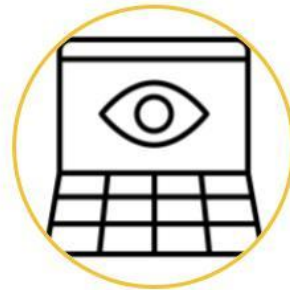


Digital Learning Strands



TS: Technology Skills
learning to use tech



DC: Digital Citizenship
learning digital safety



CT: Computational Thinking
solving problems with tech



IL: Information Literacy
using tech to learn & create



Created in 2021 by Katherine Goyette, Tulare County Office of Education, in partnership with Dinuba Unified School District

TECHNOLOGY SKILLS: Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity.

DIGITAL CITIZENSHIP: Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school, and in society.

INFORMATION LITERACY: Demonstrate the ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity, and innovation.

COMPUTATIONAL THINKING: Designing solutions to real world problems by utilizing an understanding of computing systems, networks and the internet, and impacts of technology.

Digital Learning Grade Level Expectations address all California adopted Computer Science Standards, each strand of International Society for Technology in Education standards, and alignment with applicable California standards in Mathematics, English Language Arts, and History Social Studies.

TECHNOLOGY SKILLS: Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity.									
	K	1	2	3	4	5	6	7	8
Basic Operations & Concepts/Computing Systems	DL.K.1.TS Identify basic components of a computing device. K-2 CS.2, ISTE 1d	DL.1.1.TS Identify, describe, and sketch a model of basic components of a computing system. K-2.CS.2, ISTE 1d, NGSS K-2 ETS1-2, CCSS ELA SL 1.4, 1.5	DL.2.1.TS Verbally describe basic hardware and software problems using accurate terminology. K-2.CS.3, ISTE 1d CCSS ELA SL 2.4	DL.3.1.TS Verbally describe how computing elements connect to form a system. 3-5.CS.1, ISTE 1d, CCSS ELA SL 3.4	DL.4.1.TS Demonstrate how computer software and hardware work together as a system to accomplish tasks. 3-5.CS.2, ISTE 1d	DL.5.1.TS Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies. 3-5.CS.3, ISTE 1d	DL.6.1.TS Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems. 6-8.CS.3, ISTE 1d	Continuation of 6th grade standard	
	DL.K.2.TS Turn on/off a computing device, select and operate apps. K-2.CS.1, ISTE 1d	DL.1.2.TS Log in to a computing device, use a mouse or trackpad to open and close applications, select and use apps to perform tasks. K-2.CS.1, ISTE 1d	DL.2.2.TS Log on and off a computing device, use a mouse or trackpad to select and use apps to perform tasks, begin to use keyboard shortcuts. K-2.CS.1, ISTE 1d	Continuation of grades K-2 standards		DL.5.2.TS Apply prior knowledge of computing devices to determine how new applications work. ISTE 1d	Continuation of 5th grade standard		DL.7.1.TS Design modifications to computing devices in order to improve the ways users interact with the devices. 6-8.CS.1, NGSS MS. ETS1-1
File Management, Networks & Storage			DL.2.3.TS Model and describe how people connect to other people, places, info, and ideas through a network. K-2.NI.4, ISTE 1d, NGSS K-2 ETS1-2	DL.3.2.TS Model and verbally describe how cloud computing is different from using software applications, and how the internet connects people through a network. ISTE 1d, CCSS ELA SL 3.4	DL.4.2.TS Model how info from the internet is broken down into smaller pieces, transmitted as packets through multiple devices over networks and the internet, and reassembled at the destination. 3-5.NI.4, ISTE 1d		DL.6.2.TS Demonstrate the ability to upload, download, and retrieve files to and from a cloud based system. ISTE 1d	DL.7.2.TS Model the role of protocols in transmitting data across networks and the internet. 6-8.NI.4	DL.8.1.TS Organize files into folders and subfolders on a computing device or in a cloud based system. ISTE 1d
	DL.K.3.TS Use a learning management system to access, store and modify information in a learning management system by using a computing device. K-2.DA.7, K-2.CS.1, ISTE 1d, MSLS K.1.4	Continuation of Grade K standard		DL.2.4.TS Store, copy, search, retrieve, modify, name, and delete information using a computing device, and define the information stored as data. K-2.DA.7, ISTE 1d	Continuation of grade 2 standard.		DL.4.3.TS Retrieve previous file revisions and access revision history for files located in cloud platforms. ISTE 1d	DL.5.3.TS Explain that the amount of space required to store data differs based on the type of data and/or level of detail. 3-5.DA.7	DL.7.3.TS Associate document extensions with appropriate file types (i.e. .doc, .pdf, .jpg) ISTE 1d
Keyboarding	DL.K.4.TS Identify letters and numbers on a keyboard, and place fingers in proper position (home row). CCSS.ELA.RF.K.1.D	DL.1.3.TS Generate writing using a keyboard, with correct finger/hand position including that for space bar, return/enter, and shift keys. Utilize shift key for capitalization. CCSS ELA.W.1.6	DL.2.5.TS Generate writing using a keyboard, with correct finger/hand position, typing a minimum of one paragraph in a single sitting. CCSS ELA.W.2.6	DL.3.3.TS Generate writing using a keyboard, with correct finger/hand position, typing a minimum of half a page in a single sitting. CCSS ELA.W.3.6	DL.4.4.TS Generate writing using a keyboard, with correct finger/hand position, typing a minimum of one page in a single sitting. CCSS ELA.W.4.6	DL.5.4.TS Generate writing using a keyboard, with correct finger/hand position, typing a minimum of two pages in a single sitting. CCSS ELA.W.5.6	DL.6.3.TS Generate writing using a keyboard, with correct finger/hand position, typing a minimum of three pages in a single sitting. CCSS ELA.W.6.6	Continuation of 6th grade standard	

DIGITAL CITIZENSHIP: Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school, and in society.									
	K	1	2	3	4	5	6	7	8
Personal Data Management	DL.K.5.DC Verbally explain why people use passwords and use passcodes/passwords to log into devices. K-2.NI.5, ISTE 2d, CCSS ELA SL.K.6	DL.1.4.DC Discuss the importance of keeping passwords private, and log in to devices and programs using a password. K-2.NI.5 ISTE 2d, CCSS ELA.SL.1.1	DL.2.6.DC Explain the rationale of keeping passwords private and log out of devices when not in use. K-2.NI.5, K-2.IC.20, ISTE 2d	DL.3.4.DC Create robust passwords and explain their importance for keeping personal data secure. 3-5.NI.5, ISTE 2d	DL.4.5.DC Describe physical and digital security measures for protecting personal information. 3-5.NI.5, ISTE 2d, CA Health 4.1.1.S, MSLS 5.3.1 f	DL.5.5.DC Find and adjust privacy settings to protect personal data. ISTE 2d	DL.6.4.DC Compare tradeoffs between allowing information to be public and keeping information private and secure. 6-8.IC.24, ISTE 2d		
		DL.1.5.DC Create patterns to communicate a message. K-2.NI.6		DL.3.5.DC Create patterns to protect information from unauthorized access. 3-5.NI.6	Continuation of grade 3 standard		DL.6.5.DC Explain potential security threats to computing devices and networks, as well as security measures to mitigate threats. 6-8.NI.5		DL.8.2.DC Apply multiple methods of information protection to model the secure transmission of information. 6-8.NI.6, ISTE 2b, 2d
Evaluate Information	DL.K.6.DC Recognize that information online may not always be accurate. MSLS K.2.2, ISTE 3b	DL.1.6.DC Compare between roles of media meant to inform and to entertain. MSLS 1.2.2, ISTE 3b	DL.2.7.DC Distinguish between advertisements and informative media, with an awareness of internet popups. MSLS 2.2.2, ISTE 3b	DL.3.6.DC Explain that an author and publisher are responsible for accuracy of published materials on and offline. MSLS 3.2.2, ISTE 3b	DL.4.6.DC Discuss media's role in persuading, interpreting events, and impacting culture. MSLS 4.2.2, ISTE 3b, CCSS ELA SL 4.1		DL.6.6.DC Evaluate digital and print resources to determine their level of accuracy, reliability, and authority. ISTE 3b, MSLS 6.2.2, CCSS ELA.W.6.8	DL.7.4.DC Analyze claims in digital and print resources to assess for credibility, noting bias and stereotypes. CCSS ELA.RI.7.8, MSLS 7.2.1	
Digital Identity, Impacts of Computing		DL.1.7.DC Use visuals when comparing how people lived and worked before and after the adoption of new computing technologies. K-2.IC.18, CA HSS 1.4, CCSS ELA.SL.1.5	DL.2.8.DC Explain that digital content, particularly on social media, may never be deleted. ISTE 2a, 2d	DL.3.7.DC Discuss how digital footprints have changed the world, and express how technology influences and is influenced by culture. 3-5.IC.20, CCSS ELA SL 3.1, MSLS 3.3.1	DL.4.6.DC Explain how personal information can be tracked online (i.e. browser settings such as cookies) ISTE 2a, 2d	DL.5.6.DC Discuss how computing technologies can be biased, and propose ways to improve the accessibility of technology for a diverse set of users. 3-5.IC.21, CCSS ELA SL 5.1, NGSS 3-5 ETS 1-2	DL.6.7.DC Set appropriate profile pictures and content across media being used, and build a positive digital footprint. ISTE 2a, 2d, MSLS.7-8.3.1a, 3.1e	DL.7.5.DC Propose ways to improve the accessibility and usability of technology products for the diverse needs and wants of users. 6-8.IC.21	DL.8.3.DC Compare tradeoffs associated with computing technologies that affect people's everyday activities and career options. 6-8.IC.20
Acceptable Use, Copyright, & Plagiarism					DL.4.7.DC Paraphrase and categorize information to avoid plagiarism, and provide a list of sources. CCSS ELA.W.4.8, MSLS 4.3.1a	DL.5.7.DC Describe reasons that creators might limit the use of their work. 3-5.IC.23, MSLS 5.3.1	DL.6.8.DC Provide basic bibliographic information drawn from several sources and quote and paraphrase information in a way that avoids plagiarism. CCSS ELA.W.6.8, W.6.7, ISTE 2c	DL.7.6.DC Compare tradeoffs associated with licenses for computational artifacts to balance the protection of the creators' rights and the ability for others to use and modify the artifacts. 6-8.IC.23	DL.8.4.DC Quote or paraphrase the ideas and conclusions of others to avoid plagiarism and use a standard format for citing sources. CCSS ELA.W.8.8, MSLS7-8.3.3d, ISTE 2c

INFORMATION LITERACY: Demonstrate the ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity, and innovation.										
	K	1	2	3	4	5	6	7	8	
Communication & Collaboration Tools	DL.K.7.II Use clear and respectful language when communicating and collaboratively learning using technological tools. K-2.IC.19, ISTE 7b, MSLS K.4.2a	DL.1.8.II Communicate and collaborate respectfully when using technological tools for writing and engaging in video discussions. K-2.IC.19, ISTE 7b, CCSS ELA W.1.6, CAHSS 1.1.2	DL.2.9.II Select the technology tool/app that will best communicate a message to the intended audience (i.e. multimedia presentation, written report, etc.) K-2.CS.1, ISTE 6a, 6d, CCSS ELA W.2.6	DL.3.8.II Create multimedia recordings of stories or poems, adding visuals to enhance communication. CCSS ELA SL.3.5, ISTE 6b, 6c, MSLS 3.4.2	DL.4.8.II Utilize technology tools to collaborate with individuals outside the classroom (i.e. peers, industry partners, community members). ISTE 7b, MSLS 4.4.2b	DL.5.8.II Utilize digital tools to collaborate respectfully with individuals from a variety of backgrounds/cultures, and explain the impact of diverse perspectives for the purpose of improving computational artifacts. 3-5.IC.22, ISTE 7a	DL.6.9.II Utilize digital tools such as blogs, websites, and social media to crowdsource information and/or build awareness for a cause. MSLS.6.4.2c, ISTE 3d, 7d			DL.8.5.II Set up, share, and utilize collaborative workspaces or files to aid synchronous and asynchronous collaboration. ISTE 7a, 7b
					DL.4.9.II Set personal goals and access due dates for assignments in a digital calendar and/or learning management system. ISTE 1a	DL.5.9.II Create and maintain a digital portfolio related to learning (i.e. blog, website, etc.) ISTE 6d	Continuation of grades 4-5 standards			
Word Processing			DL.2.10.II Utilize a word processing application to generate and edit writing, utilizing spellcheck features. CCSS ELA W.2.5, 2.6	DL.3.9.II Edit writing using built-in resources (i.e. spellcheck, thesaurus, grammar check) and insert/resize images within a document. CCSS ELA W.3.6	Continuation of grade 3 standard	DL.5.10.II Utilize formatting within a word processing application to group information into paragraphs, and include headings and images to aid comprehension. CCSS ELA W.5.2a	Continuation of grades 3 and 5 standards	DL.7.7.II Cite and link to sources when producing and publishing writing within a word processing application. CCSS.ELA.W.7.6, MSLS.7-8.3.3d, ISTE 2c	Continuation of grade 7 standard	
Data Analysis & Spreadsheets		DL.1.9.II Collect and present data in various visual formats. K-2.DA.8, CCSS Math 1.MD.4	DL.2.11.II Identify and describe patterns in data visualizations, such as charts or graphs, to make predictions. K-2.DA.9, CCSS Math 2.MD.10	DL.3.10.II Organize and present collected data visually to highlight relationships and support a claim. 3-5.DA.8, CCSS Math 3.MD.3	DL.4.10.II Utilize spreadsheets and databases to create tables, line plots, and graphs to make predictions and draw conclusions. 3-5.DA.8, 3-5.DA.9, ISTE 5b, CCSS Math 4.MD.4	DL.5.11.II Enter/edit data into a spreadsheet/database and create visualizations that highlight and/or propose relationships, predict outcomes, or communicate ideas. 3-5.DA.9, ISTE 5b		DL.7.8.II Collect data using computational tools, represent data in multiple ways, and transform the data to make it more useful. 6-8.DA.7, DA.8, ISTE 5b	DL.8.6.II Test and analyze the effects of changing variables while using computational models. 6-8.DA.9	
Multimedia & Presentation Tools	DL.K.8.II Utilize a camera and/or audio recording feature on a computing device to document learning and seek feedback. K-2.CS.1, ISTE 1c	DL.1.10.II Utilize a computing device to communicate learning by adding visuals, text, and verbal explanations. K-2.CS.1, CCSS ELA SL 1.5	DL.2.12.II Create a series of slides within a multimedia presentation to introduce a topic, develop points, and provide a concluding statement for a specified audience. ISTE 6d, CCSS ELA W.2.2	DL.3.11.II Create a multimedia presentation to present a conclusion based on research from more than one source. CCSS ELA W.3.7, MSLS 3.3.2	DL.4.11.II Create a multimedia presentation that conveys a main idea and supporting details from print and digital sources. Include working hyperlinks for digital sources as applicable. CCSS ELA W.4.8, MSLS 4.4.1	DL.5.12.II Include multimedia elements (i.e. graphics, sound) to presentations to enhance main ideas and best communicate with a specific audience. CCSS ELA SL 5.5, ISTE 6d	Continuation of grades 4 and 5 standards			
Internet Searching & Databases	DL.K.9.II Access information collaboratively on safe, grade level appropriate databases and/or a collection of resources curated by a teacher. MSLS K.1.1.3 CCSS ELA W.K.7, ISTE 3a	DL.1.11.II Utilize hyperlinks within webpages or documents to access information, and use tab browsing to navigate multiple pages. CCSS ELA W.1.5, ISTE 3a	Continuation of grades K-1 standards	DL.3.12.II Utilize collaborative, digital note-taking tools and/or analog methods to gather and organize information obtained while conducting online research. CCSS ELA W.3.8, ISTE 3a	DL.4.12.II Distinguish between URL suffixes .org, .com, .edu, .net, and .gov and note publication date of sources when evaluating their accuracy. MSLS 4.1.3.e, ISTE 3a, 3b	Continuation of grades K-4 standards			DL.8.7.II Utilize advanced search features effectively when researching topics on search engines and online databases. CCSS ELA.W.8.8, ISTE 1.4	

COMPUTATIONAL THINKING: Designing solutions to real world problems by utilizing an understanding of computing systems, networks and the internet, and impacts of technology.									
	K	1	2	3	4	5	6	7	8
Algorithms & Programming	DL.K.10.CT Model daily and weekly processes by creating and following algorithms to complete tasks. K-2.AP.10, ISTE 5c, CA HSS K.5	DL.1.12.CT Create programs with sequences of commands and simple loops, to express ideas or address a problem. K-2.AP.12, ISTE 5a		DL.3.13.CT Create programs that include events, loops, and conditionals. 3-5.AP.12	DL.4.13.CT Compare and refine multiple algorithms for the same problem and determine which is the most appropriate solution. 3-5.AP.10, ISTE 5a, NGSS 3-5.ETS.1-2			DL.7.9.CT Design and iteratively develop programs that combine control structures and use compound conditions. 6-8.AP.12	DL.8.8.CT Use flowcharts and/or pseudocode to design and illustrate algorithms that solve complex problems. 6-8.AP.10
			DL.2.13.CT Model the way programs store data. K-2.AP.11, ISTE 5b, NGSS K-2 ETS.1-2			DL.5.13.CT Create programs that use variables to store and modify data. 3-5.AP.11, ISTE 5b			DL.8.9.CT Create clearly named variables that store data, and perform operations on their contents. 6-8.AP.11
		DL.1.13.CT Decompose the steps needed to solve a problem into a sequence of instructions. K-2.AP.13, ISTE 5c	DL.2.14.CT Develop plans that describe a program's sequence of events, goals, and expected outcomes. K-2.AP.14, ISTE 5d	DL.3.14.CT Decompose problems into smaller, manageable tasks which may themselves be decomposed. 3-5.AP.13, ISTE 5c		DL.5.14.CT Use an iterative process to plan and develop a program that solves a problem, by considering the perspectives and preferences of others. 3-5.AP.15 NGSS 3-5.ETS1-1, ETS 1-2	DL.6.10.CT Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. 6-8.AP.13		DL.8.10.CT Design a project that combines hardware and software components to collect and exchange data. 6-8.CS.2
	DL.K.11.CT Give attribution when using the ideas and creations of others while developing programs. K-2.AP.15, ISTE 2c	DL.1.14.CT Debug errors in an algorithm or program that includes sequences and simple loops. K-2.AP.16, ISTE 5d	DL.2.15.CT Describe the steps taken and choices made during the iterative process of program development. K-2.AP.17, ISTE 5d	DL.3.15.CT Observe intellectual property rights and give appropriate attribution when creating, remixing, or combining programs. 3-5.AP.16, ISTE 2c, MSLS 3.1.4a	DL.4.14.CT Create programs by incorporating smaller portions of existing programs, to develop something new or add more advanced features. 3-5.AP.14, ISTE 5a	DL.5.15.CT Perform different roles when collaborating with peers during the design, implementation, and review stages of program development. 3-5.AP.18, ISTE 7c	DL.6.11.CT Seek and incorporate feedback from team members and users to refine a solution that meets user needs. 6-8.AP.15	DL.7.10.CT Systematically test and refine programs using a range of test cases. 6-8.AP.17	DL.8.11.CT Incorporate existing code, media, and libraries into original programs, and give attribution. 6-8.AP.16
					DL.4.15.CT Test and debug a program or algorithm to ensure it accomplishes the intended task. 3-5.AP.17, ISTE 4c, 5d, NGSS 3-5 ETS.1-3	DL.5.16.CT Describe choices made during program development using code comments, presentations, and demonstrations. 3-5.AP.19	DL.6.12.CT Distribute tasks and maintain a project timeline when creating and developing computational artifacts, collaborating with many contributors. 6-8.AP.18, IC.22	DL.7.11.CT Create procedures with parameters to organize code and make it easier to use. 6-8.AP.14	DL.8.12.CT Document programs in order to make them easier to use, read, test, and debug. 6-8.AP.19