

Human Origins Activity
Honors Biology

Name:

Open the following link <http://www.dnai.org/d/index.html>

Click on Human Origins and then our family tree. Watch the video overview. Click on the skull groups in ‘our family tree’ and listen to the audio in all six sections of the timeline. Start in the “Beginning the human line” section of the timeline.

If the Australopithecines are quite ape-like, what is the major difference between these species and modern apes that makes scientists believe they may be early ancestors to modern humans?

What species does Chris Singler believe is the most recent common ancestor of modern human and Neanderthals?

What is another name for the members of early Homo sapiens that lived during the Ice Age?

How long ago do scientists believe “The Missing Link” between modern humans and chimpanzees existed?

Open the comparison section. Click on the button bones, and click the forward arrow. Read the section becoming bipedal: walking upright. Open the Comparing humans and chimps and roll over the red spots on the chimp skeleton. Read each of the sections. Click the red forward arrow. Watch the video clip How closely related? section.

Click on the red forward arrow to enter reconstructing the past section. Click on Comparing humans and Neandertals. Roll over the red spots on the skeleton in the comparing humans and Neanderthals section.

Name three major differences between the Neanderthal skull and modern human skull.

Click on the behavior button, click on the red forward arrow to enter the language and communication section. Watch the video clip Chimps, humans, and language

What was discovered about the FOXP2 gene that may help us understand more about the evolution of humans beings 200,00 years ago?

Forward click the red button twice to enter the Surviving in a changing world. Listen to Coping with rapid change video

Approximately how long ago did the Neandertals go extinct?

Click on the DNA button to enter the molecular comparisons section. Open Chimp and human (mtDNA). Click on the blue arrow in the lower right right corner and read each section of the animation.

On average, how many differences are there between humans and chimps in a 379-nucleotide part of mtDNA control region?

Click on the red forward button four times to advance to the Of Neandertals and humans section. Watch the video Analyzing Neandertal DNA and enter the two animation sections Human mtDNA variation and Neandertal and human (mtDNA)

In 1997, scientists were able to extract DNA from 30,000 year-old Neandertal fossil. From which part of the cell did this DNA come from?

On average, how many differences are there between two modern human beings in a 379-nucleotide part of the mtDNA control region?

Click on the gene genealogy section on the top of the page. Click on the Mitochondrial DNA icon. Watch the videos Mitochondria and mtDNA and Inheriting mtDNA. Click on the animations Maternal inheritance and mtDNA: a closer look.

Why is the mtDNA inherited exclusively from the mother?

Why do mitochondria have their own DNA separate from the rest of the DNA in the cell?

Click on the Y chromosome icon on the top of the page and watch the two videos. Click on the A molecular clock icon on the top of the page. Watch the three videos and single animation on the page.

What are two factors that control the amount of diversity in a population?

Click on the tracing ancestors icon. Watch the two videos on the Tracing our maternal lineage. Click on the red forward button

Click on the migration section on the top of the page. Enter Follow the paths. After watching the paths hit the back button and enter Hear the stories. Watch the video Fossils and human origins and the video Support from mitochondrial DNA.

Explain the Multi Regional and Out of Africa theories.

Click on the variation section on the top of the page. Enter the Variation activity and perform the activity.