

## **The Stone Age: Spreads (24)**

### **When was the Stone Age?**

Did you know that the Earth formed over 4.5 billion years ago? And that modern humans only came into existence about 300,000 years ago, when the world was covered by ice? This all happened during one of the most important periods in our human and natural history. It's called the Stone Age.

The Stone Age began over 2.6 million years ago and lasted all the way until 3,300 BCE. That's the year that scientists mark as the beginning of the Bronze Age. There were three distinct eras in the Stone Age: The Palaeolithic Age, the Mesolithic Age, and the Neolithic Age.

In the Palaeolithic era, the climate was extremely different. It was much colder because of the periodic ice ages, which meant that glaciers formed and then melted over long stretches of time. As a result, many of the plants and animals became extinct after the temperature rose on Earth a few thousand years ago.

### **Who lived in the Stone Age?**

Throughout the Stone Age, there were several species of human beings. These hunter-gatherers made tools like handaxes and spears out of stone. Most of them lived in caves or other enclosed spaces so they could protect themselves from the harsh weather. Many scientists and historians believe that these groups took part in rituals and even made art and jewelry.

The oldest species found in the United Kingdom has been traced back 1 million years. This species, known as the *Homo Antecessor*, eventually died out, along with the *Homo Heidelbergensis*. Next came the Neanderthals, which were smaller and more compact than humans today. Our species, *Homo Sapiens Sapiens*, didn't even exist until around 300,000 years ago!

### **How have we learned about the Stone Age?**

Much of what we have learned about the Stone Age comes from scientific studies of "moraines." Moraines are rock piles that are left by glaciers after they have moved and then melted. Scientists study the chemicals found in the moraines and in rocks on the ocean floor. These chemicals tell us about what the climate was like when the moraine was formed.

Scientists also study fossils and bones that they have found in caves, as well as tools and remains found in marshes. With artifacts like antler harpoons, ivory tusks, and needles made of

bone, they can trace the item to a certain period in time using a technique calls “carbon-dating.” This process gives us more information about how older human species lived and survived in the glacier climate.

## **2.4 million - 12,000 BCE: The Palaeolithic or Old Stone Age**

The Palaeolithic era was the longest period of time belonging to the Stone Age. Over the millions of years characterized as the Old Stone Age, there were various periods of interglacial and glacial cycles. During these periods, the world froze for several thousand years at a time and then melted. The cycles happened repeatedly for millions of years.

Because of the large ice sheets on the ground, the humans that lived at the time had to adapt to extreme circumstances. They relied on animals like woolly mammoths, reindeer, bison, and moose for their food, materials, and clothing.

During the Old Stone Age, the landmass that is now England was still attached to what is now France, The Netherlands, Denmark, and Germany. About 400,000 years ago, the land bridge that connected England and France eroded. Archaeologists refer to the area that was Britain, France, the Netherlands and Denmark as “Doggerland.”

## **1 million - 500,000 BCE: The Homo Antecessor, the Homo Heidelbergensis**

Before the modern human species evolved about 300,000 years ago, there were three other “hominid” species that were similar to us genetically. Hominids are part of the biological family that includes humans, chimpanzees, gorillas, and orangutans.

Scientists first discovered bones of the *Homo antecessor* species in the 1990s. The researchers found pieces of skull bone that were about 800,000 years old! Many believe that members of this biological group were the ancestors of our human species, the *Homo sapiens sapiens*.

Another group, the *Homo heidelbergensis* lived between 700,000 and 200,000 years ago. They lived in Europe and possibly eastern Asia and parts of Africa. They had much larger skulls and flatter faces than modern humans. This was the first human species to control fire and use tools to hunt large animals. They also made shelters out of rock and wood.

## **300,000 - 200,000 BCE: Homo Sapiens Sapiens Evolve**

All modern humans belong to the biological species *Homo sapiens sapiens*. At some point nearly 300,000 years ago, homo sapiens genetically branched off from their ancestors in Africa. Their evolution probably occurred because of a drastic climate change. They developed a lighter skeleton than older human species. They also developed very large brains, smaller teeth and differently shaped skulls. The original homo sapiens were nomadic hunter-gatherers, just like their ancestors, but they made more complex tools out of stone and bone.

Before modern humans, the closest known species to the Homo sapien was the Neanderthal. Neanderthals eventually became extinct around 30,000 years ago. The Homo sapiens species migrated to Europe somewhere between 45,000 - 30,000 BCE. This means they might have lived in Europe alongside the Neanderthals for nearly 15,000 years. Homo sapiens also may have contributed to their extinction, due to competition for resources or violent conflict.

### **11,700 BCE: The End of the Last Ice Age**

Before the end of the last great glacial period on earth, there were between 5 and 8 ice ages over a stretch of nearly 800,000 years. Each of these ice ages was followed by an “interglacial period” that lasted 10,000 to 35,000 years. These cycles were called “climate ripples.” During the warmer eras, many of the glaciers melted and the continents moved.

The last ice age ended around 11,700 years ago. First, sea levels began to rise, and then oceans began producing more carbon dioxide. As a result, the whole planet heated up. In the northern hemisphere, the temperature began to increase very quickly. Entire glacier sheets began to melt. The continents shifted again, and different biological habitats emerged, but many species could not survive the warmer climate.

### **11,000 BCE - 9,000 BCE: The Mesolithic or Middle Stone Age**

As the glacier sheets melted during the end of the last ice age, much of the land on earth was flooded. That included Doggerland, the large landmass that was home to Homo sapiens and Neanderthals. About 8,000 years ago, the land finally broke off, and Britain became an island.

The humans of the Mesolithic era built campsites and settlements where they lived in groups. People still used tools made of stones and bones to hunt and forage. However, the tools became more complex, which allowed for better woodworking and building. There were several different cultures and groups spread across Europe. Some historical sites, like Stonehenge and Warren Field in Scotland, have been dated back to the Mesolithic Era.

### **9,000 BCE - 3,300 BCE: The Neolithic or New Stone Age**

The Neolithic marks a new era in which humans developed farming techniques. Researchers place the beginning of the New Stone Age in the Levant, or the Fertile Crescent. In Europe, farming societies did not emerge until about 6,500 BCE in the south, and not until 4,500 BCE in the north.

During this period, humans harvested wild cereals and domesticated dogs, sheep, and goats. Eventually, they started keeping cattle and pigs as well. Over time, the hunter-gatherers became less nomadic. They built permanent settlements with mud-brick houses and sacred

sites where they performed spiritual rituals. They also held funeral rituals for their dead. People began making ceramic figurines and other pottery items in this era as well.

### **9,000 BCE: The Beginning of the Fertile Crescent**

The term Neolithic applies to societies and cultures that existed between 9,000-3,300 BCE all over the globe. However, many of the inventions that helped mankind progress originated in the Fertile Crescent. The Fertile Crescent refers to a region in the Middle East where humans developed important farming methods, irrigation systems, and technological advancements.

The Fertile Crescent is often referred to as “The Cradle of Civilization.” Many key innovations came from the people who inhabited Mesopotamia, which was an area in the valley between the Tigris and Euphrates rivers. In ancient Mesopotamia, they used the two rivers to water crops like wheat, barley, and lentils. Mesopotamia covered much of modern-day Iraq, Kuwait, Syria, Turkey, and Iran. The people living in this region started harvesting grains as early as 10,000 BCE.

### **5400 BCE - 4000 BCE: The Sumerians & The Construction of Cities**

Sumer was the first civilization to emerge in Mesopotamia, located in the south of the valley. The Sumerians were very innovative, experimental, and artistic. This group invented the wheel, the chariot, the plow, agriculture, and aqueducts. They also built temples, created a written alphabet, established systems for telling time and banking, and lived by a code of law.

Although China and India were also building cities at the time, Sumer is credited with the first constructed city. There were many famous Sumerian kings, such as Dumuzi, Gilgamesh, and Hammurabi, all of whom belonged to historical dynasties. Records of these kings place them in the Bronze Age, between 3300-1200 BCE.

There is a lot of debate over when Sumer was first inhabited. Some believe it was far earlier than 4500 BCE, which is when most researchers say civilization began. Researchers have found evidence that there were non-nomadic people living in Sumer as early as 5400 BCE.

### **5000 BCE: Agriculture Emerges in Europe**

People in the Fertile Crescent were already using farming and irrigation systems for thousands of years before Europeans began doing the same. Some archaeologists believe to have found evidence that groups on the Iberian peninsula and Greece began domesticating animals around 6000 BCE. However, the oldest known field systems, Céide Fields, belong to the County Mayo coast in west Ireland.

Scientists and researchers are still not sure how Europeans developed their agriculture methods. Some believe that groups migrating from the Indus River Valley and Mesopotamia

brought their techniques with them. Others believe that nomads in Europe came into contact with farming societies and began copying their methods once they settled down again.

### **5,000 - 3,000 BCE: First Megalithic Structures in France**

Did you know that humans built ancient burial sites out of stone before the Great Pyramids in Egypt?

These sites were called *dolmens*. Dolmens were megalithic tombs made out of large stone slabs. Some were merely large stones positioned upright, but they weighed nearly 40-50 tons. Other structures have one horizontal slab placed over two vertical slabs, resembling a large table. We still do not know how they were constructed to this day!

One of the oldest identified dolmens is located in Carnac, in north-west France. Researchers believe that the passage graves and long mounds were built 1,000 years before the pyramids. Other megalithic sites have been found in Spain, southern England, and Central Ireland.

### **3500 BCE: The Invention of the Wheel**

Palaeolithic nomads first discovered that round objects were useful for carrying objects several thousand years before the first wooden wheel. However, the oldest known “modern wheel” dates back to 3500 BCE in Mesopotamia.

Making a wheel out of wood was only possible with the use of metal tools. Sumerians and other farming societies in the Fertile Crescent were the first people to use bronze. With sharper axes and chisels, they were able to make the wheel and axle. This led to the invention of plows and chariots.

The era after 3500 BCE was accordingly called The Bronze Age.

### **Other theme spreads (10)**

#### **Tools**

The Stone Age got its name because of the large handaxes and tools made out of a hard stone called flint. The oldest human species in the Old Stone Age used bone hammers to chisel the flint. They made handheld pointed axes using a process called *knapping*.

Most tools did not have a handle until thousands of years later. At this point, the Neanderthals and Homo sapiens began attaching wooden rods to their stone blades, creating arrows, axes, and hammers. In Mesopotamia, meanwhile, civilizations began relying on bronze for their tools. Bronze was sharper, and permitted the Sumerians and their neighboring farming villages to shape wood and other materials more easily.

## **Animals of the Stone Age - In and After the Ice Age**

Because the Stone Age extends over millions of years, many animal species went extinct while others evolved over time. Dinosaurs had already become extinct more than 60 million years before the beginning of the Palaeolithic Era. The species that came into existence after had to adapt to a far colder climate and periodic glacier freezes.

In the Ice Age, humans lived alongside woolly mammoths, saber-toothed cats, giant ground sloths, and mastodons. There were also mammals like moonrats, tenrecs, which are like hedgehogs, and macrauchenia, a species that resembles a llama.

Many animals of the Stone Age were direct ancestors of species we know today. Apes, cattle, deer, rabbits, kangaroos, wallabies, and bears all inhabited the earth throughout this era. Many birds including duck, geese, eagles, and hawks thrived during this time. However, flightless birds like ostriches, rheas, and moas had difficulty competing for food and water.

Nomadic groups eventually began domesticating farm animals like sheep, pigs, dogs, horses, and cattle as well.

## **Art: The Venus Figurines of the European Paleolithic & Neolithic Pottery**

The Stone Age marks the first time in known history that humans began making art. This practice was important, because it showed that older human species also valued beauty, even if it had no purpose for their survival. There were two main artforms: cave paintings and stone figurines.

These small figurines were made out of bone, clay, ivory, and stone, and for the most part, they depicted animals and humans. Female figurines were especially common, as they represented fertility and reproduction. The oldest figurine, Venus of Hohle Fels, dates back to 40,000 BCE.

In the Fertile Crescent and Aegean region, Neolithic cultures also began making vases and cups out of clay. They were often painted and then fired, which was a complex process. People used these ceramic vessels for cooking, eating, and storing food.

## **Rock/Cave Paintings**

People in the Palaeolithic and Mesolithic eras also painted hunting scenes and animals on cave walls. They made these paintings out of crushed substances like ochre and charcoal. These artists often drew red bison, bulls, horses, wild boar, monkeys, and elephants by firelight. They also depicted stick-like human figures in action. Archaeologists found most of these scenes well exploring deep inside of caves. The nomads that painted them probably used these caves as temporary shelter from the cold and ice.

The oldest known cave painting is in Altamira, Spain. It dates back over 35,000 years. In Serra da Capivara, Brazil, explorers have found scenes of hunting and rituals on rock walls. The Lascaux Caves in France are among the most famous, with beautiful images of deer, horses, and bulls in motion.

## **Homes**

In the Old Stone Age, when the world was still covered by glaciers, most humans had to take cover in caves. They used mammoth hides and other animal skins for warmth. People of the Palaeolithic era were nomadic, so they did not create long-term settlements. However, in the interglacial periods when the climate was warmer, they might have lived in tents made of wood and covered in hides. There are also some sites that have been uncovered in Russia and Ukraine where humans made dwellings out of mammoth bones and tusks.

After the end of the last ice age, groups began staying in one place for longer. They built seasonal settlements near rivers or in forests. Most of their tents were tepee-shaped and were light enough so that they could take the materials with them when they moved. Neolithic settlements consisted of mud-brick houses and were built very close to one another.

## **The Stone Age Diet**

People in the Stone Age had to hunt and scavenge for their food. During the ice ages, they ate fish, meat from wild animals, fruit, and berries. Their diet depended on the climate and the season. Later on, humans learned to identify edible plants. They also collected eggs from birds' nests and ate honey for dessert! Neanderthals and older human species had much bigger bodies than ours today, so they needed more energy to survive through the harsh conditions outside.

In the Neolithic Age, nomadic hunter-gatherers began harvesting grains and farming crops. They were able to rely on a more consistent food supply. This allowed groups of people to stay in one place for longer, which led to the beginning of civilization.

## **Games & Entertainment**

Life hundreds of thousands of years ago, and even just a few thousand years ago, was all about survival. People were constantly moving to protect themselves from predators or to find food to eat. They did not have a lot of time or resources for entertainment, but they did like to make art! There are dozens of cave painting sites around the world, as well as pottery and figurines. These findings demonstrate that even the oldest human species took time to reflect on how to represent the world around them. They may have entertained themselves with the small figurines they made from bone and stone as well.

## **Skara Brae**

Skara Brae is the oldest preserved settlement in Western Europe. In 1850, a large storm removed the grass that covered a group of dwellings on the coast of the Mainland Orkney in Scotland. A man named William Watt discovered the stone site and began to explore. He discovered eight clustered houses and workshops, which were connected by low passages with cover overhead. All of the houses had central fireplaces, beds, and shelves on one wall.

After careful excavation, archaeologists identified that the site belonged to the Neolithic Age between 3180-2500 BCE. The prehistoric village has given us a lot of insight as to what life was like for humans during the transition between the Stone Age and the Bronze Age in northern Europe.

## **Children in the Stone Ages**

As you have probably realized by now, life in the Stone Age was tougher in many ways than our lives are now. Children probably did not have many toys or things to play with. Especially for those who lived in the coldest climates of the Ice Age, they had to spend a lot of their time just trying to survive.

However, children did have the opportunity to explore the world around them. Most likely, they played games and partook in group activities that both entertained them and helped them learn about survival. They might have spent their time fishing, walking around their campsite, or making clothing, jewelry, or artwork. Children were raised together by the nomadic adults in their group, so they also had friends that they could spend time with throughout the day.

## **Religion & Gods**

People in the Stone Age were very spiritual. As they spent most of their days hunting in the wild, Palaeolithic nomads were very in touch with nature. The cave paintings they made demonstrate that hunting was viewed as a ritual, and that they might have believed there was a magical tie between animals and humans. People probably told myths and legends to explain the natural phenomena around them, like sunrises, thunderstorms, floods, and the cycle of life.

Many believe that humans made animal sacrifices to their gods or to the spirits they worshipped in nature. Archaeologists have also uncovered burial sites dating back thousands of years. It is unknown how the megalithic grave sites from the Neolithic Period were erected, but ritual formations like Stonehenge in England continue to amaze visitors and researchers today.

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