
Resources

Texas Education Agency Texas
Safety Standards

[http://www.tea.state.tx.us/
index2.aspx?id=5483](http://www.tea.state.tx.us/index2.aspx?id=5483)

Texas Environmental Education Ad-
visory Committee (TEEAC)

[http://www.tea.state.tx.us/
index2.aspx?id=2147487449](http://www.tea.state.tx.us/index2.aspx?id=2147487449)



Teaching Should Extend Beyond the School

Good science programs require access to the world beyond the classroom. District and school leaders must allocate financial support to provide opportunities for students to investigate the world outside the classroom. This may mean budgeting for trips to nearby points of interest, such as a river, archaeological site, or nature preserve; it could include contracting with local science centers, museums, zoos, and horticultural centers for visits and programs. Relationships should be developed with local businesses and industry to allow students and teachers access to people and the institutions, and students must be given access to scientists and other professionals in higher education and the medical establishment to gain access to their expertise and the laboratory setting in which they work.

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Guidelines for Instructional Field Experiences

**By providing an active learning
environment, field trips can promote
student development.**

Science learning experiences occur in the classroom, in the laboratory, and in the field. In these experiences, students discover facts, concepts, and laws of science for themselves, much as scientists do in their professional lives. Experiences that extend from the classroom into the field allow students to explore, observe, and investigate things in the natural world that enhance and enrich learning that takes place in the classroom.

The Texas Essential Knowledge and Skills (TEKS) for science require teachers at all grade levels to be provided with a wide range of materials and instruments for facilitating student investigations. They also require that students at every grade level and in every high school course have laboratory, classroom, and field experiences. At the secondary level, a minimum of 40% of instructional time must be spent in laboratory and field investigation (19 TAC, Chap 74.3(b)(2)).

On-campus and off-campus field work, field trips, and field investigations provide first-hand experience within a well-designed, inquiry-based science program for students. They provide richer, deeper, and more authentic experiences for the students and the teacher.

Adapted from Texas Education Agency Texas Safety Standards

Guidelines

I. TEKS Correlation

The field and lab experiences need to be an integral part of all state-approved science courses and must assist students in acquiring the knowledge and skills necessary to be successful in mastering the Texas Essential Knowledge and Skills (TEKS).

The field experience includes the following components:

- Clearly stated instructional goals based on the TEKS
- An opportunity to engage in descriptive, comparative, and experimental science investigations
- Pre-visit, on-site, and post-visit TEKS-based instructional activities that are clearly developed in lesson plans
- Formative and summative assessments of student expectations

II. Opportunities for Learning

- Like all instructional experiences, the field experience should provide equitable learning opportunities for all students.

Examples of locales for field investigations include schoolyards, outdoor classrooms, vegetable gardens, habitats, parks, nature centers, and preserves.

- Field experiences should occur during the time that concepts are presented and developed in the classroom.
- Comparable learning experiences should be available for students who are not able to participate in the field experience.
- These alternative learning experiences should introduce, develop, or reinforce the same TEKS as the original field experience and would preferably be laboratory and/or field-based.
- The field experience should not be used as an incentive for specific behavior or achievement.

III. Texas Education Agency Texas Safety Standards

In order to ensure a productive learning experience in a field setting for all participants, safety guidelines must be established and maintained:

- School districts develop and implement safety procedures for laboratory investigations and field trips.
- Teachers learn safe procedures for laboratory activities and field trips and follow them as a matter of policy.