Texas Technology Applications

# Grade 2

**Implementation. The provisions of this section shall be implemented by school districts beginning with the 2024-2025 school year.** 2.A

1 **No later than August 1, 2024, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.** 2.A.1

2 **If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2024-2025 school year and apply to the 2024-2025 and subsequent school years.** 2.A.2

3 **If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 1 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.** 2.A.3

**Introduction.** 2.B

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.B.1

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.** 2.B.2

A Computational thinking. Students break down the problem-solving process into four steps: decomposition, pattern recognition, abstraction, and algorithms. 2.B.2.A

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. 2.B.2.B

C Data literacy, management, and representation. Students collect, organize, manage, analyze, and publish various types of data for an audience. 2.B.2.C

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. 2.B.2.D

E Practical technology concepts. Students build their knowledge of software applications and hardware focusing on keyboarding and use of applications and tools. 2.B.2.E

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.** 2.B.3

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.** 2.B.4

**Knowledge and skills.** 2.C

1 **Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:** 2.C.1

A identify and communicate a problem or task and break down (decompose) multiple solutions into sequential steps; 2.C.1.A

B identify complex patterns and make predictions based on the pattern; 2.C.1.B

C analyze a plan with adult assistance that outlines the steps needed to complete a task; and 2.C.1.C

D create and troubleshoot simple algorithms (step-by-step instructions) that include conditionals such as if-then statements as they apply to an everyday task. 2.C.1.D

2 **Computational thinking--applications. The student, with guidance from an educator, applies the fundamentals of computer science. The student is expected to:** 2.C.2

- A identify and explore what a variable is in a sequence of code; and 2.C.2.A
- B use a design process to create a sequence of code that includes loops to solve a simple problem with or without technology. 2.C.2.B

3 **Creativity and innovation--innovative design process. The student takes an active role in learning by using a design process to solve authentic problems for a local or global audience, using a variety of technologies. The student is expected to:** 2.C.3

- A demonstrate personal skills and behaviors, including effective communication, following directions, and mental agility, needed to implement a design process successfully; and 2.C.3.A
- B apply a design process with components such as testing and reflecting to create new and useful solutions to identify and solve for authentic problems. 2.C.3.B

4 **Creativity and innovation--emerging technologies. The student demonstrates an understanding that technology is dynamic and impacts different communities. The student is expected to identify and analyze how technology impacts different communities.** 2.C.4

5 **Data literacy, management, and representation--collect data. The student defines data and explains how data can be found and collected. The student is expected to:** 2.C.5

- A identify and collect non-numerical data, such as weather patterns, preferred reading genres, and holidays; and 2.C.5.A
- B conduct a basic search independently using provided keywords and digital sources. 2.C.5.B

6 **Data literacy, management, and representation--communicate and publish results. The student communicates data through the use of digital tools. The student is expected to use a digital tool to individually or collaboratively create and communicate data visualizations such as pictographs and bar graphs.** 2.C.6

7 **Digital citizenship--social interactions. The student identifies appropriate ways to communicate in various digital environments. The student is expected to participate in digital environments to develop responsible and respectful interactions.** 2.C.7

8 **Digital citizenship--ethics and laws. The student recognizes and practices responsible, legal, and ethical behavior while using digital tools and resources. The student is expected to:** 2.C.8

- A explain and demonstrate the importance of acceptable use of digital resources and devices as outlined in local policies or acceptable use policy (AUP); and 2.C.8.A
- B communicate an understanding that all digital content has owners and explain the importance of respecting others' belongings as they apply to digital content and information. 2.C.8.B

9 **Digital citizenship--privacy, safety, and security. The student practices safe, legal, and ethical digital behaviors to become a socially responsible digital citizen. The student is expected to:** 2.C.9

- A demonstrate account safety, including creating a strong password and logging off accounts and devices; 2.C.9.A
- B compare and contrast private and public information and discuss what is safe to be shared online and with whom; and 2.C.9.B
- C discuss cyberbullying and identify examples. 2.C.9.C

10 **Practical technology concepts--skills and tools. The student demonstrates knowledge and appropriate use of technology systems, concepts, and operations. The student is expected to:** 2.C.10

- A select and use a variety of applications, devices, and online learning environments to create and share content; 2.C.10.A
- B identify, compare, and describe the function of basic computer hardware, including a variety of input and output devices, and software applications using accurate terminology; 2.C.10.B
- C operate a variety of developmentally appropriate digital tools and resources to perform software application functions such as reviewing digital artifacts and designing solutions to problems; 2.C.10.C
- D practice ergonomically correct keyboarding techniques and developmentally appropriate hand and body positions; and 2.C.10.D
- E identify, locate, and practice using keys on the keyboard, including secondary actions of different keys such as "@," "#," "$," and "?". 2.C.10.E