

TECHNOLOGY APPLICATIONS

Introduction

The following introduction is found throughout [19 Texas Administrative Code \(TAC\) Chapter 126, Texas Essential Knowledge and Skills for Technology Applications](#). The introduction includes details about the strands used in the Texas Essential Knowledge and Skills (TEKS) and provides guidance on how to implement the technology applications TEKS for Kindergarten through Grade 8.

- (1) Technology includes data communication, data processing, and the devices used for these tasks locally and across networks. Learning to apply these technologies motivates students to develop critical-thinking skills, higher-order thinking, and innovative problem solving. Technology applications incorporates the study of digital tools, devices, communication, and programming to empower students to apply current and emerging technologies in their careers, their education, and beyond.
- (2) The technology applications Texas Essential Knowledge and Skills (TEKS) consist of five strands that prepare students to be literate in technology applications by grade 8: computational thinking; creativity and innovation; data literacy, management, and representation; digital citizenship; and practical technology concepts. Communication and collaboration skills are embedded across the strands.
 - (A) **Computational thinking**. Students break down the problem-solving process into four steps: decomposition, pattern recognition, abstraction, and algorithms.
 - (B) **Creativity and innovation**. Students use innovative design processes to develop solutions to problems. Students plan a solution, create the solution, test the solution, iterate, and debug the solution as needed, and implement a completely new and innovative product.
 - (C) **Data literacy, management, and representation**. Students collect, organize, manage, analyze, and publish various types of data for an audience.
 - (D) **Digital citizenship**. Students practice the ethical and effective application of technology and develop an understanding of cybersecurity and the impact of a digital footprint to become safe, productive, and respectful digital citizens.
 - (E) **Practical technology concepts**. Students build their knowledge of software applications and hardware focusing on keyboarding and use of applications and tools.
- (3) The technology applications TEKS can be integrated into all content areas and can support stand-alone courses. Districts have the flexibility of offering technology applications in a variety of settings, including through a stand-alone course or by integrating the technology applications standards in the essential knowledge and skills for one or more courses or subject areas.
- (4) Statements containing the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.