Understanding the Updates in the Revised Technology Applications TEKS

(Adopted 2022)

Implementation of the Revised Tech Apps TEKS

- The current technology applications TEKS were implemented in 2012-2013.

- The revised technology applications TEKS are scheduled be implemented beginning the 2024-2025 school year.

- Implementation of the new TEKS is dependent upon Commissioner of Education determination. 19 Texas Administrative Code (TAC) Chapter 126

Overarching Changes in the 2022 TEKS - 1

- TEKS for each grade level, no longer in grade bands
- Use of strands and substrands as organizing principles
- Reorganization of content across the strands
  - Computational thinking (new)
  - Creativity and innovation
  - Data literacy, management, and representation (new)
  - Digital citizenship
  - Practical technology concepts

Overarching Changes in the 2022 TEKS - 2

- New TEKS or revised TEKS for new strands and grade level structure
- Integration of communications and collaboration throughout the TEKS
- Strands → connect to everyday life and to solve problems
- Progression from language students are familiar with to technology terminology
- The use of "with assistance"
- The use of "with or without technology"
- Terminology with simpler wording in ()
- Broad descriptions of technology to allow for emerging technology

• Kindergarten

■ **Computational thinking**

- problem or task identification

- decomposition into smaller pieces

- simple pattern recognition

- predictions

- basic algorithms (step-by-step)

- create code sequences

■ **Creativity and innovation**

- personal skills needed for design processes

- application of a design process in problem-solving

■ **Data literacy, management, and representation**

- focus on what data is

- concept of searching and retrieving information
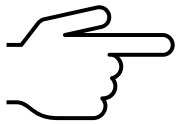
- **Kindergarten**

■ **Digital citizenship**

- behaviors   - acceptable use

- content ownership   - safety

■ **Practical technology concepts**

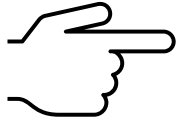- usage   - identification

- keyboarding   - ergonomics

"with assistance" and "with or without technology"

- **1st Grade**

■ **Computational Thinking**

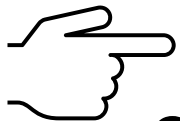- problem identification

- decomposition (sequences),

- use of everyday tasks for pattern recognition

- create basic algorithms,

- create code sequences to solve a problem

■ **Creativity and innovation**

- design process in problem solving   - technology impacts on communities

■ **Data literacy, management, and representation**

- use of keywords/digital sources in searches   -data collection

- **1ˢᵗ Grade**

■ **Digital citizenship**

- develops behaviors

- content ownership, and safety from K

- cyberbullying

- acceptable use

- account safety

■ **Practical technology concepts**

- builds on usage

- identification

- builds on keyboarding and ergonomics

- introduces the creation of an original product and revisions

■ "with assistance" and "with or without technology"

- **2ⁿᵈ Grade**

■ **Computational thinking**

    - problem identification

    - decomposition multiple solutions into sequential steps

    - complex patterns

    - creating and troubleshooting basic algorithms with if-then statements

    - code variables and loops

■ **Creativity and innovation**

    - application of a design process to create solutions to problems

2022 TEKS Highlights - 6

2nd Grade

- **Data literacy, management, and representation**
  - non-numerical data collection
  - use of keywords/digital sources in searches independently
  - use tools to create and communicate data visualizations – such as bar graphs
- **Digital citizenship**
  - develops behaviors, acceptable use, content ownership, and safety
  - introduces private and public information
- **Practical technology concepts**
  - builds on usage, identification, keyboarding, and ergonomics
  - introduces sharing content
- "with assistance" and "with or without technology"

- **3rd Grade**

■ **Computational thinking**

- aadds story problems

- debugging

- variables to store data

- decomposition into subproblems

- algorithms (procedures)

- sequences, loops and conditionals

■ **Creativity and innovation**

- more personal skills development and apply design process – such as feedback

- adds definition of emerging technology

■ **Data literacy, management, and representation**

- shift to numerical data collection

- use of search strategies

- use of digital tools to communicate and publish results, intent to inform, to specified audience

- **3ʳᵈ Grade**

■ **Digital citizenship**

    - digital footprint, etiquette, and collaboration

    - copyright law, appropriate/inappropriate use, and citations

    - builds on account safety, identify protection, online dangers

    - cyberbullying and responses to it

■ **Practical technology concepts**

    - application types and perform functions within applications

    - terminology related to OS and networks

    - saving and naming files

    - keyboards and input devices adds device shortcuts

    - identify and solve technical issues

- **4th Grade**

■ **Computational thinking**

    - decomposition into subproblems and solutions

    - adds predictions from pattern   - debug algorithms

    - variables to modify data   - sequences, loops & conditionals w. purpose

■ **Creativity and innovation**

    - design process to improve processes/products

■ **Data literacy, management, and representation**

    - numerical and non-numerical data

    - transform and make inferences about data to answer a question

    - uses digital tools to communicate inquiry results – to inform -- intended audience

- **4ᵗʰ Grade**

■ **Digital citizenship**

- creator rights and how copyright law applies to creative work

- citations for digital media content

- types of data collection tools in digital world
- cyberbullying, responses to it – advocating for self and others

■ **Practical technology concepts**

- application selection for assigned tasks
- more application functions and terminology
- saving and naming files in context of strategies and folder structures
- use of strategies to solve technical issues

• 5th Grade

Computational thinking

- decomposition with graphical organizers

- document problems, solutions, and coded resolution timeline

- compare and select appropriate algorithms
- design process to create block-based programs
- identify how code can be reused

Creativity and innovation

- design process with components to generate multiple solutions
- predict how emerging technologies may impact different communities

Data literacy, management, and representation

- quantitative and qualitative data; keywords, Boolean operations, and limiters

- analyze, transform and make inferences about data to answer questions
- communicate and display data w. visualization - to inform – intended audience

- **5ᵗʰ Grade**

■ **Digital citizenship**

- digital imprints – such as online activities, games

- digital etiquette for different audiences

- copyright law purposes and consequences
- cybersecurity strategies for safety/security
- interaction escalations and ways to stand up to cyberbullying

■ **Practical technology concepts**

- file types
- more application functions and terminology
- describe and evaluate multiple systems
- file organization
- continued keyboarding/input device fluency
- use help to research application features/issue resolution

- **6ᵗʰ Grade**

■ **Computational thinking**

- decomposition with visual representations; analyze patterns in visual representations

- abstraction and generalized/specific information

- plan documentation with visual representations

- debugging techniques and iterations

■ **Creativity and innovation**

- continues build on design process

- connects design process to industry

- technology throughout history – impact areas of study

- global trends impact on technology

- **6th Grade**

■ **Data literacy, management, and representation**

- data representation as Boolean expression

- use tools to transform data to discuss trends and make inferences
- communicate and display data -- to inform – intended audience

■ **Digital citizenship**

- impact of digital footprints

- create communications and presentations using appropriate etiquette

- intellectual property laws – protection and consequences
- create citations and citing digital sources

- protection from cybersecurity attacks

- various methods of cyberbullying

- **6th Grade**

■ **Practical technology concepts**

    - create and design files in various formats

    - application of terminology

    - more advanced file management strategies

    - select and use tools for a specific task

    - local and remote storage

    - use productivity tools to create digital artifacts

    - continued keyboarding, words per minute, and troubleshooting

- **7th Grade**

■ **Computational thinking**

- decomposition with flowcharts; analyze patterns in flowcharts

- abstraction and how algorithms can be generalized

- plan documentation with flowcharts

- application of various debugging techniques and benefits of iterations

- more work with variables and data types
- nested loops

■ **Creativity and innovation**

- continues build on design process – prototypes or models/trial and error

- connects design process to industry

- technology throughout history – impact areas of study

- global trends impact on technology

- **7th Grade**

■ **Data literacy, management, and representation**

- data representation in binary number systems

- use tools to transform data to analyze trends and make inferences and predictions

- communicate and display data -- to inform or persuade – intended audience

■ **Digital citizenship**

- actions and effects on digital footprints

- create and revise communications using feedback and using appropriate etiquette

- intellectual property and associated terminology
- information exaggeration and misrepresentation

- real world cybersecurity issues

- negative impacts of cyberbullying

- **7th Grade**

■ **Practical technology concepts**

     - create, share, and communicate digital artifacts

     - appropriate use of terminology

     - effective file management strategies

     - select and use tools for a specific task

     - local and remote storage to store or share data

     - use productivity tools to create digital artifacts

     - continued keyboarding, words per minute, and troubleshooting

     - test solutions for technical issues

- **8th Grade**

■ **Computational thinking**

- decomposition using pseudocode; analyze patterns in pseudocode

- abstraction by developing generalized algorithms

- plan using pseudocode

- improvement of algorithms and modify previously written code

- named variables with multiple data types and perform operations

■ **Creativity and innovation**

- continues build on design process – innovation, more process elements

- continues connections to industry

- continues technology throughout history – impact areas of study

- continues global trends impact on technology – evaluate and predict

- **8ᵗʰ Grade**

■ **Data literacy, management, and representation**

- compare and contracts multiple data types

- apply search strategies for a specified outcome

- transform data, analyze trends, infer, predict, develop steps to create process/product

- communicate and publish data -- to persuade – intended audience

■ **Digital citizenship**

- manage digital footprints and impacts on the future

- create and publish communications for global audience using appropriate etiquette

- evaluate bias

- analyze real world cybersecurity issues and propose ways to prevent harm

- evaluate scenarios/case studies to identify warning signs of a cyberbullying victim and predict outcomes for the victim and the bully

- **8th Grade**

■ **Practical technology concepts**

- combine file formats for a project/audience

- share and seek feedback on files

- appropriate use of terminology in various settings

- effective file management strategies

- select and use tools for a specific task – transfer data

- select appropriate type of storage

- use productivity tools to create digital artifacts

- continued keyboarding, improved speed, and use of tools to create artifacts with increasing complexity