

STRAND 1: FOUNDATION OF FUNCTIONS**TOPIC 1.0: CLASSROOM CONNECTIONS****Topic Notes****Mathematical focus**

The purpose of this topic is to help participants reflect on typical Algebra I textbook questions in foundations of functions and compare those questions to what is required by the Texas Essential Knowledge and Skills, or TEKS.

Topic overview

In this topic, participants will be asked to think about the typical textbook activities assigned to high school Algebra I students. The purpose of this is to allow the participants to recognize how the activities in this strand are different from the typical textbook problems while maintaining the mathematical integrity.

TE_xES standards focus**TE_xES Standard VI.020 Mathematical learning, instruction and assessment.**

The teacher understands how children learn mathematics and plans, organizes, and implements instruction using knowledge of students, subject matter, and statewide curriculum (Texas Essential Knowledge and Skills [TEKS]). The beginning teacher:

- (A) Applies research-based theories of learning mathematics to plan appropriate instructional activities for all students.
- (C) Uses students' prior mathematical knowledge to build conceptual links to new knowledge and plans instruction that builds on students' strengths and addresses students' needs.
- (D) Understands how learning may be enhanced through the use of manipulatives, technology, and other tools (e.g., stop watches, scales, rulers).
- (E) Understands how to provide instruction along a continuum from concrete to abstract.
- (F) Understands a variety of instructional strategies and tasks that promote students' abilities to do the mathematics described in the TEKS.
- (H) Understands a variety of questioning strategies to encourage mathematical discourse and to help students analyze and evaluate their mathematical thinking.

Materials

Handout	X
Chart paper	X
Markers	X

Procedure

Break the class into groups of three. Give each group a sheet of chart paper and markers. Have the groups brainstorm 3 to 5 typical textbook-style activities in the area of foundation of functions that are normally used during a school year. Ask each group to present their list of activities to the class and discuss the goals of each. Maintain the groups' lists for use with the last topic of this strand.