters killed large numbers of animals. These animals provided them with meat, skins for tents and clothes, and bones for tools.

Clovis spear points are one of the artifacts that support the land bridge theory. Clovis points were made by early hunters. Clovis people traveled from Siberia to Alaska over generations by foot on the land bridge.

### Are We Sure?

Scientists are not quite sure how people came to the Americas or where the first people came from. Did they use boats? Did they use the land bridge? Scientist have theories, but they are never rock solid and have been disproved. Scientist might never be 100% sure what exactly happened.

# GLACIERS, ICE AND CLOVIS

Article by Adem, sidebar by Gwynnie, sketch & caption by Katrina

Did you know every state, except Alaska and Hawaii have Clovis points? So that means 48 states have evidence of Clovis skulls and weapons.

Some of the scientists believe the Clovis people came through the land bridge and the ice-free corridor. Clovis spear points were first found in Clovis, New Mexico. Archaeologists believe that Clovis sites are evidence of the first humans to live in North and South America. In the 1930s there was another theory. In Folsom, New Mexico scientists found early spears that they thought belonged to the first American. Then archaeologists moved to Clovis, New Mexico and

This is a spear point from the Archaic Indians. It has many colors to it such as black, grey, and brown. This spear point is made of flint. The Archaic made this by chipping the rock.



found Clovis weapons that were earlier than Folsom.

13,500 years ago the Ice Age was over. The glaciers were melting and Clovis people were in North America.

Did you know Dr. James Adovasio doesn't support the Clovis theory? He dug deeper in Meadowcroft, Pennsylvania, past the Clovis time and Dr. Adovasio found something older than Clovis. Some scientists think his dating isn't accurate because it might have been contaminated with coal dust.

A FLUTED SPEAR POINT IS A SPEAR POINT THAT HAS BEEN CHIPPED AT THE END, SO IT HAS A LITTLE PATHWAY THAT IS LOWER THAN THE REST OF THE SPEAR. THIS TECHNIQUE WAS USED SO HUNTERS COULD CUT A NOTCH IN A PIECE OF WOOD AND SLIDE THE SPEAR IN IT SO THE SPEAR POINT WOULD STAY. THE FIRST FLUTED SPEAR POINTS FOUND IN THE AMERICAS WERE DISCOVERED IN CLOVIS, NEW MEXICO. SCIENTISTS DECIDED TO CALL THESE SPEAR POINTS AND THE PEOPLE WHO USED THEM CLOVIS. THESE POINTS WERE NAMED AFTER THE GEOGRAPHICAL DISCOVERY POINT WHERE THESE POINTS WERE FOUND. SO THAT IS HOW THE NAME CLOVIS CAME TO BE!

# LAND BRIDGE THEORY

What was the land bridge? Where was the land bridge located?

The land bridge existed sixteen thousand years ago. The land bridge was the main route to the Americas at that time, but what some people believe about the land bridge is that some early people came to the Americas six thousand years before the land bridge.

Many scientists believe people arrived in the Americas by boat. While volunteering for a dig, a scientist found a sharp object. Before she knew it, she was holding an eight thousand five hundred year old tool. Some scientists believe early people were making water crafts fifty thousand years ago. Many scientists believe early humans followed and hunted sea animals on a boat to the western coast of the Americas,

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and from there, early humans migrated to Mexico and Arizona.

What many people don't know is that seven thousand years before

Some scientists believe people lived in the Americas (North and South) before the landbridge was formed. Scientists found evidence to back up this theory with handprints in South America dating back to about 12,000 YBP (years before present).

Clovis (15,000 BP), a shallow sea lay between Siberia and Alaska, and the land bridge was anxiously awaiting its shining moment – the arrival. Scientists think people migrated to southern parts of the Americas because of the hot climate. People migrated there because in Alaska most of their food was frozen. The hot climate also attracted animals, which meant food for the early Americans and a better living.

Many scientists have found evidence of human life on islands by finding tools. One of the largest tool finds was on the Queen Charlotte Island. Scientists have found the missing link of human evolution (Lucy). Now, if only we can discover for sure the missing piece of evidence to explain how early people arrived in the Americas.

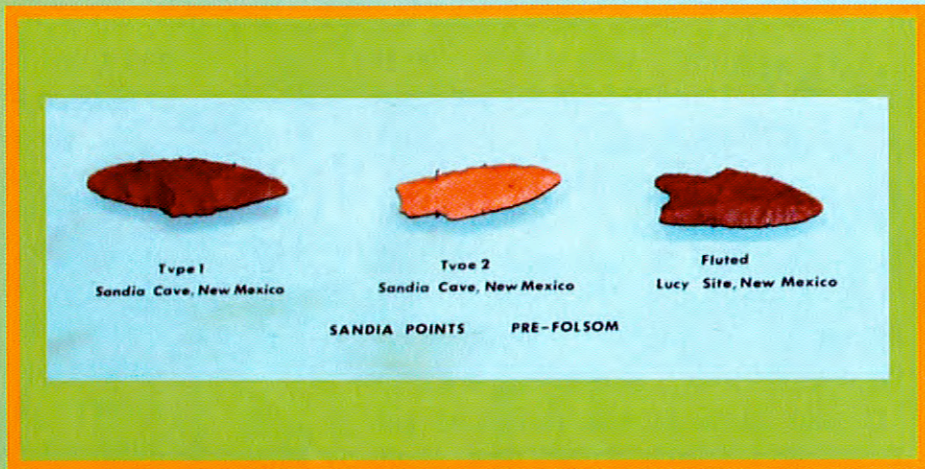


This is a pre-Clovis spear point that was used by people who used a boat to get to the Americas. This pre-Clovis spear point was found in Meadowcroft Rockshelter, Pennsylvania by Dr. James Adovasio. He decided to dig deeper than Clovis and when he dug deeper he found more artifacts earlier than Clovis.

Article by Cameron, sidebar by Allison, caption by Lauren

**F**or many years, many archeologists believed Clovis were the first Americans. Their findings showed the Clovis came to the Americas 11 to 13,000 years ago. Meadowcroft Rockshelter, in southern Pennsylvania, might have been occupied as early as 19,000 years ago. There's also evidence that Monte Verde in Chile might have been occupied 12,000 years ago.

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## CLOVIS OR NON-CLOVIS

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Meadowcroft is especially important to archeologists because different people have lived there longer than anyone else in the Americas. Some remains of Pre-Clovis found on Meadowcroft include 2,000 stone-flake tools, 150 fire pits, 1 million animal remains and a heavily cut burnt deer antler. Some scientists believe that the findings of Clovis being the earliest are right and believe that Meadowcroft is contaminated by coal or ground water. An archeologist named Dr. James M. Adovasio checked for coal contamination. A geomorphologist, (a person who studies rocks and how the world changed over time) tested for ground water activity. Both proved the early dates were accurate and reliable.

Monte Verde is another place that holds artifacts older than Clovis. Some of the artifacts were food sources such as berries, seeds, stalks, and even potatoes. Archeologists have also found plants that might have been used for medicinal purposes.

Many scientists used to believe that Clovis people were the first Americans. But now we have evidence that people were in the Americas thousands of years before Clovis.

*One example of a pre-Clovis point is a Sandia point. Sandia points are smaller in size than Clovis points. They have smaller sides. Sandia points have been associated with mammoth remains which are dated 18,000 to 20,000 B.P. (before present).*

*In Monte Verde 15,000 years ago people lived for about a year. Artifacts found in Monte Verde were signs that it was an ancient site. There were no human bones found, but a footprint probably made by a child was found. Some charcoal appears to go back 32,000 years. Scientists found traces of simple stone tools such as planks, a pointed spear, digging sticks, and more. Some were shaped by nature. Some were made by hand. Those tools didn't look like what the Clovis created.*

Article by Sophie, sidebar by Autumn, caption by Sophie

## Meadowcroft & Other Fascinating Facts

Article by Kenneth, sidebar by Noah, sketch & caption by Margo

**Y**ou are probably wondering when Meadowcroft was discovered. Meadowcroft was discovered 30 years ago in 1976. Dr. Adovasio is the finder of Meadowcroft. What he does is dig for artifacts like Clovis spear points. When Adovasio found artifacts, he marked where he found them because he wanted to know he had dug there.

Why do some scientists believe that Clovis were the first Americans? Because archeologists found Clovis spear points from Clovis, New Mexico. Adovasio does not believe Clovis spear points came first. Clovis spear points were one of the first artifacts Adovasio found. Dr. Adovasio found that Clovis spear points were a great tool to hunt with. The hunters hunted large numbers of mammoth, bi-

Did you know that Dr. James Adovasio found over 20,000 tools, bones, spear points, and other such items in the Meadowcroft Rock Shelter in Pennsylvania? He also found some older and different spear points than the Clovis spear points. These finds hint toward the theory of the Clovis People not to be the first people in the Americas.



This is a picture of Dr. James Adovasio showing the spear point, which he found and marked. He marked what he finds with labels because he wants to know where he found it. The labels and numbers on the labels show that early man made tools earlier than scientists previously thought.

Pittsburgh. A rock shelter is made of rock and is used for shelter. Today, the rock shelter is like a cave.

Some artifacts Adovasio found showed that early people lived there between 12,000 and 7,000 years ago. Artifacts Dr. Adovasio found were fire floors, animal remains, charcoal ash and plant remains. They were ancient. The fire pits could be 18,000 to 20,000 years old! These dates were before Clovis.

Why is Meadowcroft important to the study of early people? It is important because Dr. Adovasio and other scientists found many artifacts from before Clovis. Scientists believe artifacts may be from 18,000- 20,000 years.

# A Twist in Clovis Theory

Article by Alexander, sidebar by Michaela, sketch & caption by Charlie

About 11,000 years before present (B.P.) Clovis people roamed the land of the Americas. Scientists in the early 1900's thought that Clovis was the earliest evidence in the Americas. However in the 1970's people thought differently. This is when they found the Meadowcroft Rockshelter.

A team of archaeologists was out searching over grounds in south-western Pennsylvania when they saw a cave. They investigated and noticed something that encouraged them to dig down. This archaeological dig changed the theory of "Clovis first."

Dr. James M. Adovasio led the dig from 1973 to 1977. These successful years made all the difference in what we know about the earliest Americans. Adovasio's team found traces of people from long ago.

These traces are called

*Did you know that Meadowcroft was so famous that archaeologists as far away as Russia and China have visited the site? Did you know that the numerous occupation layers (remains left by a single culture) revealed over 2,000 stone flakes and tools, 150 fire pits and 1,000,000 animal remains? The crew who worked at Meadowcroft also found a heavily cut and burnt deer antler base, dated to about 16,000 BP (before present) which was the oldest bone found at the site.*



This spear point is an example of what might be found at the post-Clovis level.

artifacts. An artifact is an object made by humans. Artifacts are missing links to our past.

The first discovery that the team found was evidence of woodland people, such as corn, squash and ceramics. When the team dug deeper they found evidence of archaic

people, such as deer, elk, bird eggs, mussels, hackberries, nuts, fruits, and seeds. In the next layer they dug down to, they found evidence of Clovis people, which was skilled tools and spear points.

When Dr. Adovasio got to the Clovis layer he decided to dig deeper and try to find something new - something older. At all

the other sites that he excavated, he tried the very same idea to dig deeper. All the other times were unsuccessful. Dr.

Adovasio had a feeling that this was the time for a new discovery. So he dug deeper, and he was lucky to

find many artifacts that were more than 4,000 years older than Clovis. He found things as deep as 11.5 feet below the ground.

These findings tell the story of how the earliest Americans lived. These people lived as early as 19,000 years B.P. This was the first valid evidence of human existence south of the glacier in North America. The 150 fire pits tell us that humans controlled fire back then.

Scientists used that evidence to make an inference about how many families lived in that spot.

Some other artifacts that the scientists found were more than 2,000 stone tools and flakes. Some of the stone tools were unifacial knives and prismatic blades. A unifacial knife has one side that is a blade and another side that the people would hold. A prismatic blade is shaped like a triangle. These tools showed how advanced these people were in weapon and tool making.

Scientists were surprised to find three footprints preserved in clay. With these footprints scientists could make an inference about how tall the humans were back then.

The collection of plant and animal remains is the largest scientists have found in one site in North America. Dr.

Adovasio's team found about one million animal remains from animals such as white tailed deer, southern flying squirrel, and passenger pigeon. Evidence from the animal remains indicates that the earliest Americans hunted and had a diet that included meat.

The team also found about 1.4 million plant remains. Some of them are black gum, oak, and hickory. This tells

scientists that the earliest Americans were gatherers who took advantage of edible plants in the natural world, and not farmers who planted their own seeds and stayed in one place for more than one season.

Scientists ran tests on the objects that they found to see how old they were. (See "If it's as old as the hills, how do you find out?" on page 10 for more information). The tests showed that the artifacts were as old as 19,000 years B.P. which is older than Clovis. Some scientists think that the tests were faulty. They think that the artifacts got contaminated from coal in the ground-water which made them test older than

they really were.

Dr. James M. Adovasio may have been right at the time, but many years later another dig in South America found evidence dated to 40,000 years old. That brings up a suspicion about Dr. Adovasio's dig. Is it really the oldest?

500 years B.P.	Corn Squash Ceramics	Woodland	F A R M E R S
7,950 years B.P.			
8,000 years B.P.	Deer Hackberries Elk Nuts Bird Eggs Fruit Mussels Seeds	Archaic	H U N T E R S
10,950 years B.P.			
11,000 years B.P.	Skilled Tools	Paleo	-
12,950 years B.P.		Clovis	G A T H E R E R S
13,950 years B.P.	Stone Tools Fire Pits Footprints Plant & Animal Remains	Meadowcroft	
19,600 years B.P.			



Early people are a very interesting subject. There are finds of early people in Germany, France, Kenya, Tanzania and Ethiopia, But what about America? What finds is America famous for? Well, there is the Kennewick Man. Who's the Kennewick Man? He was found by two unsuspecting men, who when they found him didn't know all the conflict he would cause.

One day in Kennewick, Washington (July 28, 1996, to be exact) two men were watching a boat race. Will Thomas and Dave Deancy were wading through the water. Will tripped over something in the water. He bent down to pick it up. He looked at it closely and saw that it was a skull!

When they brought it to the police, the police thought it might have been a murder victim. The police made more inquiries and

When the hydro race finished, Dave Deancy and Will Thomas went back to the place where they hid the skull. Then they took the skull to the Kennewick police. The Kennewick police rode back to the Columbia River where the skull was found. Then, they found even more fragments in the water and along the shore. The Kennewick police officers thought the skull belonged to a modern murder victim.

# Kennewick Man



This tool was used about 9,000 years ago by the Umatilla Indians. This amazing tool was an antler of a caribou, carved and made into a shovel for digging.

searched the area where the skull had been found. This was good mainly because they uncovered most of the entire skeleton. Scientists looked at the bones and made further inquiries. Then they found out that the bones did not belong to someone who had been murdered in our time.

The bones belonged to a person who had lived 9,300 to 9,600 years ago!

Kennewick Man had been preserved in such a way that there were traces of DNA left on his bones. Scientists can use DNA to determine people's gender or something of their origins, depending on how much DNA is left. In this situation, they did just that. The scientists found out the gender (male) and something of his origins (an early Native American.) But with that little information, it made things a lot more confusing. He could be an early Native American that had drowned. (Apparently, he wasn't a very good swimmer.)

The situation was made harder because of the Native American Grave Protection and Repatriation Act (NAGPRA). That law says that the scientists had to give the bones back to the Native Americans that Kennewick Man belonged to. The problem was the scientists didn't know what tribe Kennewick Man was a part of.

The Kennewick Man's bones are at the University of Washington's Burke Museum, where scientists have studied him. His bones are being discussed in court

## One Small Skeleton, One Big Conflict for the Scientific Community

Article by Amelia,  
sidebar by Victoria,  
sketch & caption  
by Garrett

and a question that many people have asked is: "Does the NAGPRA law apply in this situation?" If the bones are not studied, then we may never find out how and by whom the Americas were peopled long ago. This is an important case because it could affect other Native American findings.

*If you would like to learn more about Kennewick Man, and/or the lawsuit about him, you can go to the web site:*

[www.kennewick-man.com](http://www.kennewick-man.com)



# Kennewick Man Is Revealed

Article by Mecca, sidebar by Lydia, caption by Hannah

**H**ave you ever heard of the Kennewick Man? Doug Owsley helped test the Kennewick Man and studied the bones. James Chatter, an archeologist joined, the coroner with the police from Kennewick, Washington to recover the skeleton.

The Kennewick Man's skeleton was found along the Columbia River near Kennewick, Washington. On July 28, 1996 there was a discovery of a human skull. That evening (of July 28, 1996) Coroner Floyd Johnson was leading the study of the skeleton. During the next month James Chatters found more bones from the site. Owsley, a forensic anthropologist led the intensive 10-day study of the 9,400-year-old skeleton. Since the Seattle study, the scientists have made a replica of the spear point lodged in the Kennewick Man's hip. A high-powered CAT scan of the original bones was taken to make a 3-D computer image of the inside and outside of the skull. Almost 800 cross-section views of the head and hipbones were made in the CAT scan! Thomas Stafford, Jr. hopes to begin studies for the

Kennewick Man's age by using tiny bits of bones drilled or cut for examin-

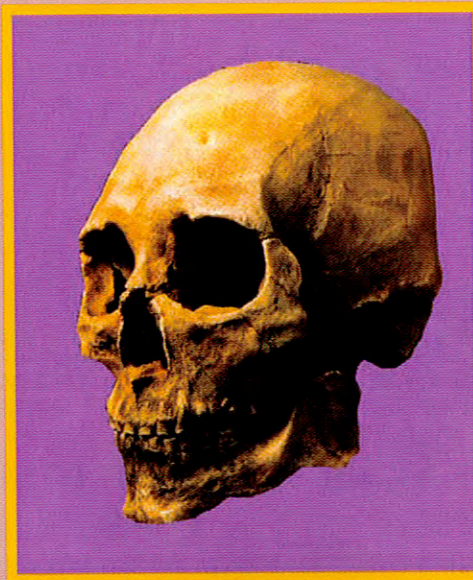
ings. Seattle's Burke Museum was the first to look at Kennewick Man's

When the Kennewick Man was found, several Native American tribes claimed him as an ancestor. If this were true, laws would mean that the Kennewick Man would have to have been buried, and no one would be able to study him. However, by looking at bone structure, scientists decided that it was not like that of a Native American, and it suggested that he might have been of Asian descent.

ing. Scientists hope to focus on the Kennewick Man's teeth, feet, and what his body structure was like. In February of 2006 a dozen scientists studying Kennewick Man let loose some new find-

bones after a long court battle. This court battle was with the tribe who thought that the Kennewick Man was their ancestor, named the Umatilla people. Kennewick Man is a Caucasoid, which includes people of Europe, Africa, India and the near East.

Kennewick Man is one of the oldest and most complete skeletons found in the Americas, because he was missing only a few small bones of hands and feet. All teeth were present at the time of death. This was a late middle age male between 40-55 years old.



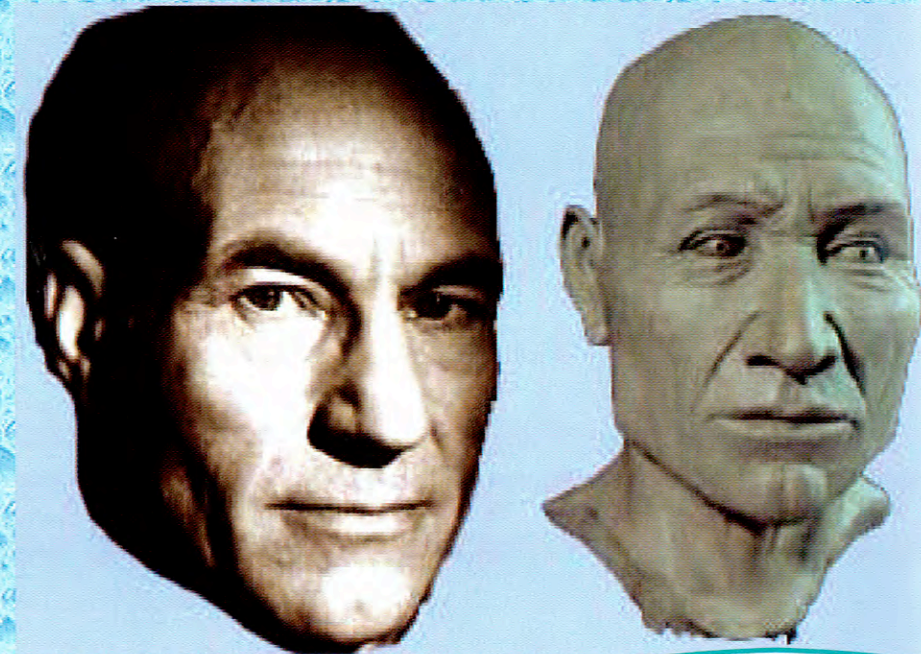
This is a picture of the Kennewick Man's skull! Many scientists examined the Kennewick Man's age. A 2,600 year difference between some estimations of the Kennewick Man's age appeared. Now, November 14, 2005, a scientist named Thomas Stafford, Jr. is searching to find a more accurate age of the Kennewick Man.

# Battle Over Kennewick Man

Article by Endya, sidebar by Maya, caption by Clara

**T**he Kennewick Man was found on July 28, 1996 while two college students were attending the Columbia Cup hydroplane races. They still don't have his whole body, but most of it. The Umatilla Indians, Colvilles, Yakamas, Nezperce and Wanapur band all believed Kennewick Man was their people and wanted him to rest in peace. Scientists disagree because he has a Caucasoid face.

The debate started in 1997. In 1997 the Kennewick Man was locked in a vault. The Umatilla Indians did not support the land



The Kennewick Man is none other than one of the early settlers that came to the Americas. The brow ridges, the teeth and the eye sockets show a human skull. In fact the Kennewick Man resembles the actor Patrick Stewart the captain of the *Enterprise* from Star Trek!

Since Kennewick Man was found, there has been a battle as to who has rights to Kennewick Man's remains. The five Native American tribal groups are against tests that the government wants to do to pieces of his bones. They feel that there is already evidence that Kennewick Man was Native American without more tests. There is now a "Native American Protection and Repatriation Act" which says that there needs to be proof that remains are from before European settlement, and also that there is proof that the remains are connected to present day tribes. In 1998 the native tribes won the right to bury the Kennewick Man as a Native American, but scientists are still trying to study his remains.

bridge theory, they think their ancestors have lived in that area since the beginning of time. According to scientists in 2000, Kennewick Man has Neanderthal roots. The government has his skeleton locked up in a vault.

Who were the best primitive artists? How did they create their masterpieces so long ago with so little resources? What do the traces they left on stone walls tell us about their lives?

## Cave Art Craze

Article by Matt, sidebar by Jack, sketch & caption by Adryana



This cave painting belongs to the Rochester Museum and Science Center. The sketch is of a horse, an animal that Cro-Magnons painted often.

The most famous cave art is found in caves on the border of France and Spain. Early modern humans, called Cro-Magnons, drew most of the paintings from 17,000 to 14,000 years ago. This period in time was the late ice age.

Cro-Magnons were hunters and gatherers. They painted horses, bison, and oxen the most. They also painted mammoth, ibex, antelope, wild goat, hyena, lion, rhino, boar, fox, and wolf. They rarely painted birds and fish, which were important food sources. Some

scientists believe that the paintings were hunting magic

and represented hunting scenes where there was a successful hunt or a complete failure. Besides the animal art, painted handprints were found next to the art. Some scientists believe that was a way to say, "This is my work. I accomplished my mission."

Cro-Magnons knew very much about the earth. They used natural colors made of flowers, minerals, and maybe animals to give color and texture

to their paintings. They also used brushes made of wood and hair.

Scientists have many ways to find out what they want to know about primitive painters. One way to find out how old the paintings are is carbon-14 dating. Primitive painters often rubbed their torches against the wall to make them burn brighter. When they rubbed their torches against the wall, it left charcoal. Charcoal comes from wood, so by dating the charcoal they can date the paintings. For more information about carbon-14 dating, see "If it's as old as the hills, how do you find out?" (page 10).

Scientists use litmus and other tests to find out what the painters used to make their colors. They know that the painters used brushes of wood and hair because scientists found artifacts in several different caves.

Scientists have found that the paintings stopped about 10,000 years ago, which is about the same time that modern humans discovered farming. For the first time, people stayed in one place for many seasons.

Scientists still have a long way to go to solve all the mysteries of cave art. Why did the paintings stop when people settled in one place? Why did they paint creatures that are a mix of animal and human? Another mystery to be solved is why they painted animals that they didn't hunt, and didn't paint some animals that they hunted?

Look at the paintings of our ancestors and hear their voices. Study them hard enough, and their art will tell the story of their lives.

Did you know that cave people used charcoal for black paint? They used minerals and cave water to make other colors of a paint-like substance. They also used hollow bones to make hand stencils on the wall.

**T**wenty-five thousand years ago during the Stone Age animals such as woolly mammoths, mastodons and tapirs roamed free in parts of Asia and the Americas looking for food, but never suspecting they would meet the Paleo people! The Paleo people were more advanced at forming tools than earlier humans. The ideas they generated helped them create tools that are related to the items we still use currently. For instance, a spear thrower is similar to a rocket launcher because a rocket launcher throws a rocket out and a spear thrower throws a spear out.

## CRAFTY TOOLS

Before metals were discovered, humans made tools out of different kinds of stone. Early people would chip at rock to form the desired shape of a tool or weapon. Early people in Asia and in the Americas used microblades to help form the rock by using the point of the microblade to chip at the rock and to carve little designs. Some microblades were made out of obsidian rock, also known as volcanic glass. Microblades were usually small, they came in different shapes for forming different tools or weapons.

The Paleo people lived in Asia 25,000 years ago during the Pleistocene Epoch. The Paleo people used bones, stone and ivory for tools and weapons. They created such things as knives, slingshots, scrapers, spears and spear throwers. Some scientists think that when Paleo people lived the oceans dropped dramatically, exposing shelves of land that are today under water. This, in turn, created a land bridge called Beringia, which connected Asia and the Americas. Some scientists concluded that the Paleo people crossed this land bridge from Asia to the Americas.

The Paleo people were big game hunters. They would follow herds of animals, therefore the theory that the Paleo people crossed Beringia following a herd of animals is the most widely accepted theory. Beringia was a grassy plain attracting a number of different animals. There were woolly mammoths, mastodons, and three-ton bison. The Paleo people most likely hunted all of these animals with a spear thrower, due

OUR ANCESTORS LEARNED THAT CHIPPING TYPES OF ROCKS HELPED TO FORM TOOLS AND MAKE THEM SHARP. MANY TOOLS WERE MADE OF STONE SUCH AS QUARTZITE, OBSIDIAN AND FLINT. OBSIDIAN IS VOLCANIC GLASS.

THIS TYPE OF ROCK WORKS WELL FOR MAKING A SPEAR POINT. ALSO IT WAS EASY ENOUGH TO CHIP IT AND GET A SHARP POINT. QUARTZITE WAS HARD AND DURABLE IT WAS WELL TO HUNT WITH BECAUSE IT WAS ALSO EASIER TO MAKE SHARP THINGS BECAUSE IT COULD BE SMOOTHED DOWN. FLINT WAS ALSO WELL FOR OTHER THINGS LIKE STARTING FIRES.

to their gigantic size. Paleo people also hunted smaller game too, such as ground sloths and tapirs. For hunting ground sloths a spear would come in handy, but for tapirs (which were small and slow creatures) a sling shot and rock were most likely used.

The people of today are extremely lucky that we find secrets from some of the earliest peoples.

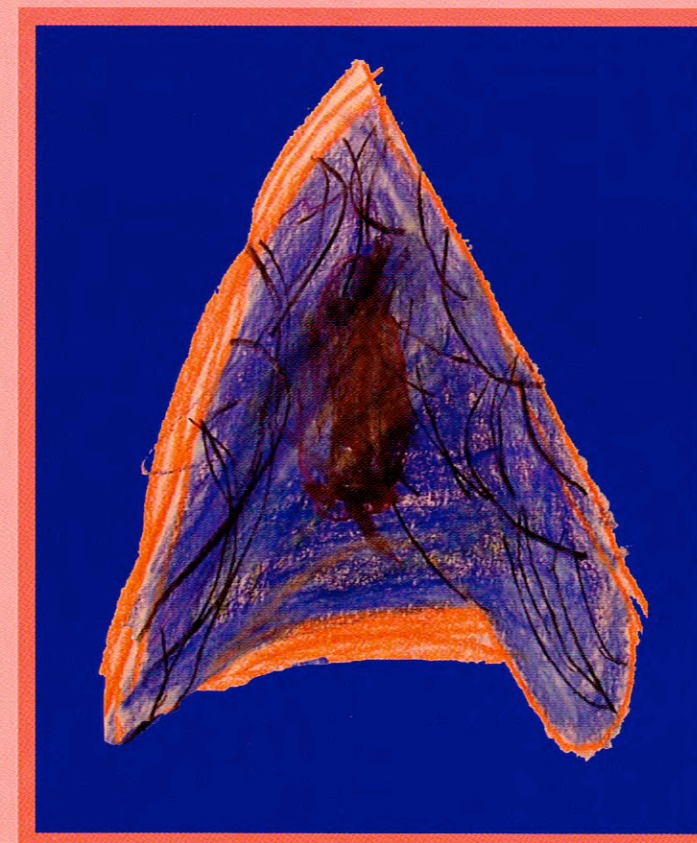
modern people of today. These early people are most helpful to the people of today because we can learn from their successes and their hardships. In addition, we learn about their survival tools that were passed down from them, our ancestors. They helped us to survive by passing down tips from generation to generation. Today we see traces of their weapons and tools that

## OF PALEO PEOPLE

Article by Gwynnie, sidebar by Katrina, sketch & caption by Adem

These artifacts that are found, such as spears, microblades and stone choppers, tell us of the importance of Paleo people and many of our ancestors. Their artifacts also tell us of the culture, knowledge, skills and what their lives were like compared to the

help us live through our daily lives. They might have looked different than us, but without our ancestors and their culture and skills we would not be here right now, so PLEASE remember them for all your life!



This spear point belonged to the Paleo people. This spear point was used for hunting and scraping off flesh from the body of an animal. The points were tied on the end of the stick which archaeologists called spear points.

# YOU CALL THIS HIGH TECH?

Article by Timothy, sidebar by Addie, sketch & caption by Matan

**T**oday we think of technology as computers, cell phones and iPods. Did you know that for the Paleo-Indians, high technology was a rock and a spear?

The tools early Americans used for hunting were knives, scrapers,

This is a spear-point made by a Neanderthal about 35,000 to 10,000 years ago.

gravels, spear-throwers and spoke shavers. Hunting was difficult, but necessary in order to live. If the hunt was not successful, the families or clans would starve.

Some of the animals the people would hunt were woolly mammoths, long horned bison, short nosed bears, and saber-toothed tigers. The Paleo-Indians would corner their animal near a cliff, wall or swamp. While surrounding it, they would stab or throw their spears at the animal.

Some tools were used to make weapons. Spoke shavers were used to shape the wooden shafts for spears. The spears were made from bones,



rocks and flint stone weapons. Gravels were used to pierce the animal skin and cut the bones.

How did early people hunt? One of the tools early people used to hunt was called a spear-thrower. Before the spear thrower was around, hunting was probably harder for early people. A spear thrower is a stick that helps propel a spear with greater force. A spear thrower is one to three feet long. It has a handle at one end, and a hook at the other end, which hooks on to the end of the spear.

A spear thrower helped early people to hunt because it gave the spear more distance and more power to kill the animal. The spear thrower was made of antler most of the time.

# FARMING FROM THE ANASAZI TO THE TAINO

Article by Charlie, sidebar by Alexander, sketch & caption by Michaela

**D**id you know farming was not taught to the Native Americans? Unlike in Europe, where farmers were taught by people of the Near East, the Native Americans developed their own ways of farming. Also, did you know farming provided early people with the ability to stay in one place year round?

The Anasazi were some of the earliest farmers in the Americas. They lived where Arizona, New Mexico, Utah, and Colorado meet. The Anasazi dug ditches to irrigate and grow crops because the water from the rainy season was flooding the land. The Anasazi used dams and canals to irrigate crops. Crops grown by the Anasazi included

This hatchet head was found at Sackett Site in Canandaigua, New York. This was an artifact of the early Owasco culture time. A hatchet head is used to chop (like a mini ax). They probably used it to chop down corn and vines.

beans, squash and corn. The corn planting ceremony occurred four days after the summer solstice.

Farming provided early woodland people with a handy source of food rather than moving to locations where plants were growing wild. Crops grown by the Early Woodland people included sunflowers, goosefoot and squash. Plants farmed by the

## Did You Know?

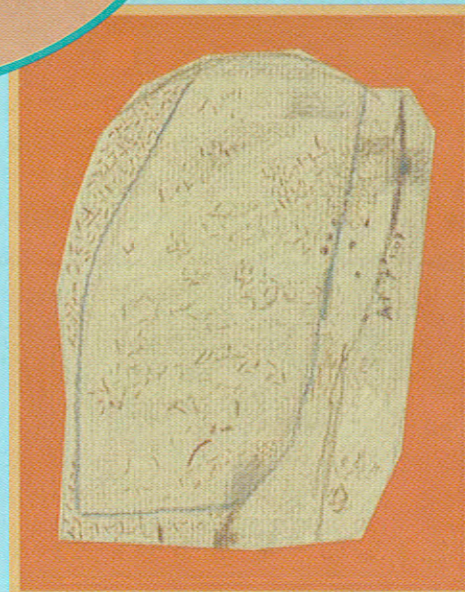
The earliest evidence of farming was found in present day Turkey and the Middle East from about 10,000 years ago. Farming was probably invented at least twice on different continents. The earliest evidence of farming in the United States was a little kernel of corn that was found in a cave in Arizona. The kernel dates back to 3,690 years B.P.

Early Woodland may have also included corn and tobacco.

The Taino, a Native American tribe, lived on the island of Hispaniola, which is now the Dominican Republic and Haiti. They grew cotton, papaya, pineapple, squash, yahutia (a kind of potato) and sweet potatoes. Their bread was cazabe, a cake made out of cassava. A cassava made poisonous juice and looks like a melon. The Taino learned how to grow cassava in conucos, huge dirt mounds as tall as a man and 10 feet wide, to allow the necessary

air that the root system needed. The Taino believed in gods. The god of fertility was Attaberia. She made the crops grow.

Early farming in the Americas was seen with the Anasazi and later it developed into the type of farming that was done by the Taino.



# HIKERS FIND OLDEST FROZEN HUMAN MUMMY IN THE ALPS!

Article by Victoria, sidebar by Garrett, sketch & caption by Amelia

It was a hot, blue, clear and sunny day on September 19, 1991, when Erika and Helmut Simon were enjoying the outdoors mountain climbing in the Otzal Alps. This is a mountain range that lies between Austria and Italy. Often the Simons would climb the same narrow path that shepherds used to use many years ago. But that day, they decided to go on a different path and guess what? Suddenly they saw what looked like a naked doll. It had a brown head with a bony body sticking out of a muddy puddle of melting snow. But was it really a doll?

The Simons had actually found a human mummy that was 5,300 years old. Scientists named him Otzi because he was found in the Otzal Alps. Otzi was alive during the Copper Age. The Copper Age is when early people used metal. Early people might have used metal for tools, weapons and cooking utensils.

Seven people who worked with Otzi since he was discovered have since died unexpectedly! Some people now believe that Otzi was cursed! Helmut Simon, who discovered Otzi, was celebrating on the same glacier where he had found Otzi. He suddenly fell into the glacier and died feet from where his discovery had been. The fifth person who died didn't believe in the curse. He yelled out, "Next thing you know, I will die!" A couple of weeks later he died too!

Days after Otzi was found, scientists had a chance to look into his stomach to see his last meals which were bread, meat, herbs, and other plants. Scientists thought it was important to look into Otzi's stom-

ach so they could see what early people might have eaten in the time period Otzi was alive.

At the site, scientists also found Otzi's belongings which were a quiver (a quiver is a long sack made of a deer skin) with fourteen arrows in it, an ax



This spearhead might have been used by Otzi's people - they probably used it for hunting food.

with a metal blade head, two pieces of birch-bark containers for starting a fire, a shoe made from cowhide, a fur hat, a dagger with a flint blade and a scabbard (used to hold daggers).

Otzi is important and special to scientists because he is the oldest human mummy ever found preserved by ice. Otzi's possessions have given scientists a better look at what life was like during the Copper Age in Europe 5,300 years ago. Also, Otzi is important because his clothing is the first Neolithic ever found.

Otzi is important to us because he has answered many of the questions we had about early people. For example, Otzi has answered the question we had about what kinds of food early people might have eaten, what weapons and tools they used, what kinds of clothing some of the early people might have worn, and other things. If you would like to learn more about Otzi and his life style, I recommend you read Secrets of the Ice Man by Dorothy Hinshaw Patent.

# WHO IS OTZI?

Article by Maya, sidebar by Clara, sketch & caption by Endya

Otzi was a mummified man, frozen in ice. He was discovered on September 19, 1991 by German hikers.

Otzi is very important to the world because he is one of the oldest mummies ever found!

Otzi was alive about 5,000 years ago, which was the Copper Age. When Otzi died, he was between 25 and 40 years old. Otzi was found in the Tyrolean Alps in Austria, which is the border between Italy and Austria.

He was found on a path that was an ancient train route. After being discovered, scientists found leftover skin on Otzi, which led them to believe that he is a mummy!!! Leftover skin is impor-

tant to a mummy because it holds the mummy together.

There are different theories of how Otzi died. Here are just three of them. Otzi could have frozen in ice when he was sleeping on a mountain, he could have gotten shot with an arrow and died, or Otzi could



What you are looking at is a hand axe. Homo habilis might have used it to cut wood. By the Copper Age, Otzi's tools were much more advanced than this.

have been accidentally injured. There are a lot of different ways Otzi could have died, but we might never know which theory is true!!!

The discovery of Otzi is important to scientists around the globe. By

finding Otzi, there is now the chance for scientists to study him. They can now research early people by actually looking at one! Already scientists have found out interesting facts about Otzi through their research. They have determined his age, lifestyle, and foods he ate, such as dog, fish, berries, and nuts. With time, scientists may discover more interesting facts about Otzi and his society.

Frozen food from Otzi's last meal was found in his mummified stomach. The food consisted of goat meat and unleavened bread. The food had been frozen for 5,300 years. Most likely, the food froze when the body did.

# LIFE OF THE EARLY WOODLAND PEOPLE

Article by Adryana, sidebar by Matt, sketch & caption by Jack

**W**ho were the early woodland people in western New York? What do we know about them? Paleo people were one of the first Native American groups to travel through western New York. They lived and traveled together in small groups.

Later in time, the Archaic people began to live in western New York. They were semi-nomadic. This means some of the time they were settled in one place. The other half of the time they were traveling. Archaic people most likely traveled because they were following animals to hunt. Archaic people were hunters, fishers, and gatherers. Yet, they had not become farmers.

The Owasco culture came after the Archaic people. About 800 to 1,000 years ago, the Owasco people lived in western New York. They

This is a Meadowood spear point, which is a type of the American Woodland Clan. It dates back to 562 B.P. This spear point was buried with dead people who had been important to the clan. This shows us that early people had respect for people of their clan. These people made burial canopies.



lived in longhouses. The longhouse was rectangular shaped. It was covered with bark. The longhouse was about 100 feet long and 20 feet wide. The roofs were round and sloping so the snow could fall off easily. There were doors at each end. There were fire pits evenly spaced along the floor of the house. Above the fire pits, there were vent holes in the roof. The vent holes let the smoke out from the fire pits.

Owasco people lived in New York from 1,000 years ago to 3,000 years ago. They were the first know people in the northeast to practice agriculture. Due to the abundance of food more population came and developed into the first cities.

In the same way as the archaic people, the Owasco people hunted, fished, and gathered. However, the Owasco people farmed and developed pottery. They farmed because it allowed them to settle in one place for a long period of time. They grew such things as squash and sunflowers.

Archeologists have found artifacts of pottery at Owasco sites. Pottery made during this time was undecorated and poorly fired. The Owasco made pots from clay. The pots were used for storing food such acorns and other nuts.

Where did the Owasco settle in western New York? Their communities were located on hilltops between two rivers. There were six to eight longhouses in the community. Also, a sharp picket fence surrounded the longhouses. The fence protected the people from enemies and wild animals. Being on a hillside also allowed the people to see further in the distance.

The early woodland Americans of western New York came after the Paleo and Archaic people. Archeologists continue to find interesting artifacts about the Owasco - these early woodland people.

# Mound Makers

Article by Wolde, sidebar by Shelby, sketch & caption by Rosie

**W**ho lived 2100 B.P. to 1300 B.P.? They lived in a community and were woodland people. They made magnificent art work especially earthworks that were part of their culture.

## Mounds

Hopewell mounds are just like coffins because they both have dead bodies in them and they are traditions for us and the Hopewell people. A difference is that the mounds have art in them also.

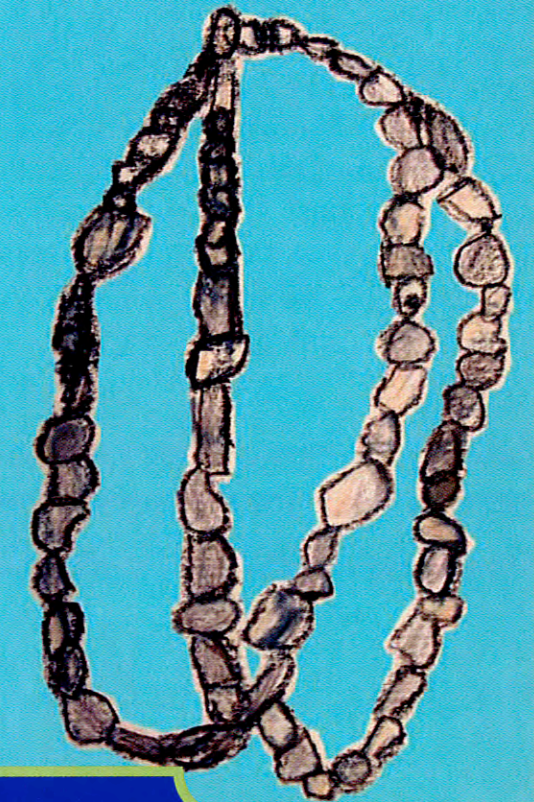
Ohio from 2100 B.P. to 1500 B.P. They supported themselves by cultivating crops. They hunted for food and fished for protein. Also they collected wild plants for medicine. All of this is part of their culture.

Southern Ohio has lots of evidence of Hopewell culture. Scientists have found lots of interesting things like mounds. Mounds were made 1500 to 2100 years ago. A mound is a burrow dug to bury the dead in. Hopewell people made earthworks that were used in

Earthworks are giant art on earth. They made mounds to bury the dead. Where did they live? Who are those people? They are the Hopewell!!!

Hopewell people lived in

This is a beaded pearl necklace. It is made out of pearls. Every single one of them is different. This necklace came from the Hopewell People.



ceremonial, social gatherings and places of worship. This is also their culture.

Mounds are not earthworks.

Hopewell people were not like earlier Native Americans because they made necklaces and beads. They also made earthworks but earlier Native Americans did not. The earlier Native Americans just made spears. Also Native Americans traveled place to place but Hopewell people settled at one place. This is why they were able to make necklaces, and farm.

# THE STORY HOPEWELL MOUNDS TELL

Article by Allison, sidebar by Lauren, sketch & caption by Cameron

In 1883 a Harvard archeologist named Frederic Ward Putnam boarded a train to Columbus, Ohio from Boston, because he had read reports about amazing creatures sculpted out of the earth and mounds that resembled Egypt's pyramids. He wanted to

see them for himself.

Soon after, Frederic Ward Putnam arrived in Columbus, Ohio. He found himself on a huge mound that looked like a serpent snake with a 75 foot wide mouth. He was amazed where the mounds were located because there was no town, city or even people of today settled there. The mounds were made by the Hopewell people.

Some Hopewell mounds were burial mounds that are like hotels for the dead and have many layers which end up being stairs for forts or buildings. Other mounds were used for astronomical events that took place near the horizon.

In most burial mounds the Hopewell buried many artifacts such as clay pots, jewelry and hunting tools. Those artifacts show the cul-

People would put artifacts like a pipestone toad in the mounds of the Hopewell. It looked like a stone made by carving and this would mean the dead become spirits of the afterlife. Also buried is a stone falcon which people believed would strip the dead of flesh. An obsidian ceremonial blade was also buried. These were made out of volcanic glass rock. Mica silhouettes were also found in the mounds. This artifact was to look like an eagle claw. Also an eagle in flight was made out of copper and was shaped while hot. During an elaborate burial ritual for a child Hopewell people would wear a skull mask. The mask was woven deer skin.

ture and history of the Hopewell people and that they stayed in one place for a few years at least. Scientists believe that theory because they had time to make fancy tools and pots and had time to make big mounds showing history and culture.



This picture is a spear point used by a Hopewell hunter. The spear point was used to kill larger animals like deer, bears, and bulls. They are called the Hopewell people because one of the first Hopewell mounds was excavated on Captain Hopewell's land.

When you sit on your bed and listen to your iPod, do you ever wonder where that music came from? The first American instruments were, no, not electric guitars, but mainly flutes, trumpets, and drums. But for early humans, music wasn't an everyday thing. Music was sacred, and Aztecs thought music was a way to talk to the gods.

You may be wondering how scientists know facts such as these. When the Spanish traveled to the Americas, they kept records of their adventures. These records are one main type of evidence. Another is the instruments themselves. These have been found in Guatemala, Honduras, Columbia, Ecuador, and Peru. People who study these instruments are called "ethnoarcheomusicologists." They have discovered things like



Evidence of early American music comes from the ancient flutes that archeologists have dug up. Some of the flutes have one chamber; others have two. Many are blown; in the end there are finger holes. A set of four flutes made of Box Elder was found in a cave in New Mexico. The evidence tells us that early Americans played flutes, whistles and ocarinas. We also found out how advanced their instruments were in both sound and construction.

Peruvian whistling bottles (these bottles, when shaken, produce a faint "whistle") dated to 500 BC. Also that, though the height of Maya culture was 200-900 AD, some complex instruments date to long before then, including a clay ocarina that dates to 500-600 BC.

This is early American music. One strange thing is that few instruments were found in North America. Why was that? Maybe there weren't any. Maybe they were made of wood and rotted away. What do you think?

This is a bird call made of bone. This bird call is like a recorder but it only has three holes. This bird call is important to the music of early people because it is what they used to play and it is made from a bone of some kind of animal the early people ate.



## from a Lost World

Article by Lydia, sidebar by Hannah, sketch & caption by Mecca



# The Peaceful Taino

Article by Margo, Sidebar by Kenneth, Sketch & Caption by Noah

Hundreds of years ago, the Taino people lived in the Americas, the Caribbean Islands. This was about 500 to 800 years ago. The climate was warm and humid, very tropical. They lived on an island called Hispaniola. They were actually a Native American tribe. These people came



This Taino zemi was influenced by a bird-like and human-like god. This drawing was taken from a carving of a zemi. A zemi is a spirit of the Taino people.

from the Arawak people. They were farmers and grew a lot of fruits and vegetables. What do you think the Taino people did for fun?

One thing the Taino people did for fun was to play ball games. These were played in bateyes or courtyards in front of the Caciques house, which is the Chief's house.

They grew cotton, papaya, pineapple, squash, and yahatia, which is a kind of potatoe. They also ate small dogs and fish. The fish were abundant, caught with bone and shell hooks, large mesh nets and bows and arrows. The Taino people had dogs which they used

Christopher Columbus was the first European to meet the Taino people. Christopher Columbus gave to one of the Taino people red caps and glass beads which hung on their necks, and many other things of low value. After Columbus met the Taino people he took some away to claim them as slaves. Before he took them there were 300,000 Taino people and then 500 only remained in 1548. There are no more full-blooded Taino people now.

for hunting. Dogs were also their favorite pets and those did not hunt.

The Taino people make lots of things, such as their clothing and jewelry. The jewelry was made out of shell and paint. The Taino people wove costumes

and hammocks. It was so hot they didn't wear much clothing! When the kids grew up, they wore loincloths. They also used body stamps. They put stamps on their body and pressed.

Most of the Taino people lived in round houses almost like the Native Ameri-

can tepees, except instead of the animal hide as cover, it was made with palm and grass. The Chief lived in a special house that was rectangular and sometimes had a porch.

Some weapons the Taino people used were stone knives and axes. They also worked on pottery and used their fingers to shape and pull fine details into it. They used pointed tools to shape the bowls and dishes they made.

The Taino people traveled by canoes, dug from a single tree trunk. Seventy to eighty people could travel in a single canoe.

The Taino people were important because they had many special talents, including farming, making their own clothing and jewelry, and living independently on an island using only natural resources.

## Acknowledgements

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The 4th grade class owes many thanks to parents who typed final drafts, chaperoned field studies, and visited our classroom to help students research and write their articles. Thank you again very much. We could not have finished this magazine without the support of these people.

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The Taino people make lots of things, such as their clothing and jewelry. The jewelry was made out of shell and paint. The Taino people wove costumes

and hammocks. It was so hot they didn't wear much clothing! When the kids grew up, they wore loincloths. They also used body stamps. They put stamps on their body and pressed.

Most of the Taino people lived in round houses almost like the Native Ameri-

can tepees, except instead of the animal hide as cover, it was made with palm and grass. The Chief lived in a special house that was rectangular and sometimes had a porch.

Some weapons the Taino people used were stone knives and axes. They also worked on pottery and used their fingers to shape and pull fine details into it. They used pointed tools to shape the bowls and dishes they made.

The Taino people traveled by canoes, dug from a single tree trunk. Seventy to eighty people could travel in a single canoe.

The Taino people were important because they had many special talents, including farming, making their own clothing and jewelry, and living independently on an island using only natural resources.

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