



# **K-12 Technology Skills Scope and Sequence**

This scope and sequence is aligned to the California State Standards requirements for Mathematics and English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects, as well as skills required for the Smarter Balanced Assessment Consortium's Computer Adaptive Testing.

**Spring 2017**

**California State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects****Students who are College and Career Ready in Reading, Writing, Speaking & Listening, and Language**

The descriptions that follow are not standards themselves but instead offer a portrait of students who meet the standards set out in this document. As students advance through the grades and master the standards in reading, writing, speaking & listening, and language, they are able to exhibit with increasing fullness and regularity these capacities of the literate individual.

**They demonstrate independence.**

Students can, without significant scaffolding, comprehend and evaluate complex texts across a range of types and disciplines, and they can construct effective arguments and convey intricate or multifaceted information. Likewise, students are able independently to discern a speaker's key points, request clarification, and ask relevant questions. They build on others' ideas, articulate their own ideas, and confirm they have been understood. Without prompting, they demonstrate command of standard English and acquire and use a wide-ranging vocabulary. More broadly, they become self-directed learners, effectively seeking out and using resources to assist them, including teachers, peers, and print and digital reference materials.

**They build strong content knowledge.**

Students establish a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and discipline-specific expertise. They refine and share their knowledge through writing and speaking.

**They respond to the varying demands of audience, task, purpose, and discipline.**

Students adapt their communication in relation to audience, task, purpose, and discipline. They set and adjust purpose for reading, writing, speaking, listening, and language use as warranted by the task. They appreciate nuances, such as how the composition of an audience should affect tone when speaking and how the connotations of words affect meaning. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in science).

**They comprehend as well as critique.**

Students are engaged and open-minded—but discerning—readers and listeners. They work diligently to understand precisely what an author or speaker is saying, but they also question an author's or speaker's assumptions and premises and assess the veracity of claims and the soundness of reasoning.

**They value evidence.**

Students cite specific evidence when offering an oral or written interpretation of a text. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

**They use technology and digital media strategically and capably.**

*Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.*

**They come to understand other perspectives and cultures.**

Students appreciate that the twenty-first-century classroom and workplace are settings in which people from often widely divergent cultures and who represent diverse experiences and perspectives must learn and work together. Students actively seek to understand other perspectives and cultures through reading and listening, and they are able to communicate effectively with people of varied backgrounds. They evaluate other points of view critically and constructively. Through reading great classic and contemporary works of literature representative of a variety of periods, cultures, and worldviews, students can vicariously inhabit worlds and have experiences much different than their own.

## Table of Contents

Introduction to the Scope and Sequence Document	3
Glossary of Terms	4
K-5 Scope and Sequence	6
6-8 Scope and Sequence	12
9-12 ISTE Standards	20

## Introduction to the Scope and Sequence Document

This Scope and Sequence is adapted from the Long Beach Unified School District and the Fresno County Office of Education *Recommended Digital Literacy and Technology Skills to Support the California State Standards*.

The skills identified for each grade level align to the California State Standards (CALSS) for Mathematics and English Language Arts & Literacy in History/Social Studies, Science and Technical Subjects as well as skills required to take the Smarter Balanced Assessment Consortium's (SBAC) Computer Adaptive Assessments.

Additional skills identified in this Scope and Sequence are from the National Educational Technology Standards 2007: Creativity and Innovation; Digital Citizenship; and Technology Operations and Concepts.

### Standards

Grade levels are not specified for the standards as they are indicated in the grade level columns.

English Language Arts Anchor Standards		Mathematics Standards	
<b>RL</b>	— Reading Standards for Literature	<b>MD</b>	— Measurement and Data
<b>RI</b>	— Reading Standards for Informational Text	<b>G</b>	— Geometry
<b>W</b>	— Writing	<b>EE</b>	— Expressions and Equations
<b>SL</b>	— Speaking and Listening	<b>A</b>	— Algebra
<b>L</b>	— Language	<b>F</b>	— Functions
		<b>SP</b>	— Statistics and Probability
		<b>SMP</b>	— Standards of Mathematical Practice

Mathematics standards are focused mainly in grades 6-12 as there are no technology requirements in grades K-5. Most of the SBAC Testing Skills cover the skills that students will be required to have to take the online assessment. Standards of Mathematical Practice (SMP) are also referenced as they encompass use of appropriate technology tools across various standards.

The scope and sequence goes from K-12 but is broken up into sections for K-5 and 6-12. Even though students in grades K, 1, 2, 9, 10 and 12 are not tested for CALSS, the skills help build basic technology competencies to support the grade levels at which the students are tested.

The Scope and Sequence identifies which grade levels the skills need to be Introduced (I), Reinforced (R), and Mastered (M). Skills identified as Optional for Grade Level (O) are left to the discretion of the teacher who may choose to teach the skills to the students.

## Glossary of Terms

Term	Abbreviation	Definition
California State Standards	CalSS	Educational standards describe what students should know and be able to do in each subject in each grade. In California, the State Board of Education decides on the standards for all students, from kindergarten through high school. In 2010, a number of states across the nation have adopted the same standards for English and math.
Smarter Balanced Assessment Consortium	SBAC	The Smarter Balanced Assessment System utilizes computer-adaptive tests and performance tasks that allow students to show what they know and are able to do. This system is based on the California State Standards (CALSS) for English-language arts (ELA)/Literacy and mathematics.
Introduced	I	Introduced
Reinforced	R	Reinforced and opportunity to practice
Mastered	M	
Optional for Grade Level	O	
Discrete	D	Taught by a computer aide/tech
Application	A	Reinforced in classroom instruction or embed in instruction
Performance Task	PT	Performance tasks are extended activities that measure a student’s ability to integrate knowledge and skills across multiple standards—a key component of college and career readiness. Performance tasks will be used to better measure capacities such as depth of understanding, research skills, and complex analysis, which cannot be adequately assessed with selected- or constructed-response items.
Standards of Mathematical Practice	SMP	The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education.



# K-5 Scope & Sequence

Digital Literacy Categories		Alignment to CALSS/ SBAC	Skills	K	1	2	3	4	5	D	A	PT	
Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity	Basic Operations	SBAC testing skills	Turn on a computer, login, and safely shutdown	I	R	M	M	M	M	X			
		SBAC testing skills	Use headphones with volume controls appropriately	I	R	M	M	M	M	X			
		SBAC testing skills	Use pointing device such as a mouse to manipulate shapes, icons; click on URLs, radio buttons, check boxes; use scroll bar	I	R	M	M	M	M	X	X		
		SBAC testing skills	Use desktop icons, windows and menus to open applications and documents	I	R	M	M	M	M	X	X		
		SBAC testing skills	File management – saving documents to a specific location	O	I	R	M	M	M	X	X		
		SBAC testing skills	Explain, login, and use age-appropriate online tools and resources (i.e. tutorial, assessment, web browser)		I	R	M	M	M	X	X		
		W 6	Keyboarding <ul style="list-style-type: none"> <li>Use proper posture and ergonomics</li> <li>Locate and use letter and numbers keys with left and right hand placement</li> <li>Locate and use correct finger, hand for space bar, return/enter and shift key</li> <li>Gain proficiency and speed in touch typing</li> </ul>	I	R	M	M	M	M	X	X		
	Word Processing	W 5, W 6, W 10	Use a word processing application to write, edit, print and save simple assignments	I	R	M	M	M	M	X	X		
		W 5, W 6, W 10	Use menu/tool bar functions (i.e. font, size, style, line spacing, margins) to format, edit, and print a document		I	M	M	M	M	X	X		
		W 5, W 6, W 10	Highlight text, copy and paste text, and drag	I	R	M	M	M	M	X	X		
		W 5, W 6, W 10	<ul style="list-style-type: none"> <li>Copy and paste images within and between the document and from outside sources</li> <li>Insert and size a graphic in a document</li> </ul>		I	R	R	M	M	X	X		
		L 4	Proofread and edit writing using appropriate resources (i.e. dictionary, spellcheck, grammar, and thesaurus)		O	I	R	M	M		X		
	<b>I – Introduce                      R – Reinforce                      M – Mastery (ability to teach others)                      O – Optional for grade level</b>												
					<b>D – Discreet Skills                      A – Applied Skills                      PT – Performance Task</b>								



Digital Literacy Categories		Alignment to CALSS/ SBAC	Skills	K	1	2	3	4	5	D	A	PT
Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity	Spreadsheet (Tables/Charts and Graphs)	MD, SBAC testing skills	Demonstrate an understanding of the spreadsheet as a tool to record, organize, and graph information			O	I	R	R	X	X	
		SBAC testing skills	Identify and explain terms and concepts related to spreadsheets (i.e. cell, column, row, values, labels, chart graph)			O	I	R	R	X		
		MD, SBAC testing skills	Enter/edit data in spreadsheets and perform calculations using formulas			O	I	R	R		X	
		MD, SBAC testing skills	Use mathematical symbols (i.e. + add, - minus, * multiply, / divide, ^ exponents)				I	R	R	X	X	
		RI 7	Use spreadsheets and other applications to make predictions, solve problems, and draw conclusions				I	R	R		X	
	Multimedia and Presentation Tools	W 6	Create, edit, and format text on a digital application		I	R	M	M	M	X		
		W 6	Use digital media to present research or convey an idea		I	R	M	M	M		X	
		W 6, SL 5	Copy and paste or import graphics; change size and position on a digital application	O	I	R	M	M	M	X		
		W 6, SL 5	Use design tools and applications to create and edit work			I	R	M	M	X		
		W 6, RL 7, SBAC testing skills	Watch online videos and use play, pause, rewind, and forward buttons while taking notes	I	R	M	M	M	M	X		
I – Introduce		R – Reinforce	M – Mastery (ability to teach others)	O – Optional for grade level								
D – Discreet Skills			A – Applied Skills			PT – Performance Task						

Digital Literacy Categories		Alignment to CALSS/ SBAC	Skills	K	1	2	3	4	5	D	A	PT
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	Acceptable Use, Copyright, and Plagiarism	Digital Citizenship	Explain and demonstrate compliance with classroom, school rules (Acceptable Use Policy) regarding responsible use of computers and networks	I	I	R	R	R	M		X	
		Digital Citizenship	Explain responsible uses of technology and digital information; describe possible consequences of inappropriate use	I	I	R	R	R	M		X	
		Digital Citizenship	Explain Fair Use Guidelines for the use of copyrighted materials,(i.e. text, images, music, video in student projects) and giving credit to media		I	R	R	R	M		X	
		Digital Citizenship	Identify and explain the strategies for the safe and efficient use of computers (i.e. passwords, virus protection software, spam filters, popup		I	R	R	R	M		X	
		Digital Citizenship	Demonstrate safe electronic messaging practices; recognize the potential of public exposure and use appropriate etiquette		I	R	R	R	M		X	
		Digital Citizenship	Identify cyberbullying and describe strategies to deal with such a situation	I	I	R	R	R	M		X	
		Digital Citizenship	Recognize and describe the potential risks and dangers associated with various forms of online communications including social media		I	R	R	R	M		X	
I – Introduce		R – Reinforce	M – Mastery (ability to teach others)	O – Optional for grade level								
D – Discreet Skills			A – Applied Skills			PT – Performance Task						

Digital Literacy Categories		Alignment to CALSS/SBAC	Skills	K	1	2	3	4	5	D	A	PT	
Demonstrate the ability to use technology for research, critical thinking, decision-making, communication, and collaboration, creativity, and innovation	Research and Gathering Information	RI 5, RI 7	Use age appropriate technologies to locate, collect, organize content from media collection for specific purposes, citing sources	I	R	R	M	M	M		X		
		RI 5, RI 7	Perform basic searches on databases, including library resources to locate information			O	I	R	M		X		
		RI 5, RI 7	Evaluate teacher-selected or self-selected Internet resources in terms of their usefulness and validity for research	I	R	M	M	M	M		X		
		RI 7	Use content specific technology tools (i.e. environmental probes, sensors, and measuring devices, simulations) to gather and analyze data			O	I	R	M		X		
		RI 6, RI 7, RI 9	Use online collaboration tools (i.e. online discussions, blogs, and wikis) to gather and share information			O	I	R	M		X		
		RL 7	Identify and analyze the purpose of a media message (to inform, persuade, and entertain)	I	R	M	M	M	M		X		
	Communication and Collaboration	W 6	Work collaboratively online with other students under teacher supervision		I	R	M	M	M		X		
		W 6, W 10	Use a variety of age-appropriate technologies (i.e. drawing program, presentation software) to communicate and exchange ideas		I	R	M	M	M		X		
		W 6, W 10 SL 2, SL 5	Create research projects that use text and various forms of graphics, audio, and video, (with proper citations) to communicate ideas		I	I	R	M	M		X		
		W 6, W 10 SL 3	Use teacher developed guidelines to evaluate multimedia presentations for organization, content, design, presentation, and appropriateness of citations		O	I	R	M	M		X		
		W 6, W 10 SL 1	Use district approved online tools for communication and collaboration		I	I	R	M	M		X		
		<b>I – Introduce</b>	<b>R – Reinforce</b>	<b>M – Mastery (ability to teach others)</b>			<b>O – Optional for grade level</b>						
		<b>D – Discreet Skills</b>			<b>A – Applied Skills</b>			<b>PT – Performance Task</b>					



# 6-8 Scope & Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8	Subject Area	D	A	PT	
Demonstrate proficiency in the use of computers and applications as well as an understanding of the concepts underlying the hardware, software and connectivity	Basic Operations	Technology Operations & Concepts	Demonstrate successful troubleshooting strategies for minor hardware and software issues/problems (e.g., “frozen screen”).	I	R	M	All	X			
		Technology Operations & Concepts	Demonstrate use of “quick key” shortcuts.	I	R	M	All	X			
		Technology Operations & Concepts	Develop and use an appropriate organization and name conventions of digital files.	I	R	M	All	X			
		Technology Operations & Concepts	Identify and use a variety portable and cloud storage and provide a rationale for using a certain medium for a specific purpose.	I	R	M	All	X			
		W 6	Demonstrate automaticity in keyboarding skills by increasing accuracy and speed. (For students with disabilities, demonstrate alternate input techniques as appropriate.)	R	R	M	All	X (LA)	X		
		SMP 5, W 6	Use a variety of technology tools (e.g., dictionary, thesaurus, grammar checker, calculator/graphing calculator) to maximize the accuracy of work.	R	M	M	All				
	Word Processing	W 5, W 6, W 10	Demonstrate use of intermediate features in word processing application (e.g., tabs, indents, headers and footers, end notes, bullet and numbering, tables).	I	R	M	LA	X	X		
		W 5, W 6, W 10, SL 5	Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials.	I	R	M	LA	X	X		
		W 5, W6, W 10	Highlight text, copy and paste text	R	M	M	All	X	X		
		W 5, W 6, W 10, SL 1	Use revision and editing tools for peer editing and collaboration of documents	I	R	M	All	X	X		
			<b>I – Introduce</b>	<b>R – Reinforce</b>	<b>M – Mastery (ability to teach others)</b>	<b>O – Optional for grade level</b>					
			<b>D – Discreet Skills</b>	<b>A – Applied Skills</b>	<b>PT – Performance Task</b>						

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8	Subject Area	D	A	PT
Demonstrate proficiency in the use of computers and applications as well as an understanding of the concepts underlying hardware, software and connectivity.	Spreadsheet (Tables/ Charts and Graphs)	F, SMP 5, RI 7	Use spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings and choose the most appropriate type to represent given data.	I	R	M	M/S	X	X	
		F, SMP 5, RI 7	Enter formulas and functions; use the auto-fill feature in a spreadsheet application.	I	R	M	M/S	X	X	
		F, EE, SMP 5, RI 7	Use functions of a spreadsheet application (e.g., sort, filter, find).	I	R	M	M/S	X	X	
		EE, SMP 6	Use various number formats as appropriate	I	R	M	M/S	X	X	
		F, SMP 5, RI 7	Use advanced formatting features of a spreadsheet application (e.g., reposition columns and rows, add and name worksheets).	I	R	M	M/S	X	X	
		SMP 5, RI 7	Differentiate between formulas with absolute and relative cell references.			O	M/S	X	X	
		SMP 5, RI 7	Use multiple sheets within a workbook, and create links among worksheets to solve problems.		O	O	M/S	X	X	
	SMP 5, RI 7	Import and export data between spreadsheets and other applications.		O	O	M/S	X	X		
Mathematical Applications	G, SMP 5	Draw two and three dimensional geometric shapes using a variety of technology tools	I	R	M	M/S	X	X		
<b>I – Introduce</b> <b>R – Reinforce</b> <b>M – Mastery (ability to teach others)</b> <b>O – Optional for grade level</b>										
<b>D – Discreet Skills</b>			<b>A – Applied Skills</b>			<b>PT – Performance Task</b>				

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8	Subject Area	D	A	PT
Demonstrate proficiency in the use of computers and applications as well as an understanding of the concepts underlying hardware, software and connectivity.	Multimedia and Presentation Tools	SMP 3, SL 5	Create presentations for a variety of audiences and purposes with use of appropriate transitions and animations to add interest.	R	M	M	All		X	
		SL 5	Make appropriate and strategic use and selection of digital media to enhance understanding.	R	M	M	All		X	
		W 6, SL 5	Use painting and drawing tools/ applications to create and edit work	R	M	M	All	X	X	
		RL 7, RI 7, SBAC testing skills	Use note-taking skills while viewing online videos and using the play, pause, rewind and stop buttons.	R	M	M	All	X	X	
		SMP 3, SL 5	Independently use appropriate technology tools (e.g., graphic organizer, audio, visual) to define problems and propose hypotheses.	I	R	M	S		X	
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.	Acceptable Use, Copyright and Plagiarism	Digital Citizenship	Comply with the district’s Acceptable Use Policy related to ethical use, cyberbullying, privacy, plagiarism, spam, viruses, hacking, and file sharing.	R	M	M	All			
		Digital Citizenship	Explain Fair Use guidelines for using copyrighted materials and possible consequences (e.g., images, music, video, text) in school projects.	R	M	M	All			
		Digital Citizenship	Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.	I	R	M	All			
		Digital Citizenship	Give examples of hardware and applications that enable people with disabilities to use technology.	I	R	M	All			
		Digital Citizenship	Explain the potential risks associated with the use of networked digital environments (e.g., internet, mobile phones, wireless, LANs) and sharing personal information.	R	M	M	All			
		<b>I – Introduce</b>	<b>R – Reinforce</b>	<b>M – Mastery (ability to teach others)</b>			<b>O – Optional for grade level</b>			
		<b>D – Discreet Skills</b>		<b>A – Applied Skills</b>			<b>PT – Performance Task</b>			



Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8	Subject Area	D	A	PT
Demonstrate the ability to use technology for research, critical thinking, decision making, communication, collaboration, creativity and innovation.	Research (Gathering and Using Information)	RI 5, RI 7	Identify probable types and locations of Web sites by examining their domain names (e.g., edu, com, org, gov).	I	R	M	All			
		RI 5, RI 7	Use effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators).	R	M	M	All			
		RI 7	Use appropriate academic language in online learning environments (e.g., post, thread, intranet, discussion forum, drop box, account, and password).	I	R	M	All			
		RI 5, RI 7, SMP 3	Explain how technology can support communication and collaboration, personal and professional productivity, and lifelong learning.	I	R	M	All			
		RI 5, RI 7	Write correct in-text citations and reference lists for text and images gathered from electronic sources.	I	R	M	All	X (LA)	X	
		RI 5, RI 7	Use Web browsing to access information (e.g., enter a URL, access links, create bookmarks/favorites, print Web pages).	I	R	M	All			
		RI 7, RI 10, SMP 5	Use and modify databases and spreadsheets to analyze data and propose solutions.	I	R	M	All		X	
		<b>I - Introduce</b>	<b>R - Reinforce</b>	<b>M - Mastery (ability to teach others)</b>		<b>O - Optional for grade level</b>				
		<b>D - Discreet Skills</b>		<b>A - Applied Skills</b>			<b>PT - Performance Task</b>			

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8	Subject Area	D	A	PT
Demonstrate the ability to use technology for research, critical thinking, decision making, communication, collaboration, creativity and innovation.	Communication and Collaboration	W 6, W 10, SL 5, SMP 5, RI 7	Use a variety of media to present information for specific purposes (e.g., reports, research papers, presentations, newsletters, Web sites, podcasts, blogs), citing sources.	R	M	M	All		X	
		W6, W 10, SL 2, SL 5, SMP 3	Demonstrate how the use of various techniques and effect (e.g., editing, music, color, rhetorical devices) can be used to convey meaning in media.	I	R	M	All		X	
		RI 6, RI 7, RI 9, SMP 3, SL 5	Use a variety of district approved collaboration tools to communicate with peers, experts, and other audiences using appropriate academic language.	R	M	M	All		X	
		W 6, W10, S 3	Use teacher developed guidelines to evaluate multimedia presentations for organization, content, design, presentation and appropriateness of citations.	R	M	M	All		X	
		RI 6, RI 7, RI 9, SMP 3	Plan and implement a collaborative project with students in other classrooms and schools using telecommunications tools.	O	O	O	All		X	
<b>I – Introduce</b> <b>R – Reinforce</b> <b>M – Mastery (ability to teach others)</b> <b>O – Optional for grade level</b>										
				<b>D – Discreet Skills</b> <b>A – Applied Skills</b> <b>PT – Performance Task</b>						

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8	Subject Area	D	A	PT
Self-reliance, Creativity, Motivation, and Mindset	Creativity & Innovation	Self-Reliance	Identify and assess the capabilities and limitations of emerging relevant technologies.	I	R	R	All		X	
		EE, A, F, SP, SMP 5, W 8, SL 5	Explain and demonstrate how specialized technology tools can be used for problem solving, decision making, and creativity in all subject areas (e.g., simulation software, environmental probes, computer aided design, geographic information systems, dynamic geometric software, graphing calculators).	I	R	R	All		X	
		Self-Reliance	Demonstrate a sound understanding of technology concepts, systems, and operations; transfer current knowledge to learning of new technologies.	I	R	R	All		X	
		Creativity & Innovation	Demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology	I	R	R	All		X	
I - Introduce		R - Reinforce	M - Mastery (ability to teach others)	O - Optional for grade level						
D - Discreet Skills			A - Applied Skills			PT - Performance Task				



# 9-12 ISTE Standards

The California State Standards for English Language Arts and Literacy in History/Social Studies, Science and Technical subjects require that all students demonstrate College and Career Readiness in reading, writing, speaking & listening, and language.

**They use technology and digital media strategically and capably.**

*Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.*

As students enter high school their technology skills will reflect the instructional experiences they have had throughout their elementary and intermediate school years. High school teachers are expected to build upon these skills by providing learning experiences that apply and extend skills developed through the K-8 Technology Matrix.

The ***International Society for Technology in Education Standards (ISTE)*** is a guide for high school teachers as they plan instructional activities which integrate technology throughout the curriculum.





International Society for  
Technology in Education

# ISTE Standards Students

## 1. Creativity and innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

- Apply existing knowledge to generate new ideas, products, or processes
- Create original works as a means of personal or group expression
- Use models and simulations to explore complex systems and issues
- Identify trends and forecast possibilities

## 4. Critical thinking, problem solving, and decision making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- Identify and define authentic problems and significant questions for investigation
- Plan and manage activities to develop a solution or complete a project
- Collect and analyze data to identify solutions and/or make informed decisions
- Use multiple processes and diverse perspectives to explore alternative solutions

## 2. Communication and collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

- Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
- Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- Develop cultural understanding and global awareness by engaging with learners of other cultures
- Contribute to project teams to produce original works or solve problems

## 5. Digital citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

- Advocate and practice safe, legal, and responsible use of information and technology
- Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
- Demonstrate personal responsibility for lifelong learning
- Exhibit leadership for digital citizenship

## 3. Research and information fluency

Students apply digital tools to gather, evaluate, and use information.

- Plan strategies to guide inquiry
- Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
- Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
- Process data and report results

## 6. Technology operations and concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

- Understand and use technology systems
- Select and use applications effectively and productively
- Troubleshoot systems and applications
- Transfer current knowledge to learning of new technologies

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