Grade 7 Social Studies

Week of Sept 28- Oct 2

Curricular Area: Anthropological Origins of Humans

Lesson Materials (This PDF)

- Lesson 1.1 Out of Africa
- 1.1 Out of Africa Assignment

Learning Targets

- Where did humans come from?
- How and why did humans spread out to different parts of the world?

Task

Read through Lesson 1.1 Out of Africa in this booklet. After you read through the lessons, complete the activities which follow in the 1.1 Out of Africa Learning Guide.

You can print the Learning Guide, or, copy out the questions on a separate piece of paper.

Introduction

In this course, you will be learning about the evolution of human beings from our origins as unspectacular primates on the African savannah to our place as the dominant species that has managed to thrive in every ecosystem on this planet.

We will start by looking at our pre-history. For most of our time on earth, homo sapiens, or "wise humans," stayed in our birthplace in Africa. If we can say that our species has existed for about 200,000 years (though this didn't happen overnight) then we left Africa for the first time in the last third of our existence.

photo from Super Power Wiki - Human Diversity

We will see how our species settled ourselves into each corner of this world starting about 65,000 years ago. First we went to the Middle East, then to Central Asia. Some of our ancestors headed west to Europe while others journeyed east to Asia. From Asia, we hopped islands in the Pacific, reaching Australia some 45,000 years ago.

A group of nomadic hunters made their way from Siberia, in what is now eastern Russia, to North America about 20,000 years ago, give or take a few thousand years. We know that by 15,000 years ago, people had taken up residence in the southern reaches of South America.

As you study this course over the next few months you will be asked to ponder some big questions.

- What allowed modern humans to spread across the planet and create civilizations, something that had never been attempted by any species before us?
- When humans began to farm in the fertile crescent about 8000 years ago, was this an improvement over foraging?

- What is collective learning? and why was it such a huge step forward for our species?
- What are the key features that define a civilization?
- What is an empire and what makes it rise, stabilize then fall?
- How were the New World empires similar to the empires in Europe and Asia and how were they different?

Terms for the Introductory Unit

Look out for the following terms as they appear in this unit.

General terms

- Nomadic - moving from place to place rather than settling
- Cognitive Revolution - A revolution that occurred about 70,000 years ago when humans began to use language in imaginative and creative ways
- Agricultural Revolution - A revolution that began about 8000 years ago when humans starting tending to crops
- Archaic - an older form that is no longer used or no longer in existence
- Savannah - grasslands in Africa
- Forage - to gather food in the wild
- Domesticate - to tame a plant, animal or wild element (such as fire) for human use

Scientific Terms related to early people

- Genus Homo - A genus is a commonly related group of species. Homo is the group to which modern humans belong.
- Australopithecus - an early human that existed in Africa several million years ago
- Neanderthals - an early human that lived in Eurasia from about 400,000 years ago until 30,000 years ago
- Homo Sapiens - modern humans, the "wise" human

Places - you will need to look these up on a map

- Indonesia
- Arabia
- Africa
- Eurasia

Timeline of Human History

Read through the timeline below. You are not expected to memorize it but to familiarize yourself so that you recognize events mentioned in this course.

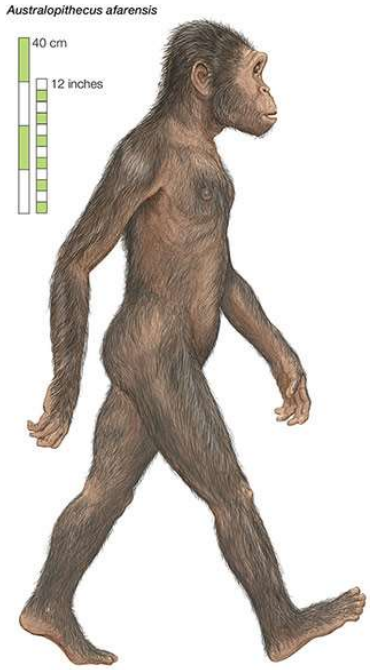
Years Before the Present

6 million	Last common grandmother of humans and chimpanzees.
2.5 million	Evolution of the genus *Homo* in Africa. First stone tools.
2 million	Humans spread from Africa to Eurasia. Evolution of different human species.
500 000	Neanderthals evolve in Europe and the Middle East.
300 000	Daily usage of fire.
200 000	*Homo sapiens* evolves in East Africa.
70 000	The Cognitive Revolution. Emergence of imaginative language.
Beginning of history. Sapiens spread out of Africa.	
45 000	Sapiens settle Australia.
30 000	Extinction of Neanderthals.
16 000	Sapiens settle the Americas.
13 000	Extinction of *Homo floresiensis*. *Homo sapiens* the only surviving human species.
12 000	The Agricultural Revolution. Domestication of plants and animals. Permanent settlements.
5 000	First kingdoms, script and money. Polytheistic religions.
4 250	First empire – the Akkadian Empire of Sargon.
2 500	Invention of coinage – a universal money.

	The Persian Empire – a universal political order ‘for the benefit of all humans’. Buddhism in India – a universal truth ‘to liberate all beings from suffering’.
2 000	Han Empire in China. Roman Empire in the Mediterranean. Founding of Christianity.
1 400	Founding of Islam.
500	The Scientific Revolution. Europeans begin to conquer America and the oceans.
200	The Industrial Revolution.
The Present	Humans begin space travel and exploration.

From *Sapiens* - Yuval Noah Harari

The Human Story



Humans first evolved in East Africa about 2.5 million years ago from an earlier genus of apes called *Australopithecus*, which means ‘Southern Ape’. About 2 million years ago, some of these archaic men and women left their homeland to journey through and settle on the vast areas of North Africa, Europe and Asia. Since survival in the snowy forests of northern Europe required different traits than those needed to stay alive in Indonesia’s steaming jungles, human populations evolved in different directions. The result was several distinct species.

To the left you can see an image of what Australopithecus probably looked like. Note that this primate was only about the height of a human child. Image from *Encyclopedia Britannica*.

Text in the following section has been adapted from the introductory chapter of Sapiens - by Yuval Harari

Our Recently Lost Cousins

Humans in Europe and western Asia evolved into Homo neanderthalensis ('Man from the Neander Valley), popularly referred to simply as 'Neanderthals'. Neanderthals, bulkier and more muscular than us Sapiens, were well adapted to cold climates.

Neanderthals became extinct about 30 000 years ago, though most modern humans still carry some Neanderthal DNA.

Image from Neanderthal Museum https://www.neanderthal.de/en/

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In the picture above, a modern human child gets nose to nose with a reconstruction of a Neanderthal man.
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On the small island of Flores, Indonesia, archaic humans underwent a process of dwarfing. Humans first reached Flores when the sea level was exceptionally low, and the island was easily accessible from the mainland. When the seas rose again, some people were trapped on the island, which was poor in resources. Big people, who need a lot of food, died first. Smaller fellows survived much better. Over the generations, the people of Flores became dwarves. This unique species, known by scientists as Homo floresiensis, reached a maximum height of only one metre and weighed no more than twenty-five kilograms. They were nevertheless able to produce stone tools, and even managed occasionally to hunt down some of the island's elephants – though, to be fair, the elephants were a dwarf species as well.

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Below is a picture of a reconstruction of Homo floresiensis, also known as "Hobbit Pe
ople."
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Image from ScienceVibe.com

The Cost of Thinking

Despite their many differences, all human species share several defining characteristics. Most notably, humans have extraordinarily large brains compared to other animals. Mammals weighing sixty kilograms have an average brain size of 200 cubic centimetres. The earliest men and women, 2.5 million years ago, had brains of about 600 cubic centimetres. Modern Sapiens sport a brain averaging 1 200–1 400 cubic centimetres. Neanderthal brains were even bigger.

That evolution should select for larger brains may seem to us like, well, a no-brainer. We are so proud of our high intelligence that we assume that when it comes to brain power, more must be better. But if that were the case, the feline family would also have produced cats who could do calculus. Why is genus Homo the only one in the entire animal kingdom to have come up with such massive thinking machines?

The fact is that a jumbo brain is a jumbo drain on the body. It's not easy to carry around, especially when encased inside a massive skull. It's even harder to fuel. In Homo sapiens, the brain accounts for about 2–3 per cent of total body weight, but it consumes 25 per cent of the body's energy when the body is at rest.

Ancient humans paid for their large brains in two ways. Firstly, they spent more time in search of food. Secondly, their muscles shrunk. A chimpanzee can't win an argument with a Homo sapiens, but the ape can rip the man apart like a rag doll.

Today our big brains pay off nicely, because we can produce cars and guns that enable us to move much faster than chimps, and shoot them from a safe distance instead of wrestling. But cars and guns are a recent phenomenon. For more than 2 million years, human brains kept growing and growing, but apart from some flint knives and pointed sticks, humans had precious little to show for it. What then drove forward the evolution of the massive human brain during those 2 million years? Frankly, we don't know.

Standing Tall

Another singular human trait is that we walk upright on two legs. Standing up, it's easier to scan the Savannah for game or enemies, and arms that are unnecessary for locomotion are freed for other purposes, like throwing stones or signaling. The more things these hands could do, the more successful their owners were. As a result, humans can perform very intricate tasks with their hands. In particular, they can produce and use sophisticated tools. The first evidence for tool production dates from about 2.5 million years ago.

Image About.com - Evolution

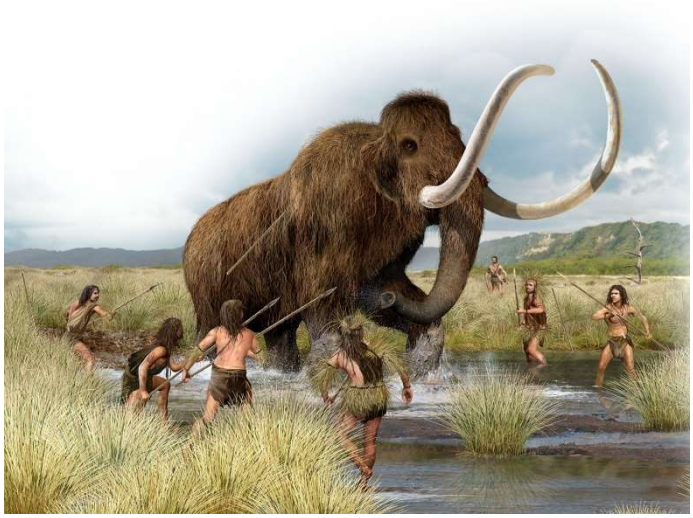
Yet walking upright has its downside. The skeleton of our primate ancestors developed for millions of years to support a creature that walked on all fours and had a relatively small head. Adjusting to an upright position was quite a challenge, especially when the skeleton had to support an extra-large skull. Humankind paid for its lofty vision and industrious hands with backaches and stiff necks.

Women paid extra. An upright gait required narrower hips and this just when babies' heads were getting bigger and bigger. Death in childbirth became a major hazard for human females. Women who gave birth earlier, when the infants brain and head were still relatively small and supple, fared better and lived to have more children. Natural selection consequently favoured earlier births. And, indeed, compared to other animals, humans are born prematurely, when many of their vital systems are still under-developed.

This fact has contributed greatly both to humankind's extraordinary social abilities and to its unique social problems. Lone mothers could hardly forage enough food for their offspring and themselves with needy children in tow. Raising children required constant help from other family members and neighbours. It takes a tribe to raise a human. Evolution thus favoured those capable of forming strong social ties. In addition, since humans are born underdeveloped, they can be educated and socialized to a far greater extent than any other animal.

The Social Hunter

For millions of years, humans hunted smaller creatures and gathered what they could, all the while being hunted by larger predators. It was only 400 000 years ago that several species of humans began to hunt large game on a regular basis, and only in the last 100 000 years – with the rise of Homo sapiens – that humans jumped to the top of the food chain.



Look at the picture below and think about the skills that these hunters would have to exercise in order to take down this mammoth. What kind of communication would be necessary?

Image from https://www.dkfindout.com/us/history/stone-age/big-game-hunters/

A Race of Cooks

A significant step on the way to the top was the domestication of fire. Some human species may have made occasional use of fire as early as 800 000 years ago. By about 300 000 years ago, various species of humans were using fire on a daily basis. Humans

now had a dependable source of light and warmth, and a deadly weapon against prowling lions. Not long afterwards, humans may even have started deliberately to torch their neighbourhoods. A carefully managed fire could turn impassable barren thickets into prime grasslands teeming with game.

But the best thing fire did was cook. Foods that humans cannot digest in their natural forms – such as wheat, rice and potatoes – became staples of our diet thanks to cooking. Fire not only changed food's chemistry, it changed its biology as well. Cooking killed germs and parasites that infested food. Humans also had a far easier time chewing and digesting old favourites such as fruits, nuts, insects and meat if they were cooked. Whereas chimpanzees spend five hours a day chewing raw food, a single hour suffices for people eating cooked food.

Image from film Clan of the Cave Bear https://www.imdb.com/title/tt0090848/

Look at the image above. What is this family of early humans using fire for? What else might they use if for that we don't see here?

Cooking enabled humans to eat more kinds of food, to devote less time to eating, and to make do with smaller teeth and shorter intestines. Some scholars believe there is a direct link between the advent of cooking, the shortening of the human intestinal track, and the growth of the human brain. Since long intestines and large brains are both massive energy consumers, it's hard to have both. By shortening the intestines and decreasing their energy consumption, cooking opened the way to the jumbo brains of Neanderthals and Sapiens.

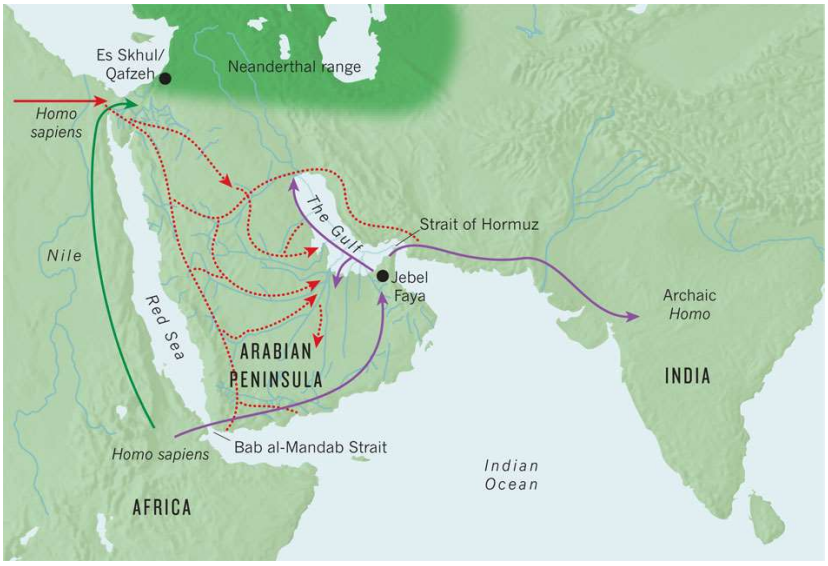
When humans domesticated fire, they gained control of an obedient and potentially limitless force. Most importantly, the power of fire was not limited by the form, structure or strength of the human body. A single woman with a flint or fire stick could burn down an entire forest in a matter of hours. The domestication of fire was a sign of things to come.

Our Brothers' Keepers

Despite the benefits of fire, 150 000 years ago humans were still marginal creatures. They could now scare away lions, warm themselves during cold nights, and burn down the occasional forest. Yet counting all species together, there were still no more than perhaps a million humans alive.

Our own species, Homo sapiens, was already present on the world stage, but so far it was just minding its own business in a corner of Africa. We don't know exactly where and when animals that can be classified as Homo sapiens first evolved from some earlier type of humans, but most scientists agree that by 150 000 years ago, East Africa was populated by Sapiens that looked just like us. If one of them today put on jeans and a t-shirt then got on the subway, no one would notice. Thanks to the blessings of fire, they had smaller teeth and jaws than their ancestors, whereas they had massive brains, equal in size to ours.

Scientists also agree that about 70 000 years ago, Sapiens from East Africa spread into the Arabian peninsula, and from there they quickly overran Europe and Asia.



Look at the map to the right which proposes several potential routes out of Africa and Arabia that humans could have taken. Some of these routes would have involved crossing bodies of water.

Lesson 1.1 Out of Africa Assignment

At the beginning of this unit, you were asked to ponder a series of questions. Here, we are going to return to the first of them:

> *What allowed modern humans to spread across the planet and create civilizations, something that had never been attempted by any species before us?*

You will be writing a paragraph in response to this question. You will need to provide a clear answer then will use several pieces of evidence from the course to support your answer.

Open the organizer for paragraphs by clicking on the linked text below.

Paragraph Organizer

You can print this up to use as an outline for your paragraph or you can use one of your own.

Be sure that your topic sentence, which is the first sentence, contains the key words to introduce your topic. For example, if you think it was stone tools that allowed humans to spread (that wouldn't be a great answer) then you would be sure to write "stone tools" in that first sentence.

You will then use details to support your answer. Be sure to be specific in the details that you use and to get the details in the right order.

Finally, you will conclude your paragraph by reinforcing your main points at the end.

Ask your home facilitator (parent/guardian) to review your paragraph. They can use this instruction page to ensure you have included all the required elements of this assignment.