

## Technology Applications TEKS Review Work Group D Recommendations

Strand: Data Literacy, Management, and Representation									
Substrand: Collect Data									
Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Rationale
Data literacy, management, and representation--collect data. The student defines data and explains how it can be found and collected. The student is expected to:			Data literacy, management, and representation--collect data. The student uses digital strategies to collect and identify data. The student is expected to:			Data literacy, management, and representation--collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:			The new statements support the continued development of advanced data collection and search strategies, along with the introduction of how data is processed in a variety of formats in digital devices.
NEW (A) identify that data is information collected about people, events, or objects, such as computer searches and weather patterns	NEW (A) explore and collect many types of data, such as preferences or daily routines of people, events, or objects	NEW (A) collect and identify non-numerical data, such as weather patterns, preferred reading genres, and holidays	NEW (A) collect and identify numerical data.	NEW (A) classify numerical and non-numerical data	NEW (A) identify and collect quantitative and qualitative data with digital tools	NEW (A) demonstrate how data can be represented in a binary system and Boolean expression	NEW (A) compare and contrast binary and Boolean data	NEW (A) explain how devices manipulate and transfer data types and files from collected data, such as integers, real numbers, Boolean and text in a binary system	The work group referenced the CSTA progression chart, including the defining data concept, and the New York data standards. The work group made horizontal alignments with other curriculum areas including math, science, social studies, and ELA.

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<p>NEW (B) communicate the idea with guidance that digital devices can search for and retrieve information</p> <p><del>K-2.3.A use search strategies to access information to guide inquiry;</del></p>	<p>NEW (B) conduct a basic search independently or collaboratively using provided keywords and digital sources</p>	<p>NEW (B) conduct a basic search independently using provided keywords and digital sources</p>	<p>NEW (B) use various search strategies with guidance</p> <p><del>3-5.3.A use various search strategies such as keyword(s); the Boolean identifiers and, or, and not; and other strategies appropriate to specific search engines;</del></p>	<p>NEW (B) use various search strategies with two or more keywords within specific parameters</p>	<p>New (B) select various search strategies within specific parameters</p>	<p>NEW (B) discuss and use advanced search strategies, including keyword(s), Boolean operators and limiters</p>	<p>NEW (B) evaluate advanced search strategies, including keyword(s), Boolean operators, and limiters</p> <p><del>7.3.B use and evaluate various search strategies, including keyword(s) and Boolean operators;</del></p>	<p>NEW (B) apply appropriate search strategies, including keyword(s), Boolean operators, and limiters to achieve a specified outcome that includes a variety of file formats</p> <p><del>8.3.B plan, use, and evaluate various search strategies, including keyword(s) and Boolean operators;</del></p>	<p>The work group created new student expectations to fully develop the concept of technology searches in grades K-8. The work group used information from ISTE, other states (New York, Massachusetts, and Washington), the CSTA progression chart (Level IA), and the Foundation Skills Key Technology 1 section of the CCRS to create new SEs. The work group added differentiation and scaffolding throughout.</p>

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K-2.3.B use research skills to build a knowledge base regarding a topic, task, or assignment; and			3-5.3.B collect and organize information from a variety of formats, including text, audio, video, and graphics;			6.3.A create a research plan to guide inquiry;	7.3.A create a research plan to guide inquiry;	8.3.A create a research plan to guide inquiry;	The work group felt the intent of this SE was covered in the new digital citizenship strand and in the ELA TEKS. The work group deleted this student expectation because of the overlap of these actions as part of the newly defined student expectations in this strand and the practical technology concepts strand. The newly created student expectations for search strategies are relevant to the research concept.
K-2.3.C evaluate the usefulness of acquired digital content.			3-5.3.C validate and evaluate the relevance and appropriateness of information; and	3-5.3.D acquire information appropriate to specific tasks.		6.3.C select and evaluate various types of digital resources for accuracy and validity; and	7.3.C select and evaluate various types of digital resources for accuracy and validity; and	8.3.C select and evaluate various types of digital resources for accuracy and validity; and	The work group felt the intent of this concept was developed in the Digital Citizenship strand and in the ELS TEKS.

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Strand: Data Literacy, Management, and Representation									
Substrand: Organize, Manage, and Analyze Data									
Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Rationale
			Data literacy, management, and representation--organize, manage, and analyze data. The student uses data to answer questions. The student is expected to:			New: Data Literacy, Management, and Representation-- Organize, manage, and analyze data. The student uses technology to transform data, make inferences, and predictions. The student is expected to:  <del>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:</del>			The CSTA progression chart and other state standards support the development of data evaluation techniques to answer questions. The original knowledge statement did not fit the development of the organize, manage, and analyze strand. The new statement captures the transformation of data, as well as, making inferences and predictions.

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Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Rationale
			<p>NEW (A) analyze data through graphs to identify and discuss trends and inferences</p> <p><del>3-5.1.B analyze trends and forecast possibilities, developing steps for the creation of an innovative process or product; and</del></p>	<p>NEW (A) use technology to analyze, transform, and make inferences about the data to answer a question</p>	<p>NEW (A) use technology to transform data to select and create the appropriate graph, such as a dot plot, scatter plot, and bar graph, and make inferences to answer a question</p>	<p>NEW (A) use technology to transform data in order to select the appropriate graph, identify trends and make inferences</p> <p><del>6.1.D discuss trends and possible outcomes.</del></p>	<p>NEW (A) use technology to transform data to select the appropriate graph, analyze trends, and make inferences and predictions</p> <p><del>7.1.D use technology to discuss trends and make predictions.</del></p>	<p>NEW (A) use technology to transform data, analyze trends and predict possibilities for the creation of an innovative process or product</p> <p><del>8.1.D analyze trends and forecast possibilities.</del></p>	<p>The work group used the CSTA progression chart, information from other states (WA, NY, and MA), and cross-curriculum TEKS connections including mathematics and third-grade science to create new student expectations. The work group also included work group B recommendations and included the terms "inference" and "transformation." Additionally, the work group aligned with CCRS cross-disciplinary foundation skills (E technology III).</p>

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K-2.4.D collect, analyze, and represent data using tools such as word processing, spreadsheets, graphic organizers, charts, multimedia, simulations, models, and programming languages.			3-5.4.B collect, analyze, and represent data to solve problems using tools such as word processing, databases, spreadsheets, graphic organizers, charts, multimedia, simulations, models, and programming languages;	3-5.4.C evaluate student-created products through self and peer review for relevance to the assignment or task; and		6.4.C collect and analyze data to identify solutions and make informed decisions;	7.4.C collect and analyze data to identify solutions and make informed decisions;	8.4.C collect and analyze data to identify solutions and make informed decisions;	These student expectations have been addressed in the new student expectations for in the new substrands.

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Substrand: Communicate and Publish Results									
Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Rationale
		Data literacy, management, and representation--communicate and publish results. The student communicates data through the use of digital tools. The student is expected to:	Data literacy, management, and representation--communicate and publish results. The student communicates data through the use of digital tools to an audience. The student is expected to:			Data literacy, management, and representation--communicate and publish results. The student creates digital products to communicate data to an audience for an intended purpose. The student is expected to:  <del>Creativity and innovation. The student uses creative thinking and innovative processes to construct knowledge, generate new ideas, and create products. The student is expected to:</del>			The work group used information from CSTA and other state standards (WA, MA, WV, and NY) to introduce the concept of communicating with data into an early grade level. In addition, this concept was targeted for Grade 2 to build foundations in data collection, communications, and mathematics skills before creating presentations with data visualizations.

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Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Rationale
		NEW (A) use a digital tool to individually or collaboratively create and communicate data visualizations, such as pictographs and bar graphs	NEW (A) use technology to communicate and display data trends and inferences to inform an intended audience	NEW (A) use technology to communicate and display data to answer a question to inform an intended audience	NEW (A) use technology to communicate and display data using the appropriate visualization to inform an intended audience	NEW (A) use technology to communicate and display the data of a product or process to inform an intended audience  <del>6.3.D process data and communicate results.</del>	NEW (A) use technology to communicate and display the data of a product or process to inform or persuade an intended audience  <del>7.3.D process data and communicate results.</del>	NEW (A) use technology to communicate and publish the data of a product or process to persuade an intended audience  <del>8.3.D process data and communicate results.</del>	The work group coordinated the development of communications including data visualization with the skills developed in strand 2. Scaffolding was created with the additions of communication to an audience and with purpose. The 21st century skills were also discussed in the definition of the substrand.