

## 1. General Information

**Scientific Classification** - Animalia, Chordata, Mammalia, Primates, Hominidae, Homo, Sapien  
Only 1 species, homo-sapiens (homo – man, sapien – wise) exists today

**Anthropology** – the study of human evolution and culture

Anthologists classify modern and ancient humans by skeletal structure, not brain size

The first humans appeared in Africa

Australopithecines – Homo habilis – homo erectus – homo sapiens

**The Agricultural Revolution** – 10,000 years ago – humans went from hunting for food to farming  
Increased food supply, population boomed, people began to gather into “towns”

## 2. Primates

### Primate Characteristics

They spend most of their time on the ground

Well developed and flexible fingers

Opposable thumb, along with their fingers allows them to grip and grasp objects

Primate fingers usually have nails instead of claws

Sensitive finger tips for control of objects

Eyes are directed forward, both eyes view the same object, gives better depth perception

Most primates have comparatively large brains for their body size

Primates able to manipulate objects with their hands to make and/or use tools

Well established social groups and communications

Usually they have only 1 offspring at a time, and care greatly for their young

Most are omnivorous, eating both meats and vegetables

Possess a sense of color, which most other animals lack

### Differences in Humans

Larger brain

**Bipedal** – walking on only 2 feet without the help of hands

Our skeleton is designed for upright stature

We have the ability to greatly manipulate, create, and use objects, as well as the environment

We're able to use more parts of our body, enabling speech

Humans have the menstrual cycle, while other primates have the estrus cycle

The chimpanzee is our closest relative. 98% of our DNA is equivalent to chimps. Gorillas come in 2<sup>nd</sup>

Most of the “DNA closeness” data is expressed in percentage of differing amino acid chains in proteins

Since DNA isn't preserved in fossils, we cannot study the DNA of ancient man

Skeletal structure is most widely used to classify humans, since bones are preserved in fossils

The **cranium**, or skull is the most important, determining brain size, diet, and other features

The pelvis, backbone, and thighbone are useful also

**Hominoids** – bipedal humanlike animals that belong to the same family as modern humans

A curved backbone may suggest that the animal was primitive, for it didn't walk completely upright yet

### Differences between apes and humans

Ape arms are usually longer than legs, adapted for swinging through trees

Human arms are shorter than legs, adapted for striding and walking

Apes have opposable big toes for grasping, humans do not

Ape skulls are bent forward from spinal cord, humans are attached on straight

Humans have better communication, written language

### Dating fossils

**C-14 radioactive dating** – dates according to the amount of radioactive C-14 remaining

**The Layer the fossil was found** – older fossils are at the bottom, newer ones on top

## 3. The Human Evolution Timeline

Generally, each new species is more like modern man than the last

**3 – 4 million years ago – Australopithecines.** Very primitive “man”

Lucy – the first skeleton, not even nearly complete, but the most complete one we've got

Found in Tanzania and Ethiopia. They were bipedal, but not much other information is available

**2 – 2.5 million years ago – Homo Habilis** – larger brained hominoids

Some say homo habilis is the first member of our own genus, homo, but it's debatable

Quite similar to australopithecines, but larger brain, more upright

**1.5 million years ago – homo erectus** – homo habilis disappeared, replaced by homo erectus

Larger brain, the first widely distributed hominid

Had front teeth that were large, but cheek teeth and face were smaller

Made hand axes, and there is some evidence that some used fire  
Appeared earliest in Africa, but spread to Southeastern and Eastern Asia  
They remain unchanged until they disappeared around 300,000 years ago  
Around the end of homo erectus, homo sapiens appeared

**300,000 years ago – Homo Sapiens, or Neanderthals** – archaic humans

Much more robust, more muscular, far stronger than modern humans  
Buried their dead, sometimes with flowers, and chewed hides to soften them as clothing  
Spread to Europe and Southwest Asia, but disappeared around 30,000 years ago  
Some scientists speculate that some of them evolved into modern humans  
Some believe that homo sapiens went extinct, and humans evolved from an unknown creature

**300,000 years ago – homo sapiens sapiens, or Cro-Magnon Man** – very close to modern man

Lived around the same time as homo sapiens, showed great variation  
Some speculate that modern man evolved from Cro-Magnon man

Today humans are classified as homo sapiens

The homo sapiens from 300,000 years ago are usually referred to as archaic homo sapiens

**4. Unanswered questions**

How exactly did humans evolve? The link between archaic and modern homo sapiens isn't clear  
When did speech start being used?

**5. Gene pools and cultures**

Humans have always lived in small groups, or cultures, and are only recently living together

Today humans have more contact with each other due to these factors:

**Improved communication** – phones, telegraphs, satellite transmit information instantly

**Transportation** – roads, planes help move people across vast distances

Different humans from different areas tend to have characteristic features

Anthropologists classify humans into 4 **rac**es

Races are determined according to facial structure, skin color, hair texture, nose width, and more

**Caucasoid** – wavy hair, narrow nose, white skinned

**Negroid** – woolly hair, broad nose, black skinned

**Mongoloid** – straight hair, medium nose, yellow skinned

**Australoid** – from Latin America, curly hair, medium nose, brown skinned