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Technology Applications TEKS Lesson Ideas

Technology Application TEKS are divided by grade level bands and strands. The *What Does IT Look Like* column in the table below provides an interpretation of what the strand intends and also includes helpful definitions. The *Suggested Applications* column gives supported software and applications that work well for the TEKS indicated.

Grade 6

Strand & TA TEKS	What Does IT Look Like?	Suggested Applications
(1) Creativity & Innovation		
The student uses creative thinking and innovative processes to construct knowledge, generate new ideas, and create products. The student is expected to: (A) **identify, create, and use** files in various formats such as text, raster and vector graphics, video, and audio files; (B) **create** original works as a means of personal or group expression; (C) **explore** complex systems or issues using models, simulations, and new technologies to make predictions, modify input, and review results; and (D) **discuss** trends and possible outcomes.	At this grade range, there is inclusion of language about personal or group expression. There should be a purpose behind the document creation. The strand assumes collaboration. Students are expected to move beyond understanding the steps of a process to using those steps to understand trends and possible outcomes. Predictions based on experience are important to the strand at this level. Middle School students should know the different files types and be able to use them in products. They should be able to • use things like video and audio recorders and blogs to create an original idea or story. • write, illustrate and publish an original story or presentation to share ideas. • place photographs and videos into projects. • create and modify digital works of art using technology tools Use a variety of online and off-line simulation programs, create 3D models using digital tools, and use online interactive simulations to understand and explore topics. After completing a topic of study using models or simulations, students should be able to discuss trends and outcomes they notice and make predictions about what would happen if those trends continued.	

Strand & TA TEKS	What Does IT Look Like?	Suggested Applications

(2) Communication & Collaboration

The student collaborates and communicates both locally and globally to reinforce and promote learning.

The student is expected to:

(A) **participate** in personal learning networks to collaborate with peers, experts, or others using digital tools such as blogs, wikis, audio/video communication, or other emerging technologies;

(B) **communicate** effectively with multiple audiences using a variety of media and formats; and

(C) **read and discuss** examples of technical writing.

The tools for collaboration and communication are the same in this grade range. The TEKS provide specific examples of what might be used: blogs, wikis, etc. The strand in this grade range speaks about communicating with multiple audiences using a variety of media. This implies addressing a particular topic from a variety of perspectives using a number of different formats. So, a student might present an argument for reduced homework to (1) teachers and (2) other students. In doing so, they might write a written report for teachers and produce a video for other students.

Technical writing is introduced for students to read, evaluate, and write in this grade range.

Students in this grade are able to use a variety of technologies to produce group products.

They should have the opportunities to present, publish and share ideas and findings with others and work with others on a document using some type of cloud computing software. They could they could work in pairs or groups to create a Google Doc or Slides presentation and/or use Google Classroom to discuss with partners/groups and or plan a group project.

Participate in local, national or global projects or events and network with other using some type of collaborative technology (Skype, Flipgrid, Zoom, etc.) They could participate in video conferences or collaborative groups with classes at other schools/districts/states, etc.

They could be given multiple audiences for the same topic and must choose and create an appropriate presentation for each audience.

They should be able to create appropriately formatted written products.

They should also be able to read and discuss technical writing. Students could read texts (MLA/APA Handbook, Lab procedures, Calculator/software instructions, Results of a study, articles, etc.) and discuss the characteristics of the format in addition to the content.

Strand & TA TEKS	What Does IT Look Like?	Suggested Applications

(3) Research & Information Fluency

The student acquires, analyzes, and manages content from digital resources.

The student is expected to:

(A) **create** a research plan to guide inquiry;

(B) **discuss** and use various search strategies, including keyword(s) and Boolean operators;

(C) **select and evaluate** various types of digital resources for accuracy and validity; and

(D) **process** data and **communicate** results.

At this grade range, managing content from digital content becomes an explicit part of the strand. In addition to using search strategies to find information online, students are expected to process data and communicate results.

Middle school students will learn and use a variety of search strategies to research a topic using technology.

They can find relevant information for the topic using technology and collect data about the topic from the Internet.

They can use digital resources to assist with their research, including

- choosing the correct programs like Google Drawings, Sheets, or an infographic creator like Canva to make graphs, charts and tables to store data organizing and manipulate the data collected using technology.
- organizing and manipulating the data collected using technology.
- looking at the data collected digitally and drawing conclusions.
- properly citing digital sources.
- determining if selected technology sources are reliable.
- determining if a website is trustworthy.
- drawing conclusions and communicating findings based on the graphs, charts, tables, and reports they have created.

They are able to organize their research results and create a product (written or otherwise) including copyright documentation.

Google Scholar

G Suite

EDUCATION

Word

PowerPoint

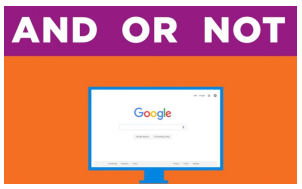
Excel

EasyBib

Britannica School

Google Tour Builder

Canva



Boolean Search Video

Strand & TA TEKS	What Does IT Look Like?	Suggested Applications

(4) Critical Thinking, Problem Solving, and Decision Making

The student makes informed decisions by applying critical-thinking and problem-solving skills. The student is expected to:

(A) **identify** and **define** relevant problems and significant questions for investigation;

(B) **plan** and **manage** activities to develop a solution, design a computer program, or complete a project;

(C) **collect** and **analyze** data to identify solutions and make informed decisions;

(D) **use** multiple processes and diverse perspectives to **explore** alternative solutions;

(E) **make** informed decisions and **support** reasoning; and

(F) **transfer** current knowledge to the learning of newly encountered technologies.

At this grade range, students are expected to make decisions about what problems/questions to investigate. This strand lends itself to problem-based learning. Students are expected to identify appropriate tools, identify solutions based on data, explore for alternative solutions, and use current knowledge to learn new technologies.

Students in this grade can use digital tools to find real-world problems to investigate and then develop and refine the problem/question to guide their research.

They are able to apply their current knowledge to the problem, determine what information is still needed, and use online tools to collect and organize that information.

They can use digital tools to complete the research plan and use their results to propose a course of action. They can use data to develop reasonable solutions and complete projects

They should be able to use digital tools to analyze the same data to gain different perspectives and use different technology sources to gain multiple perspectives

Strand & TA TEKS	What Does IT Look Like?	Suggested Applications
(5) Digital Citizenship		
The student practices safe, responsible, legal, and ethical behavior while using technology tools and resources. The student is expected to: (A) understand copyright principles, including current laws, fair use guidelines, creative commons, open source, and public domain; (B) practice ethical acquisition of information and standard methods for citing sources; (C) practice safe and appropriate online behavior, personal security guidelines, digital identity, digital etiquette, and acceptable use of technology; and (D) understand the negative impact of inappropriate technology use, including online bullying and harassment, hacking, intentional virus setting, invasion of privacy, and piracy such as software, music, video, and other media.	Students are expected to follow acceptable use policies. At this grade range, students are expected to become exposed to and understand the creative commons and other issues related to copyright and fair use. Students are further expected to understand potential negative impacts of technology. They know how to and are expected to behave safely and ethically online. They should be able to create a positive online reputation by controlling the information shared in email, text messages, chats, blogs, photos, videos and social media sites. They are able and expected to create, protect, and use secure passwords for online sites. They understand the impact of negative online behaviors, use appropriate online manners and appropriate social networking behavior, and report situations to an adult that involve cyberbullying.	Digital Citizenship @ DL DIGITAL learning @HumbleISD_DL commonsense media Be Internet Awesome Smart Alert Strong Kind Brave Be Internet Awesome Curriculum From Google Inteligente Alerta Seguro Amable Valiente NetSmartz

Strand & TA TEKS	What Does IT Look Like?	Suggested Applications

(6) Technology Operations & Concepts

The student demonstrates a thorough understanding of technology concepts, systems, and operations.
The student is expected to:

(A) **define** and **use** current technology terminology appropriately;
(B) **select** technology tools based on licensing, application, and support;
(C) **identify**, **understand**, and **use** operating systems;
(D) **understand** and **use** software applications, including **selecting** and **using** software for a defined task;
(E) **identify**, **understand**, and **use** hardware systems;
(F) **understand** troubleshooting techniques such as restarting systems, checking power issues, resolving software compatibility, verifying network connectivity, connecting to remote resources, and modifying display properties;
(G) **demonstrate** effective file management strategies such as file naming conventions, location, backup, hierarchy, folder structure, file conversion, tags, labels, and emerging digital organizational strategies;
(H) **discuss** how changes in technology throughout history have impacted various areas of study;
(I) **discuss** the relevance of technology as it applies to college and career readiness, lifelong learning, and daily living;

Middle school students should be able to login to the district network without assistance and access other online resources using secure passwords.
Students should have basic computer skills, including the ability to

- use a mouse, trackpad, or touchscreen to navigate within my applications.
- identify and correctly use file types like: .doc, .docx, .jpg, .mp3, .mp4, .mov, .pdf, etc.).
- name or rename a document or file.
- save a document to a designated location (desktop, flash/thumb/USB drive, server, or in the cloud).
- find a document using search tools.
- I can display keyboarding skills (e.g., home row technique, type grade-level required words per minute with minimal errors, etc.);
- copy and paste within and between applications.
- resize/downsize images for use in emails and other applications.

Students should have the option and ability to choose the most appropriate web browser or applications for their needs when using different types of technology.

- take a photo or capture a movie using technology.
- manipulate a photo or movie using technology software.
- add a manipulated photo or video to my software application, as needed.
- use advanced tools in office suite software.
- create an original work of art using a drawing application.
- record my voice using digital technology.
- create an original piece of music using digital technology.
- practice using safe volume levels when using digital devices.

G Suite

PIXLR

Screencastify

Strand & TA TEKS	What Does IT Look Like?	Suggested Applications

(6) Technology Operations & Concepts (continued)

The student demonstrates a thorough understanding of technology concepts, systems, and operations.
The student is expected to:

(J) **use** a variety of local and remote input sources;
(K) **use** keyboarding techniques and ergonomic strategies while building speed and accuracy;
(L) **create** and edit files with productivity tools, including:
(i) a word processing document using digital typography standards such as page layout, font formatting, paragraph formatting, and list attributes;
(ii) a spreadsheet workbook using basic computational and graphic components such as basic formulas and functions, data types, and chart generation;
(iii) a database by manipulating components such as entering and searching for relevant data; and
(iv) a digital publication using relevant publication standards;
(M) **plan** and **create** non-linear media projects using graphic design principles; and
(N) **integrate** two or more technology tools to create a new digital product.

Students do basic troubleshooting when there are problems with a device, including the ability to

- force quit an application that is not working.
- restart the system if it locks up
- tell when the battery is low on a device that I am using.
- tell if I have connectivity problems determine if I have minor printer problems and solve them.

Students should use appropriate technology terms to communicate about technology problems, communicate what is similar and different in various software applications, and what is similar and different with hardware devices (e.g., Chromebook vs iPad).

They should know which menu items are universal in software applications and be able to use keystroke shortcuts to increase productivity.

They should know how to care for the schools' technology equipment so it is available for use every day and be able to discuss the impact of technology on their daily lives and on society in general.

Windows 10

chromebook