

# **The Origin of the Human**

Curricular Materials Prepared by  
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- *Journey of the Universe Book*: Chapter 8: The Origin of the Human.
- *Journey of the Universe Film*: Scene 9: The Emergence of Humanity; Scene 10: Symbolic Consciousness.
- *Journey of the Universe Conversations*: Disc 2 – Program 8: The Origin of the Human.

## **Scientific Summary:**

Fossil and genetic evidence suggests that the first ancestors of the human species were birthed five to seven million years ago in what is today central Africa. It began with a small population of chimplike apes, perhaps only one hundred thousand, who faced a rapidly drying climate. In response to this change in their environment, part of the population retreated to the comfortable safety of the shrinking forests and maintained their accustomed patterns of life. Another portion of the population attempted to live in the open vastness of the newly emerging savannahs. As they adapted to the new environment of the open plains, this group developed three traits that would shape the rest of human evolution: bipedalism, or the ability to move about on two legs, behavioral flexibility, and a larger brain size. Over the course of approximately six million years, the brains of these human ancestors almost tripled in size. Then, about fifty thousand years ago, after a relatively brief evolutionary window, these traits allowed our ancestors to migrate out of Africa and into Europe, Asia, and the Americas.

The success of the early humans depended greatly upon the ability to be flexible in their behaviors. This was due, at least in part, to the loss or lessening of some of our instinctual responses. Another factor that increased our capacity for behavioral flexibility was our extended adolescence. Young humans, and all mammals for that matter, have an extended juvenile period in which they play and learn. This extended learning period allows humans to adapt to new settings and new circumstances much more quickly than other species. An additional benefit of this behavioral adaptability and extended juvenile period is the development of symbolic consciousness in humans. From interpreting dreams, to creating art and literature, to communicating simple lessons and messages through written language, the early humans invented something never seen before in the history of life. Rather than merely passing on their genes to the next generations, humans could now pass down enduring knowledge in the forms of music, customs, languages, arts, and science.

### **Discussion Questions:**

1. In *The Journey of the Universe* book, Swimme and Tucker state that “[b]ecause of our symbol-making skills, we became, overnight, a planetary species” (91). In what ways can one understand the human species to be “planetary?” How does the act of symbol-making allow the human species to be planetary in a way that other species are not?
2. During his interview with Mary Evelyn Tucker in the *Conversations*, John Grim talks about the power of meditative practices and rituals to put humans into right relationship with their surroundings. How do meditative practices and rituals still function in this way in your life? How do you use rituals and meditative practices to understand your relationship with your surroundings? Has that changed as you come to understand the *Journey of the Universe* better?
3. What is the link between culture and the survival of the human species? How has the creation of literature, art, plays, scriptures, and music allowed the human species to thrive and grow?

### **Online Resources:**

- Visit the [Smithsonian National Museum of Natural History’s website](#) and the [Hall of Human Origins](#) for [news](#) and [videos](#) on human origins, for information on [the latest research in human evolution](#), and for useful [lesson plans and teacher resources](#). Their [Anthropology Outreach Office](#) promotes education and understanding of a variety of anthropological topics by publishing a journal, bibliographies, and even teacher’s packets.
- The [National Geographic website](#) can be an exciting introduction to the development of early hominids. The [education](#) portion of the website is an excellent resources for both students and teachers. Also be sure to explore and search the National Geographic website for articles such as the discovery of a 1.8 million year old [jawbone](#) or the fossilized remains of “[Lucy’s baby](#),” a member of the early human species *Australopithecus afarensis*.
- Looking for multi-media and articles on human origins published for a general audience? The BBC has a page on [human beginnings](#) that offers introductory articles and links to various images and other media on early humans. Or, try the [Discovery News website](#) for articles such as this one on the [relationship between modern humans and Neanderthals](#).
- For more information on evolution and the adaptation of life, go to the [National Academy of Science’s Evolution Resources](#) website. Their [section for educators](#) offers an extensive list of educational resources such as links to articles, journals, websites, and more.
- Visit the [American Museum of Natural History’s website](#) for a wide variety of useful links.
- The Berkeley University website entitled [Understanding Evolution](#) has a wide array of useful links and resources for educators. Teachers interested in issues

- related to evolution might find the [Evolution 101](#) and the [Teaching Materials](#) sections of their website to be particularly helpful.
- Go to the Yale Forum on Religion and Ecology's website for a [comprehensive list](#) of links to scientific organizations and educational resources. Highlights from this extensive list include: [NASA's Earth Science](#) website, the [National Science Foundation](#) website, the [Union of Concerned Scientists](#), the [Ecological Society of America](#) website, and the [National Oceanic and Atmospheric Administration](#) website.
  - The TED series can be an excellent source of information from top scientists. This talk by [Louise Leakey](#), for example, takes listeners to the Rift Valley in Africa where she explores the origin of humanity's ancestors.
  - The [Journal of Evolutionary Biology](#) and [Evolution](#) are two of the many peer-reviewed journals that publish academic articles and scientific studies on evolutionary biology. [Nature](#), an international journal of science, is another useful online resource.

### **Print Resources:**

- [Journey of the Universe Bibliography](#).
- [Bibliography on Sentience from the Yale Forum on Religion and Ecology](#).

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