Chapter 1: The Rise of Civilization, Prehistory – c. 2300 B.C.

Lesson 1: Early Humans
• What tools do you think would have been absolutely necessary for prehistoric people to have? Write down your answer on the lines provided below.
It Matters Because

• Through studying and dating artifacts and fossils, anthropologists and archeologists have revealed prehistory.
• This incomplete record shows how the earliest humans developed and how they adapted to make tools, use fire, and survive Ice Age conditions.
• Early humans also produced art that relates the human experience.
Prehistory

• Guiding Question: How do we define and learn information about prehistory?

• Historians rely mostly on documents, or written records, to create their pictures of the past.

• However, no written records exist for the prehistory of humankind.

• In fact, prehistory means “the time before writing was developed.”

• The story of prehistoric humans depends on archaeological and, more recently, biological evidence.

• Archaeologists and anthropologists use this information to create theories about our early past.
Archaeology & Anthropology

- **Archaeology** is the study of past societies through analysis of what people left behind.
- Archaeologists dig up and examine **artifacts** – objects made by humans.
- **Artifacts** may be tools, weapons, art, and even buildings made by early humans.
- **Anthropology** is the study of human life and culture.
- Culture includes what people wear, how they organize their society, and what they value.
- Anthropologists use **artifacts** and human **fossils** to create a picture of people’s everyday lives.
- **Fossils** are rocklike remains of biological organisms such as a leaf imprint or a skeleton.
ARCHAEOLOGY
The study of past societies through an analysis of what people have left behind.

ARTIFACTS
Artifacts are those things that people left behind, they can include:

- Tools and Weapons
- Art and Sculpture
- Pottery
- Jewelry
- Human Remains
- Ancient Buildings and Monuments
Fossils
Archaeology & Anthropology

• Archaeologists and anthropologists have developed scientific methods to carry out their work.

• They excavate sites, or carefully dig up land, at places around the globe to uncover fossil remains of early humans, ancient cities, burial grounds, and other objects.

• The examination and analysis of these remains give archaeologists a better understanding of ancient societies.

• By examining artifacts such as pottery, tools, and weapons, for example, these scientists learn about the social and military structures of a society.

• By analyzing bones, skins, and plant seeds, they are able to piece together the diets and activities of early people.

• One of the most difficult jobs is dating these finds.
Dating Artifacts & Fossils

• Dating human **fossils** and **artifacts** helps scientists understand when and where the first humans lived.

• One method used to determine age is **radiocarbon dating**.

• All living things absorb a small amount of radioactive carbon, or **C-14**, from the atmosphere.

• After a living thing dies, it slowly loses **C-14**.

• By measuring the amount left in an object, a scientist can figure its age.

• This method is accurate for objects no more than about 50,000 years old.

• For objects dating back to 200,000 years ago, scientists can make relatively precise measurements using **thermoluminescence**.

• **Thermoluminescence** - This measures the light given off by electrons trapped in the soil surrounding fossils and artifacts.
Dating Artifacts & Fossils

- Microscopic and biological analyses of organic remains – such as blood, hairs, and plant tissues left on tools and weapons – give scientists still more information.

- Such analyses have shown that blood molecules may survive millions of years.

- This recent scientific discovery is especially useful in telling us more about humans, their use of tools, and the animals they killed.

- Ancient deoxyribonucleic acid (DNA) is providing new information on human evolution.

- The analysis of plant remains on stone tools yields evidence of the history of farming.

- All of these techniques give us insight into the lives of early peoples.
Early Development

• Guiding Question: How did hominids develop?
• In recent decades, modern science has produced a clearer picture of how early humans developed.
• Pieces of the puzzle are still missing, however.
• When a new skull or skeleton is unearthed, scientists may find that they have to revise their ideas about the lives of prehistoric humans.
Hominids to *Homo Sapiens*

- What is a **hominid**?
- A **hominid** was a humanlike creature that walked upright.
- The earliest **hominids** lived in Africa 4 million years ago.
- Called *Australopithecus*, or “southern ape,” by its discoverer Donald Johanson, this hominid flourished in eastern and southern Africa.
- **Louis** and **Mary Leakey** spent most of their lives searching for clues about early human life.
- **Mary Leakey** made a dramatic discovery of a skeleton at **Olduvai Gorge** in East Africa.
- Her discovery of a **hominid** in 1959 was the oldest at that time – about 1.8 million years old!
Lucy the *Australopithecus*

On a 1974 expedition in northern Ethiopia, the American anthropologist Donald Johanson discovered an amazingly complete skeleton of an early ancestor of humans. The skeleton was 40 percent intact and dated to 3.2 million years ago. Johanson’s team nicknamed the skeleton Lucy. They determined that Lucy belonged to the species *Australopithecus afarensis*, which had the long arms, barrel chest, and small skull of an ape but also had the pelvis, legs, and feet of an upright walking human. This confirmed that walking predated larger brains in the development of humans. Lucy stood three feet, seven inches (about one meter) tall and weighed 60 pounds (27 kg). Johanson’s archaeological site turned out to be extremely productive. Along with Lucy, Johanson’s team found *Australopithecus* fossils of nine adults and four youths all buried together.
Louis and Mary Leakey were a British husband and wife team that did groundbreaking work in the fields of archaeology and anthropology. These scientists went to East Africa in the 1930s to search for and study fossils, and their discoveries over the next several decades did much to expand our knowledge of the early origins of human life. Mary had a talent for finding and excavating fossils, while her husband’s expertise came in interpreting and publicizing their finds. In northern Tanzania in 1959, Mary found the remains of an early member of the human family tree. The remains were dated to 1.7 million years ago. By 1963, the Leakeys had found fossils of a species that Louis named *Homo habilis*, which was a direct ancestor of modern humans. In 1978, Mary discovered 3.5-million-year-old footprints in stone that were created by a hominid that walked upright. Together the Leakeys confirmed that the earliest humans originated in Africa—and at a much earlier date than previously thought.

MORE ABOUT THE IMAGE: In this image, Louis Leakey shows Mary Leakey a jaw from a 600,000-year-old skull.
Hominids to *Homo Sapiens*

• From 2.5 to 1.6 million years ago, a more advanced hominid developed with a somewhat larger brain.
• This hominid was named *Homo habilis*, meaning “handy human.”
• *Homo habilis* may have used stone tools.
• Another hominid, *Homo erectus*, “upright human,” emerged around 1.5 million years ago.
• Although other hominids walked on two legs, *Homo erectus* had arms and legs in modern human proportion.
• Remains in Asia show that *Homo erectus* was probably the first hominid to leave Africa.
**Homo habilis**
Average height: 4 ft 3 in
Disproportionately long arms

**Homo erectus**
Average height: 5 ft 10 in
Shorter and slender arms
Homo Sapiens Sapiens

• Around 250,000 years ago, *Homo sapiens* emerged.

• *Homo sapiens*, “wise human,” showed rapid brain growth and mastered fire.

• The first anatomically modern humans, *Homo sapiens sapiens*, meaning “wise, wise human,” appeared in Africa between 200,000 and 150,000 years ago.

• They probably spread out of Africa to other parts of the world about 100,000 years ago, replacing populations of earlier hominids in Europe and Asia. This is referred to as the “out-of-Africa” theory.

• One of the groups of hominids they encountered was known as the Neanderthals. They probably lived between 200,000 B.C. and 30,000 B.C.

• Neanderthal remains have been found in Europe and Turkey.

• Neanderthals seem to be the first early people to bury their dead.
Homo Sapiens Sapiens

• By 30,000 B.C., *Homo sapiens sapiens* had replaced the *Neanderthals*.

• The *Neanderthals* died out, possibly as a result of conflicts with *Homo sapiens sapiens*.

• The spread of these first modern humans was a slow process.

• Over many thousands of years, *Homo sapiens sapiens* spread over the globe as they searched for food and new hunting grounds.

• In a whole generation, they may have moved only 2 or 3 miles.

• Over tens of thousands of years, this was enough to populate the world.

• Today, all humans – whether they are Europeans, Australian Aborigines, or Africans – belong to the same subgroup of human beings.
The Paleolithic Age

• Guiding Question: How did the first humans adapt to survive?
• One of the distinguishing features of the human species is the ability to make tools.

• The term *Paleolithic Age* is used to designate the early period of human history (approximately 2,500,000 B.C. to 10,000 B.C.) in which humans used simple stone tools.

• *Paleolithic* comes from Greek words meaning “old stone,” and the *Paleolithic Age* is sometimes called the Old Stone Age.
The Paleolithic Age

• For hundreds of thousands of years, humans relied on **hunting and gathering** for their daily food.
• Paleolithic peoples had a close relationship with their environment.
• They came to know what animals to hunt and what plants to eat.
• They gathered wild nuts, berries, fruits, wild grains, and green plants.
• Around the world, they hunted and ate various animals, including buffalo, horses, bison, and reindeer.
• In coastal areas, fish and shellfish provided a rich source of food.
The Paleolithic Way of Life

- Early humans were able to sustain themselves through the use of **stone tools**.
- To make such tools, early people used very hard stones such as **flint**.
- They used one stone to chip away parts of another, creating an edge.
- **Hand axes** of various kinds – pointed tools with one or more cutting edges – were the most common.
- **Hand axes** eventually were set in wooden handles, making them easier to use.
- By attaching wooden poles to spear points and hardening the tips in fire, humans created **spears** to kill large animals.
- Over the years, Paleolithic hunters developed better tools.
- The invention of the **bow and arrow** made hunting much easier.
- **Harpoons** and **fishhooks** made of bone increased the catch of fish.
The Paleolithic Way of Life

• Because Paleolithic people were **hunters and gatherers**, they had to follow animal migrations and vegetation cycles.

• **Paleolithic humans were nomads**- people who move from place to place to survive.

• Archaeologists and anthropologists think these **nomads** probably lived in small groups of 20 or 30.

• Hunting depended on careful observation of animal behavior patterns and demanded group cooperation for success.
The Paleolithic Way of Life

• The main job of Paleolithic peoples was finding enough to eat.
• Both men and women were responsible for finding the food needed for survival.
• Paleolithic parents passed on their practices, skills, and tools to their children to ensure the survival of later generations.
• Because women bore and raised children, they probably stayed closer to camp.
• They played an important role in acquiring food by gathering berries, nuts, roots, and grains.
• Women taught the children which foods were edible. They trapped small animals and kept the camp safe.
• Because both men and women were responsible for finding and acquiring the food needed to sustain life, many scientists believe there was equality between them.
• It is likely that both men and women made decisions that affected the activities of the Paleolithic group.
Use of Fire

• Another important result of the migration of early hominids was the use of fire.
• As early hominids moved from the tropics into colder regions, they needed to adjust to new climate conditions.
• Archaeologists have discovered the piled remains of ashes in caves that prove that Paleolithic people used fire systematically as long as 500,000 years ago.
• At a site in northern China, remnants of hearths, ashes, charcoal, and charred bones have been dated to 400,000 years ago.
• Fire not only gave warmth but kept wild animals away from the campsite.
• Armed with spears, hunters used fire to flush out wild pigs for the kill.
• People gathered around the fire to trade stories and to cook.
• Cooked food tasted better, lasted longer, and was easier to chew and digest, so it seems likely that nutrition improved.
The Ice Ages

• Having fire to create a source of heat was especially important when Ice Age conditions descended on the Paleolithic world.

• The most recent Ice Age began about 100,000 B.C. and ended about 8000 B.C.

• During this time, sheets of thick ice covered large parts of Europe, Asia, and North America.

• As sea levels went down, people migrated across land bridges that had not existed before.

• Ice Age conditions posed a serious threat to human life, so the ability to adapt was crucial to human survival.

• The use of fire, for example, reminds us that early humans sometimes adapted not by changing themselves to better fit their environment but by changing the environment.
Paleolithic Art

• Paleolithic peoples did more than just **survive**.
• The cave paintings of large animals found at Lascaux in southern France and Altamira in northern Spain bear witness to the cultural activity of Paleolithic peoples.
• The Chauvet cave discovered in southern France in 1994 contained more than 300 paintings of lions, oxen, owls, panthers, and other animals.
• Most of these are animals that Paleolithic peoples did not hunt, which indicates that they were painted for religious or decorative purposes.
Cave Painting at Lascaux
Paleolithic Art

• Using stone lamps filled with animal fat to light the caves, early artists painted with fingers and twigs and even blew paint through hollow reeds.

• They mixed mineral ores with animal fat to make red, yellow, and black paint.

• A variety of realistically painted animals covers the caves.

• Few humans appear in these paintings, and when they do appear, they are drawn as sticklike figures.

• This has led some scholars to think the work was done for a magical or religious ritual to bring success in hunting.
Assignment

• Complete Chapter 1, Lesson 1 Quiz.
• You are allowed to use your notes to assist you on completing your quiz, but **NOT** your Chromebook or phone!
• Turn your quiz into the organizer after you have finished completing it.
• Make sure your name is on your quiz before you turn it in!