Course Title: Middle School Exploring Information Technology

State: TX
State Course Title: Technology Applications, Grade 6
State Course Code: 126.17
State Standards: Texas Essential Knowledge and Skills (Technology Applications)
Date of Standards: 2022

TEKS	Unit Name(s)	Lesson(s) Numbers
(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:		
(A) decompose real-world problems into structured parts by using visual representation;	Unit 5: Coding 101	Lesson 2
(B) analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;	Unit 2: Communication Inspiration	Lesson 2
(C) define abstraction and distinguish between generalized information and specific information in the context of solving a problem or completing a task;	Unit 5: Coding 101	Lesson 3
(D) design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;	Unit 1: Stick with IT	Lesson 3
(E) analyze different techniques used in debugging and apply them to an algorithm; and	Unit 5: Coding 101	Lessons 2, 3
(F) analyze the benefits of using iteration (code and sequence repetition) in algorithms.	Unit 5: Coding 101	Lessons 1-3
(2) Computational thinking--applications. The student applies the fundamentals of computer science. The student is expected to:		
(A) define and label variables that relate to their programming or algorithm; and	Unit 5: Coding 101	Lesson 3
(B) use a design process to create block-based and text-based programs that include sequences, loops, conditionals, and events to solve an everyday problem.	Unit 5: Coding 101	Activity 1, 2

(3) Creativity and innovation--innovative design process. The student takes an active role in learning by using a design process and creative thinking to develop and evaluate solutions, considering a variety of local and global perspectives. The student is expected to:		
(A) resolve challenges in design processes independently using goal setting and personal character traits such as demonstrating courage and confidence;	Unit 1: Stick With IT	Lesson 3
(B) discuss and implement a design process using digital tools to compare, contrast, and evaluate student-generated outcomes; and	Unit 2: Communication Inspiration	Lesson 3
(C) identify how the design process is used in various industries.	Unit 2: Communication Inspiration	Lesson 2
(4) Creativity and innovation--emerging technologies. The student demonstrates a thorough understanding of the role of technology throughout history and its impact on societies. The student is expected to:		
(A) discuss how changes in technology throughout history have impacted various areas of study;	Unit 3: Insider Information	Lesson 3
(B) discuss how global trends impact the development of technology; and	Unit 3: Insider Information	Lesson 3
(C) transfer current knowledge to the learning of newly encountered technologies.	Unit 3: Insider Information	Lesson 2
(5) Data literacy, management, and representation--collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:		
(A) demonstrate how data can be represented in Boolean expression; and	Unit 6: What's in Your Toolbelt?	Lesson 2
(B) discuss and use advanced search strategies, including keywords, Boolean operators, and limiters.	Unit 6: What's in Your Toolbox?	Lesson 3
(6) Data literacy, management, and representation--organize, manage, and analyze data. The student uses digital tools to transform data, make inferences, and predictions. The student is expected to use digital tools to transform data in order to identify and discuss trends and make inferences.	Unit 3: Insider Information	Lesson 3
(7) Data literacy, management, and representation--communicate and publish results. The student creates digital products to communicate data to an audience for an intended purpose. The student is expected to use digital tools to communicate and display data from a product or process to inform an intended audience.	Unit 3: Insider Information	Lesson 3
(8) Digital citizenship--social interactions. The student understands different styles of digital communication and that a student's actions online can have a long-term impact. The student is expected to:		
(A) identify the impact of a digital footprint;	Unit 4: Making the Connection	Lesson 2

(B) create formal and informal digital communications using appropriate digital etiquette; and	Unit 6: What's in Your Toolbox?	Lesson 1
(C) collaborate on digital platforms such as recording a video conference presentation using appropriate formal and informal digital etiquette.	Unit 2: Communication Inspiration	Activity 1
(9) 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:		
(A) adhere to local acceptable use policy (AUP) and practice safe, ethical, and positive online behaviors;	Unit 1: Stick With IT	Lesson 3
(B) discuss and define intellectual property and associated terms, including copyright law, permission, fair use, creative commons, open source, and public domain;	Unit 1: Stick with IT	Lesson 2
(C) create citations and cite sources for a variety of digital forms of intellectual property; and	Unit 1: Stick With IT	Lesson 3
(D) describe how information can be exaggerated or misrepresented online.	Unit 6: What's in Your Toolbox?	Lesson 3
(10) 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:		
(A) identify real-world cybersecurity problems such as phishing, malware, password attacks, identity theft, and hacking; and	Unit 4: Making the Connection	Lesson 2
(B) identify various methods of cyberbullying such as harassment, impersonation, and cyberstalking.	Unit 1: Stick with IT	Lesson 2
(11) Practical technology concepts--processes. The student evaluates and selects appropriate methods or techniques for an independent project and identifies and solves common hardware and software problems using troubleshooting strategies. The student is expected to create and design files in various formats such as text, graphics, video, and audio files.	Unit 3: Insider Information	Lesson 1
(12) Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:		
(A) apply appropriate technology terminology such as cloud applications, input, output, and basic programming;	Unit 6: What's in Your Toolbox?	Lesson 3

(B) identify effective file management strategies such as file naming conventions, local and remote locations, backup, hierarchy, folder structure, file conversion, tags, and emerging digital organizational strategies;	Unit 3: Insider Information	Activity 1
(C) select and use the appropriate platform and tools to complete a specific task or project;	Unit 2: Communication Inspiration	Lesson 3
(D) demonstrate improvement in speed and accuracy as measured by words per minute when applying correct keyboarding techniques;	Unit 6: What's in Your Toolbox?	Lesson 3
(E) select and use appropriate shortcuts within applications;	Unit 6: What's in Your Toolbox?	Lesson 3
(F) use help sources to research application features and solve software issues;	Unit 2: Communication Inspiration	Lessons 2, 3
(G) identify types of local and remote data storage such as cloud architecture or local server; and	Unit 3: Insider Information	Lesson 3
(H) use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts such as reports, graphs, and charts.	Unit 6: What's in Your Toolbox?	Lesson 4