Earth & Space Science describes the study of the earth and other planets as comprehensive physical systems, incorporating solid, liquid, gas, and radiation constituents, as well as exhibiting interactions with other systems. It includes planetary evolution, gravitational physics, atmospheric evolution, volcanism and crustal movement studies, global energy systems, organic systems and ecologies, oceanography, fluid dynamics, orbital mechanics, radiation physics, and the study of planetary and satellite systems.

**Grade Level Scope of Certificate:**
A person holding a valid PA certificate for Earth & Space Science is qualified to teach all Earth & Space science courses, introductory and/or advanced, in Grades 7 through 12.

**Certification Assignment:**
An educator holding a valid PA certificate for Earth & Space Science is qualified to teach courses in areas to include: earth and planetary science, geology, hydrology, oceanography, astronomy, climatology, atmospheric science and meteorology, paleontology, cartography, geomorphology, geochemistry, geophysics and seismology, and general science. An educator holding a valid PA certificate for Earth & Space Science may teach Environmental Science and General Science courses.

At the middle level, the Earth & Space Science educator will also provide science instruction, adjusted to the students’ abilities when below proficient.

**Certificate Clarification:**
Older PA public school certificates, which are applicable for teaching Earth & Space Science courses, include the following:

- Comprehensive Science
- Physical Science
- Geography - only when the educator’s preparation is in the area of physical geography and a minimum of 15 semester hours of academic credits in: geology, meteorology, astronomy, oceanography, or cartography.
Special Considerations:
An educator certified in this field may provide school staff development services regarding their collegial studies/skills, may serve in the role of mentor or advisor, and may assist students in understanding the “reading” content area materials related to this subject area.

Restrictions:
A PA certified Earth & Space Science teacher may not teach courses in Biology, Chemistry, or Physics.

References:
Program Specific Guidelines for Certification.

22 PA Code: Chapter 4: §4.22(c)(3)
§4.23(c)(3)
Chapter 49: §49.11
§49.81
§49.85(a)(4)

PA Public School Code: §1202
§1212
§1604

Other CSPG’s for Reference: General Science

THIS REVISION SUPERSEDES ALL EARLIER CSPG’S CARRYING THIS NUMBER AND/OR ADDRESSING THIS SUBJECT. PREVIOUS PRINTING DATES ON THIS SUBJECT: 3/75, 1/87, 7/87, 12/90, 6/92