

The following position statement regarding scientific theories is included in this document. The word “theory” has many meanings. Theories are defined as systematically organized knowledge, abstract reasoning, speculative ideas or plans, or systematic statements of principles. Scientific theories are based on both observations of and assumptions about the natural world. They are always subject to change in view of new and confirmed observations.

Many scientific theories have been developed over time. The value of scientific work, however, is not only the development of theories but also what is learned from the development process. The Alabama Course of Study: Science was developed within the context of trying to establish scientific literacy, not to question or diminish one’s beliefs or faith. To that end, this document includes many theories and studies of scientists’ works for examination by students. The works of Copernicus, Newton, and Einstein, to name a few, have provided a basis for much of our knowledge of the world today.

The theory of evolution by natural selection, a theory included in this document, states that natural selection provides the basis for the modern scientific explanation for the diversity of living things. Since natural selection has been observed to play a role in influencing small changes in a population, it is assumed, based on the study of artifacts, that it produces large changes, even though this has not been directly observed. Because of its importance and implications, students should understand the nature of evolutionary theories. They should learn to make distinctions among the multiple meanings of evolution, to distinguish between observations and assumptions used to draw conclusions, and to wrestle with the unanswered questions and unresolved problems still faced by evolutionary theory.

There are many unanswered questions about the origin of life. With the explosion of new scientific knowledge in biochemical and molecular biology and exciting new fossil discoveries, Alabama students may be among those who use their understanding and skills to contribute to knowledge and to answer many unanswered questions. Instructional materials chosen to implement the content standards within this course of study should be approached with an open mind, studied carefully, and critically considered.