

**Trumbull Public Schools**  
Technology Competencies K-12  
Scope and Sequence

*adapted from Common Core State Standards K-12*

# Introduction to the Scope and Sequence Document

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The scope and sequence includes grades K-12 and is divided into sections (K-5) and (6-12). It offers clear guidelines for the skills, knowledge and approaches students will need to succeed in the digital age.

The color-coded scope and sequence chart identifies which grade level 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.

Please use the table for explanation of abbreviations for each standard.

<p style="text-align: center;"><b>CCSS English Language Arts Standards</b></p>	<p style="text-align: center;"><b>CCSS Mathematics Standards</b></p>	<p style="text-align: center;"><b>ISTE Standards</b></p>
<p><b>RL</b> - Reading Standards for Literature;  <b>RI</b> - Reading Standards for Informational Text;  <b>W</b> - Writing;  <b>SL</b> - Speaking and Listening;  <b>L</b> - Language.</p>	<p><b>MD</b> – Measurement and Data  <b>G</b> - Geometry  <b>EE</b> - Expressions and Equations  <b>A</b> - Algebra  <b>F</b> - Functions  <b>SP</b> - Statistics and Probability  <b>SMP</b> - Standards of Mathematical Practice</p>	<p><b>IS1</b> Creativity/Innovation  <b>IS2</b> Communication/Collaboration  <b>IS3</b> Research/Information Literacy  <b>IS4</b> Critical Thinking/Problem Solving  <b>IS5</b> Digital Citizenship  <b>IS6</b> Technology Operations/Concepts</p>

\*References cited on last page of document.

# Elementary

Digital Literacy Categories		Alignment to CCSS/ISTE *SBAC	Skills	K	1	2	3	4	5	
<p><b>Students demonstrate a sound understanding of technology concepts, systems, and operations.</b></p> <p><b>a. Understand and use technology systems</b></p> <p><b>b. Select and use applications effectively and productively</b></p> <p><b>c. Troubleshoot systems and applications</b></p> <p><b>d. Transfer current knowledge to learning of new technologies. (IS6)</b></p>	<p style="text-align: center;"><b>Basic Operations</b></p>	IS6*	Turn on a computer and login	I	R	M	M	M	M	
		IS6*	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	
		IS6*	Use desktop icons, windows and menus to open applications and documents	I	R	M	M	M	M	
		IS6*	File management – saving documents	O	I	R	M	M	M	
		IS6*	Explain and use age-appropriate online tools and resources (e.g. databases, assessment, web browser)		I	R	M	M	M	
		<p style="text-align: center;"><b>W 6 , IS6</b></p> <p>Keyboarding</p> <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	R	R	M	M		
		<p style="text-align: center;"><b>Word Processing</b></p>	W 5, W 6, W 10, IS6	Use a word processing application to write, edit, print and save simple assignments (e.g. Google Docs)	I	R	M	M	M	M
			W 5, W 6, W 10, IS6	Use menu/tool bar functions (e.g. font/size/style/, line spacing, margins) to format, edit and print a document		I	R	M	M	M
			W5, W6, W10, IS6	Highlight text, copy and paste text		O	I	R	M	M
			W 5, W 6, W 10, IS6	<ul style="list-style-type: none"> <li>• Copy and paste images within the document and from outside sources</li> <li>• Insert and size a graphic in a document</li> </ul>		I	R	M	M	M
	L 4 , IS6		Proofread and edit writing using appropriate resources (e.g. dictionary, spell checker, grammar, and thesaurus).		O	I	R	M	M	
<p><b>I – Introduce                      R – Reinforce                      M – Mastery (ability to teach others)                      O – Optional for grade level</b></p>										

Digital Literacy Categories	Alignment to CCSS/ ISTE *SBAC	Skills	K	1	2	3	4	5		
<p>Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. (IS1)</p> <p>Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. (IS4)</p>	<p>Spreadsheet (Tables/ Charts and Graphs)</p>	MD, IS6 *				I	R	M		
		IS6*			O	I	R	M		
		MD, IS4, IS6 *			O	I	R	M		
		MD, IS6 *					I	R	M	
		RI 7, IS4, IS6					I	R	M	
<p>Students demonstrate a sound understanding of technology concepts, systems, and operations. (IS6)</p>	<p>Multimedia and Presentation Tools</p>	W 6, IS6		I	R	M	M	M		
		W 6, IS1				I	R	M	M	
		W 6, SL 5, IS1			O	I	R	M		
		W 6, SL 5, IS1					I	R	M	M
		W 6, RL 7, IS4, IS6*	O	I	R	M	M	M		
<p>I – Introduce                      R – Reinforce                      M – Mastery (ability to teach others)                      O – Optional for grade level</p>										

Digital Literacy Categories	Alignment to CCSS/ISTE *SBAC	Skills	K	1	2	3	4	5	
<p>Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.</p> <p>a. Advocate and practice safe, legal, and responsible use of information and technology</p> <p>b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity</p> <p>c. Demonstrate personal responsibility for lifelong learning</p> <p>d. Exhibit leadership for digital citizenship. (IS5)</p>	<p>Acceptable Use, Copyright and Plagiarism</p>	IS5	Explain and demonstrate compliance with classroom, school rules (Acceptable Use Policy) regarding responsible use of computers and networks	I	R	M	M	M	M
		IS5	Explain responsible uses of technology and digital information; describe possible consequences of inappropriate use	I	R	M	M	M	M
		IS5	Explain Fair Use Guidelines for the use of copyrighted materials,(e.g. text, images, music, video in student projects) and giving credit to media creators	O	O	I	R	M	M
		IS5	Identify and explain the strategies for the safe and efficient use of computers (e.g. passwords, virus protection software, spam filters, popup blockers)		I	R	M	M	M
		IS5	Become aware of safe email practices, recognition of the potentially public exposure of email and appropriate email etiquette				I	R	M
		IS5	Identify cyberbullying and describe strategies to deal with such a situation	I	R	M	M	M	M
		IS5	Recognize and describe the potential risks and dangers associated with various forms of online communications		I	R	M	M	M
<p>I – Introduce                      R – Reinforce                      M – Mastery (ability to teach others)                      O – Optional for grade level</p>									

Digital Literacy Categories		Alignment to CCSS/ ISTE *SBAC	Skills	K	1	2	3	4	5
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. (IS2)	Research and Gathering Information	RI 5, RI 7 , IS3	Use age appropriate technologies to locate, collect, organize content from media collection for specific purposes, citing sources (e.g. Easybib, Webciter-Google Extension)	I	R	R	M	M	M
		RI 5, RI 7 , IS3	Perform basic searches on databases, (e.g. library, card catalog, encyclopedia) to locate information.			I	R	M	M
		RI 5, RI 7 , IS3	Evaluate teacher-selected or self-selected Internet resources in terms of their usefulness for research.			I	R	M	M
		RI 7, IS3	Use content specific technology tools (e.g. microscopes, thermometers, and measuring devices, simulations) to gather and analyze data.			O	I	R	M
		RI 6, RI 7, RI 9 , IS3	Use Web tools (e.g. online discussions, blogs, Google Classroom)			O	I	R	M
		RL 7 , IS3	Identify and analyze the purpose of a media message (to inform, persuade and entertain)	I	R	M	M	M	M
Students apply digital tools to gather, evaluate, and use information. (IS3)	Communication and Collaboration	W 6, IS2	Work collaboratively online with other students under teacher supervision. (e.g. Google Drive)			I	R	M	M
		W 6, W 10, IS2	Use a variety of age-appropriate technologies (e.g. Google Drive, Powtoons, iPads) to communicate and exchange ideas		I	R	M	M	M
		W 6, W 10 SL 2, SL 5 , IS2	Create projects that use text and various forms of graphics, audio, and video, (with proper citations) to communicate ideas. (e.g. Google Slides, Book Creator)			I	R	M	M
		W 6, W 10 SL 3	Use teacher developed guidelines (rubric) to evaluate multimedia presentations for organization, content, design, presentation and appropriateness of citations.			O	I	R	M
		W 6, W 10 SL 1 , IS2	Use <i>district approved</i> Web tools for communication and collaboration (e.g. sharing in Drive, blogs, Google Classroom)			I	R	M	M
<b>I – Introduce</b> <b>R – Reinforce</b> <b>M – Mastery (ability to teach others)</b> <b>O – Optional for grade level</b>									

## Secondary

Digital Literacy Categories		Alignment to CCSS/ISTE *SBAC	Skills	6	7	8	9	10	11	12	
<p>Students demonstrate a sound understanding of technology concepts, systems, and operations.</p> <p>a. Understand and use technology systems</p> <p>b. Select and use applications effectively and productively</p> <p>c. Troubleshoot systems and applications</p> <p>d. Transfer current knowledge to learning of new technologies. (IS6)</p>	Basic Operations	IS6	Identify successful troubleshooting strategies for minor hardware and software issues/problems (e.g., “frozen screen”).	I	R	M	M	M	M	M	
		IS6	Independently operate peripheral equipment (e.g., scanner, digital camera, camcorder), if available.	I	R	M	M	M	M	M	M
		IS6	Identify and use a variety of storage media (e.g., CDs, DVDs, flash drives, school servers, and cloud storage spaces), and provide a rationale for using a certain medium for a specific purpose.	I	R	M	M	M	M	M	M
		W 6	Keyboarding Continued development in proficiency, speed and accuracy in touch typing. (For students with disabilities, demonstrate alternate input techniques as appropriate.)	R	M	M	M	M	M	M	M
		IS1	Identify and assess the capabilities and limitations of emerging technologies.		I	R	M	M	M	M	M
	Word Processing	W 5, W 6, W 10	Demonstrate use of intermediate features in word processing application (e.g., tabs, indents, headers and footers, bullet and numbering, tables).	I	R	M	M	M	M	M	M
		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	M	M	M	M	M
		W 5, W 6, W 10, SL 1	Use the Comment function for peer editing of documents	I	R	M	M	M	M	M	M
		W 5, W 6, W 10, SL 1	Use the ‘revert to last version or earlier version’ feature for peer editing of documents.		O	I	R	M	M	M	M
	<p>I – Introduce                      R – Reinforce                      M – Mastery (ability to teach others)                      O – Optional for grade level</p>										

Digital Literacy Categories		Alignment to CCSS/ISTE *SBAC	Skills	6	7	8	9	10	11	12
Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. (IS4)	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	M	M	M
		F, SMP 5, RI 7	Enter formulas and functions; use the autofill feature in a spreadsheet application.	I	R	M	M	M	M	M
		F, EE, SMP 5, RI 7	Use functions of a spreadsheet application (e.g., sort, filter, find).	I	R	M	M	M	M	M
		EE, SMP 6	Use various number formats (e.g. scientific notations, percentages, exponents) as appropriate	I	R	M	M	M	M	M
		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	M	M	M
		SMP 5, RI 7	Differentiate between formulas with absolute and relative cell references.			I	R	M	M	M
		SMP 5, RI 7	Use multiple sheets within a workbook, and <b>create links among worksheets to solve problems.</b>		O	I	R	M	M	M
		SMP 5, RI 7	Import and export data between spreadsheets and other applications.		O	I	R	M	M	M
	Mathematical Applications	G, SMP 5	Draw two and three dimensional geometric shapes using a variety of technology tools .	I	R	M	M	M	M	M
		EE, SMP 5	Use and interpret scientific notations using a variety of technology applications			I	R	M	M	M
		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, <b>graphing calculators</b> ).	I	R	M	M	M	M	M
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Digital Literacy Categories		Alignment to CCSS/ISTE *SBAC	Skills	6	7	8	9	10	11	12	
<p>Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. (IS1)</p> <p>Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. (IS4)</p> <p>Students use digital media &amp; environments to communicate and work collaboratively, including at a distance, to support individual learning &amp; contribute to learning of others (IS2)</p>	Multimedia and Presentation Tools	SMP 3, SL 5, IS2	Create presentations for a variety of audiences and purposes with use of appropriate transitions and animations to add interest.	R	M	M	M	M	M	M	
		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	M	M	M	M	M
		SL 5	Make strategic use of digital media to enhance understanding	R	M	M	M	M	M	M	M
		W 6, SL 5	Use painting and drawing tools/ applications to create and edit work	R	M	M	M	M	M	M	M
		RL 7, RI 7, *	Use note-taking skills while viewing online videos and using the play, pause, rewind and stop buttons.	R	M	M	M	M	M	M	M
		SMP 3, SL 5, IS4	Independently use appropriate technology tools (e.g., graphic organizer, audio, visual) to define problems and propose hypotheses.	I	R	M	M	M	M	M	M
			ability to operate/use video and audio devices, as well as audio and video editing applications, to create products that communicate ideas and information to an intended audience. (podcasts, videos, photostories, etc.).								
			Design, manage, contribute to webpage, website, blog, or other web presence to communicate and share learning with others.								
			Demonstrate effective public speaking skills and strategies to accompany presentations.								
			Persuade or inform using appropriate resources to create written, visual, oral and multimedia products to communicate ideas, information and conclusions to others.								
			Evaluate, select and organize body of own original work to generate a portfolio of exemplary work ( e.g. e-Portfolio).								
<p>I – Introduce      R – Reinforce      M – Mastery (ability to teach others)      O – Optional for grade level</p>											

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<p><b>Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. (IS5)</b></p> <p><b>a. Advocate and practice safe, legal, and responsible use of information and technology</b></p> <p><b>b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity</b></p> <p><b>c. Demonstrate personal responsibility for lifelong learning</b></p> <p><b>d. Exhibit leadership for digital citizenship. (IS5)</b></p>	<p><b>Acceptable Use, Copyright and Plagiarism</b></p>	IS5	Comply with the district's Acceptable Use Policy related to ethical use, cyberbullying, privacy, plagiarism, spam, viruses, hacking, and file sharing.	R	M	M	M	M	M	M	
		IS5	Explain Fair Use guidelines for using copyrighted materials and possible consequences (e.g., images, music, video, text) in school projects.	R	M	M	M	M	M	M	M
		IS5	Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.	I	R	M	M	M	M	M	M
		IS5	Give examples of hardware and applications that enable people with disabilities to use technology.	I	R	M	M	M	M	M	M
		IS5	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	M	M	M	M	M
			Understand the consequences of confirmed cases of plagiarism and copyright infringement.								
			Demonstrate the responsible, legal and safe use of hardware, software and networks.								
			Comply with laws and/or school policies that prohibit hacking, mischief, vandalism and theft.								
			Comply with laws prohibiting illegal downloads and piracy. Adherence to the licensing agreements.								
			Participate in efforts to reduce, eliminate cyberbullying in school and/or district (e.g. poster campaigns, pledges, school events, etc.)								
			Identify cyberbullying and describe steps to be taken to deal with situation (who to report incidents, guidance & counseling, etc.)								
<p><b>I – Introduce      R – Reinforce      M – Mastery (ability to teach others)      O – Optional for grade level</b></p>											

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<p>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. (IS2)</p> <p>Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. (IS4)</p>	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	M	M	M	M		
		W6, W10, 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	M	M	M	M	M	
		RI 6, RI 7, RI 9, SMP 3, SL 5	Use a variety of district approved Web tools (e.g., e- mail discussion groups, blogs, etc.) to collaborate and communicate with peers, experts, and other audiences using appropriate academic language. SKYPE+Virtual Fieldtrips+teleconferencing/videoconferencing	R	M	M	M	M	M	M	M	
		W 6, W 10 SL 3	Use teacher developed guidelines to evaluate multimedia presentations for organization, content, design, presentation and appropriateness of citations.	R	M	M	M	M	M	M	M	
		RI 6, RI 7, RI 9, SMP 3, IS2	Plan and implement a collaborative project with students in other classrooms and schools using telecommunications tools (e.g., e-mail, discussion forums, groupware, interactive Web sites, video-conferencing, Skype)	I	R	M	M	M	M	M	M	
			Design, manage, contribute to webpage, website, blog, or other web presence to communicate and share learning with others.									
			Use personal digital technologies to facilitate collaboration with others within district guidelines. (Cell phones, GPS, other personal digital devices)									
I – Introduce		R – Reinforce	M – Mastery (ability to teach others)	O – Optional for grade level								

## References

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