

IAP STATEMENT ON THE TEACHING OF EVOLUTION  
June 2006

We, the undersigned Academies of Sciences, have learned that in various parts of the world, within science courses taught in certain public systems of education, scientific evidence, data, and testable theories about the origins and evolution of life on Earth are being concealed, denied, or confused with theories not testable by science. We urge decision makers, teachers, and parents to educate all children about the methods and discoveries of science and to foster an understanding of the science of nature. Knowledge of the natural world in which they live empowers people to meet human needs and protect the planet.

We agree that the following evidence-based facts about the origins and evolution of the Earth and of life on this planet have been established by numerous observations and independently derived experimental results from a multitude of scientific disciplines. Even if there are still many open questions about the precise details of evolutionary change, scientific evidence has never contradicted these results:

1. In a universe that has evolved towards its present configuration for some 11 to 15 billion years, our Earth formed approximately 4.5 billion years ago.
2. Since its formation, the Earth - its geology and its environments - has changed under the effect of numerous physical and chemical forces and continues to do so.
3. Life appeared on Earth at least 2.5 billion years ago. The evolution, soon after, of photosynthetic organisms enabled, from at least 2 billion years ago, the slow transformation of the atmosphere to one containing substantial quantities of oxygen. In addition to the release of the oxygen that we breathe, the process of photosynthesis is the ultimate source of fixed energy and food upon which human life on the planet depends.
4. Since its first appearance on Earth, life has taken many forms, all of which continue to evolve, in ways which palaeontology and the modern biological and biochemical sciences are describing and independently confirming with increasing precision. Commonalities in the structure of the genetic code of all organisms living today, including humans, clearly indicate their common primordial origin.

We also subscribe to the following statement regarding the nature of science in relation to the teaching of evolution and, more generally, of any field of scientific knowledge:

Scientific knowledge derives from a mode of inquiry into the nature of the universe that has been successful and of great consequence. Science focuses on (i) observing the natural world and (ii) formulating testable and refutable hypotheses to derive deeper explanations for observable phenomena. When evidence is sufficiently compelling, scientific theories are developed that account for and explain that evidence, and predict the likely structure or process of still unobserved phenomena.

Human understanding of value and purpose are outside of natural science's scope. However, a number of components - scientific, social, philosophical, religious, cultural and political - contribute to it. These different fields owe each other mutual consideration, while being fully aware of their own areas of action and their limitations.

While acknowledging current limitations, science is open ended, and subject to correction and expansion as new theoretical and empirical understanding emerges.