

Amendments to Earth and Space Science introduced by Barbara Cargill and approved by the SBOE

(4) Earth in space and time. The student knows how Earth-based and space-based astronomical observations reveal differing theories about the structure, scale, composition, origin, and history of the universe. The student is expected to:

(4)(A) understand scientific theories for the formation of the universe

(4)(C) investigate the process by which a supernova is thought to lead to the formation of successive generation stars and planets

(5) Earth in space and time. The student understands the solar nebular accretionary disk model. The student is expected to:

(5)(A) analyze how gravitational condensation of solar nebular gas and dust is thought to lead to the accretion of planetesimals and protoplanets;

(5)(B) investigate sources of heat, including kinetic heat of impact accretion, gravitational compression, and radioactive decay, which are thought to allow protoplanet differentiation into layers;

(6)(A): evaluate evidence for the changes of Earth's atmosphere that are thought to have occurred;

(6)(B) evaluate the evidence that volcanic outgassing and the impact of water-bearing comets have played a major role in developing Earth's atmosphere and hydrosphere

(6)(D) evaluate the evidence that the Earth's cooling led to tectonic activity, resulting in continents and ocean basins

(7)(B) evaluate how radiometric dating methods can be used to calculate the ages of igneous rocks from Earth and Moon, and meteorites; and

(8) The student knows that fossils are used as evidence for geological and biological evolution.

(8)(A) evaluate a variety of fossil types, proposed transitional fossils, fossil lineages, and significant fossil deposits and assess the arguments for and against universal common descent in light of this fossil evidence;

(13)(F) evaluate scientific hypotheses for the origin of life by abiotic chemical processes in an aqueous environments in light of the complexity of living systems;