

This career compass provides options, tips, suggestions, and strategies for how a student can obtain critical skills, experiences, and competencies in order to launch their geoscience career based on their academic standing. The content herein is based on data from the U.S. Bureau of Labor Statistics, interviews with personnel in the occupation, and research on available student opportunities.

Job Summary

Elementary teachers educate children from preschool to fifth grade, developing and delivering lesson plans and selecting materials that meet state or national standards and are appropriate to the age of their students. They observe and evaluate student understanding and skills, communicate with parents and school administrators on student progress, collaborate with other teachers to provide high-impact learning opportunities for all students. They provide instruction in all subject areas such as reading, writing, math and social studies. Science related instruction includes the Earth and space sciences and addresses topics such as Earth's place in the Universe, Earth's systems, and Earth and human activity.














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Connect

Grow

Build












Undergraduate

-  Member of a geoscience professional organization, attend conferences, and participate in education workshops and field trips
-  Engage in virtual communities of STEM educators, particularly those with a focus on teaching Earth & space science
-  Consider working a summer environmental education program at a museum or nature center or as a teaching assistant
-  Work as a tutor in science for elementary students
-  Promote diversity and inclusion in the classroom
-  Supervised student teaching internship that includes Earth and space science instruction
-  Take state-specific tests for educators
-  Apply for state teaching license or certification
-  Volunteer in public Earth science-related educational events at local schools or in your community
-  Become familiar with state and national science education standards
-  Design instructional materials, learning experiences, and grade-appropriate assessments that focus on the Earth and space sciences
-  Degree in early childhood education or elementary education with a minor in science plus coursework in science education or science methods that include Earth and space sciences content
-  Teacher preparation program in elementary & early childhood education or an alternative teaching certification if appropriate
- Classroom observations of science lessons and instruction that include Earth and space sciences content
- Receive first Aid/AED/CPR training and laboratory safety training

Graduate/Master's

-  Member of a geoscience education/scientific professional organization and attend their meetings and participate in education workshops and field trips that they sponsor, seek their specialty teacher certifications
-  Judge a science fair and/or mentor an elementary student completing an Earth and space sciences project
-  Gain experience as a teaching assistant
-  Facilitate workshops for educators on best practices in Earth and space science elementary education
-  Design solution-based/problem-based learning experiences for students that allow them to master grade-appropriate skills related to Earth and space sciences
-  Use assessment data and geoscience education research results to improve practice and student learning
-  For initial licensure, complete a supervised student teaching internship that includes Earth and space science instruction
-  For initial licensure, take state-specific tests for educators and apply for state teaching license
-  Participate in workshops and programs on inquiry learning and how it can be applied to the classroom
-  Enroll in field or laboratory geoscience research experiences for teachers
-  Seek additional graduate-level professional development opportunities in specialty topics to extend your geoscience knowledge
- If undergraduate degree is sciences, then consider degree in early childhood education, elementary education, curriculum and instruction, or teaching and learning. Consider certification or licensure if appropriate.
- If undergraduate degree is in education, then consider degree or extended coursework in Earth and space sciences or geoscience education. Consider certification or licensure if appropriate.
- Complete a professional portfolio or master's thesis related to elementary science education and Earth and space sciences content

Ph.D./Post-doc

-  Member of a geoscience education professional organization, attend conferences, and participate in education workshops and field trips, seek their specialty teacher certifications
-  Publish research, collaborate with colleagues on projects
-  Present research at professional conferences
-  Review and evaluate elementary science textbooks and curricula
-  Gain experience working as a teacher aide
-  Lead workshops and programs on inquiry learning and how it can be applied to the classroom
-  Lead field or laboratory geoscience research experiences for teachers
-  Depending upon previous degrees, degree in early childhood education, elementary education, curriculum and instruction, educational theory and practice, learning and instructional technology, or geoscience education. Consider certification or licensure if appropriate in your state.
-  Engage in applied research in elementary geoscience teaching and learning
-  Serve as a teaching assistant for an undergraduate class.
-  Complete a dissertation related to elementary geoscience education or STEM education with an Earth and space sciences focus

Symbol Key

-  Attend
-  Communicate
-  Network
-  Participate
-  Leadership
-  Internship
-  Scholarship
-  Fellowship
-  Academics