Perhaps the best topic teachers can use to exemplify the nature of science is paleoanthropology, the study of human evolution through the fossil record. Science educators have an opportunity to tackle “How do we know?” questions by examining evidences of our past and accurately defining the terms “hypothesis,” “fact,” “theory,” and “belief.” They can use recent discoveries to demonstrate that science is a self-correcting mechanism of understanding the world. By examining different hypotheses, they can encourage the skepticism, debate, and challenge to authority on which science thrives.

Often, teaching human evolution is a struggle. Teachers can be derailed into philosophical discussions inappropriate in a science class. They can fall victim to a curriculum design that leaves evolution to the end of the year, forcing them to squeeze four billion years of life into the last two weeks of June. Even schools addressing biological evolution may fail to teach the evolutionary history of the mammals sitting in front of them.

In this article, we present an updated approach to teaching human evolution, and a model for explaining what science is and how it is done.

What Is the Problem?

There may be no other scientific exploration that elicits more passion, skepticism, and debate than human origins. Paleoanthropologist Meave Leakey writes, “All people are innately curious and seek to know why and how they came to be.” (Leakey, 2003).

Since Charles Darwin published On the Origin of Species in 1859, paleoanthropologists have been