

Draft of San Carlos School District Technology Plan Spring 2016 to Spring 2019

The San Carlos School District (SCSD) Strategic Plan recognizes that our students will enter a world of work and social interactions that will be very different from those of their parents. To prepare them for the future and yet undefined careers, it is imperative to consider and address some emerging trends that provide the context and conditions for their future success.

A Connected and Borderless World - The technological world and its associated network of social interactions are undergoing enormous changes. They serve as drivers of change that present a suite of challenges, and more importantly, opportunities for rethinking the educational landscape. Children today are born into the world where digital access to information is widespread. For these post-millennials, such is not considered "technology," but rather a normal way of interacting with the world. Our increasingly networked world allows the connection of all human enterprises through information networks and unprecedented creation and sharing of educational and social content. This ubiquity and access present the challenge of how to educate children in a world where the sum of human knowledge is available instantaneously, for free, at their fingertips.

Workplace Requirements for 21st Century Skills - Parallel and intertwined with the changes taking place in the technological landscape is a rethinking of skills and conceptual tools that are critical for 21st Century learners. The Partnership for 21st Century Skills project calls for a focus on the 5Cs: Critical Thinking & Problem Solving, Communication, Collaboration, Citizenship (from local to global) and Creativity & Innovation. The 5Cs embody mindsets that are critical for our students to successfully participate in the contemporary and evolving workforce. The successful development of these skills happens in school and home environments that adopt a whole child perspective which, in addition to building technology proficiency and adroitness with the information it accesses, engenders the development of each student's social-emotional, psychological, and physical well-being.

There is great potential for developments in technology and social networking that present the opportunity to create new forms of collaboration and communication, and to change the way educators, students, and community members interact. This Technology Plan aims to implement a comprehensive, district-wide Technology Plan outlining learner outcomes and effective use of technology for teaching and learning, data collection and analysis, and district-wide operations. The Technology Plan articulates continued planning and support for a robust technological infrastructure, capacity for one-to-one computing, a platform for district-wide collaboration and sharing, and sufficient training for staff, students, and parents in its use. Outlined below are strategies and outcomes to guide us over the next three years, given the rapid pace of technological innovation.

This document is organized into three sections that focus on, 1) Curriculum and Instruction, with subsections focusing on student access and competencies, breaking down boundaries, and educator preparedness, 2) Assessments, Data Reporting, and Evaluation, and, 3) District Infrastructure.

1. Curriculum and Instruction

Through the varied and rich experiences students encounter in their educational environments, students develop the skills and knowledge necessary to learn effectively and live productively in an increasingly global and digital world. Students can apply and master the practices, tools, and skills outlined in the International Society for Technology Education (ISTE) Technology Standards for students (See Appendix) to engage in learning and solve real world problems. Technology skills are not taught in isolation - but acquired through Project Based Learning (PBL), Personalized Learning, and the multifarious learned experiences in classrooms and beyond the walls of schools. The end goal is for all students to have access to and confidently employ technology as a tool for learning, responsible communication, and monitoring achievement. Coincidentally, teachers and staff must have access to technology and opportunities for professional growth and training in support of the District's strategic vision.

A. Student Access to Technology

The Strategic Plan calls for the development of a personalized, project-based, and technology-infused approach to teaching and learning, featuring real world, meaningful design challenges, including a deep appreciation for and exploration of the creative expression found within the arts. The District's approach to teaching, learning, and curriculum development aligns with California's adoption of the Common Core State Standards (CCSS).

Year 3 Target: Every student will have access to computing devices at school and home that will support their school initiated and individual learning objectives. We envision this to be some combination of tablet-based computing instead of today's paper-based textbooks and curricular materials and keyboard-equipped laptops and desktops that support collaboration, project specific computing needs, and assessment systems. We will have explored and settled on models (One-to-One Computing, Bring Your Own Device, District Sponsored Purchasing Plans, etc.) for ensuring that every student has ubiquitous access to the learning device(s) and connectivity needed to meet the District and student personal learning goals. We also recognize the likelihood of unanticipated innovative technologies emerging that could profoundly reshape our understanding of how students learn and interact with others during the plan's 3-year window.

Year 1 Target: Students in grades 3 through 8 will have a minimum access ratio of 2 students to 1 mobile computing device and students in grades TK through 2 will have a minimum ration of 3 to 1 tablet devices to support implementation of the Common Core State Standards, Project Based Learning, Personalized Learning, 21st Century Learning goals, and for student proficiency in keyboarding.

Outcomes	Actions
By Fall of 2016, staff will have established a 3-year purchase and replacement cycle for student laptops and mobile computing devices including a plan for repurposing decommissioned laptops.	<ul style="list-style-type: none"> ● Finalize inventory of existing student mobile and desktop devices ● Align budgeting with a plan for purchase of mobile devices ● Assign staffing and timeline to identified needs ● Submit plan to Superintendent and COO
By the Fall of 2017, staff will have a set of vetted personalized learning platforms and curriculum/approaches to support the CCSS and Next Generation Science Standards (NGSS.)	<ul style="list-style-type: none"> ● Staff will pilot various platforms to include digital/online applications ● Staff will pilot hands-on, student-centered approaches to personalized learning ● Staff will follow a cycle of assessment, reflection and revision to determine best practices for implementation in personalized learning ● District Administrators, Principals, and Teachers will adopt English/Language Arts and Mathematics personalized learning platforms and approaches in support of Common Core State Standards and NGSS
By Spring of the school year before construction (both in 2017 and 2018), District Administration will purchase devices and infrastructure needed to support teaching and learning in new schools or existing schools being remodeled.	<ul style="list-style-type: none"> ● Tech Team will consult with school administrators, construction staff, and School Design Teams. ● Tech Team will research solutions to support teaching and learning as identified by above teams ● District Administration will consult with Superintendent and COO regarding fiscal implications and purchase timelines

By Fall of 2016, staff will have established a laptop loaner and internet access program to guarantee access for students lacking home access and internet services.	<ul style="list-style-type: none"> ● Principals, with support from the Tech Team, will pilot laptop loaner program in Spring of 2016 school year. ● By Spring of 2017, District Administrators (in coordination with site administrators) will have identified all qualifying students and will have a laptop and internet connectivity service plan for home use. ● District administrators will outline an ongoing means for monitoring student/family need
By Spring of 2017, the Technology team will implement a student single password sign-on system(s) to access web-based learning tools and personalized learning websites.	<ul style="list-style-type: none"> ● During the Fall of 2016, the Tech Team will investigate and pilot single sign-on systems ● During the Fall, 2016, Tech Team will review and assess available options and make recommendation to District Admin ● By Winter of 2017, the Tech Team will implement the selected single sign-on system(s)
By September 2016, staff will report to the Board an annual inventory of District hardware and devices, as well as a review of tech support activities during the 2015-2016 school year.	<ul style="list-style-type: none"> ● During the Spring of 2016, Tech staff will roll-out implementation of SysAid inventory and support tracking system at each school site ● Tech staff will inventory all devices in district and record inventory in the newly adopted SysAid system ● In the Summer of 2016, the District Administration will produce an inventory and usage report in preparation for Board communication at the onset of the following school year (and henceforth)
In the Fall of 2019, District Administration will recommend a plan to transition libraries to a media-rich learning and reference center model.	<ul style="list-style-type: none"> ● Principals will coordinate activities to investigate and visit, virtually and in person, exemplary 21st Century library sites ● District Admin will coordinate joint Tech-Librarian meetings to facilitate dialogue, planning and coordination ● District Admin will present the board with exemplary models and findings of research and visits to exemplary sites

By Spring of each school year, Principals, Secretaries and District personnel will finalize tech hardware and software orders for the upcoming school year based on a well articulated and efficient ordering procedures adopted district-wide.	<ul style="list-style-type: none"> ● District Administration, Technology Systems Network Specialist, and Data Systems Manager will identify key organizational components and supported hardware needing to be considered district-wide ● By Spring of each school year, Tech Team will have a plan for summer work to recommend, purchase, process, and deploy technology for on-time opening of the new school year ● By May 2016, Tech staff will share with District Administration a coordinated and comprehensive process for identification, purchase and deployment of varying levels of technology (bulbs, printers, document cameras, monitors, projectors, desktops, switches, firewall, etc.) needed in classrooms, at sites, and at the district level.
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Measures:

1. *By Spring of 2017, 80% of faculty will identify as “well supported” by Technology Staff.*
2. *By June 2019, 100% of 3-8 students will have access to computing devices and supporting technologies at school as measured by enrollment.*
3. *By Fall 2016, 100% of students will have computing devices and internet access at home as measured by a survey of principals.*

B. Student Technology Competencies

A Scope and Sequence of essential technology and cyber citizenship skills, inclusive of benchmarks for keyboarding proficiency, is presented in as a supporting document to this Technology Plan. These standards will be revisited and revised on an annual basis based on feedback from teachers and the Tech Staff.

Year 3 Target: All students will demonstrate mastery of technology skills, tool use, and 21st Century habits of mind that promote technological literacy and cyber citizenship.

Year 1 Target: Implement outcome measures and rubrics for technology skills, tool use, and cyber citizenship. Develop and implement curricula and activities to support the development of technology skills and refine outcomes and measures.

Outcomes	Actions
At the beginning of the 2017-2018 school year, the Scope and Sequence (based on ISTE Student Standards and Matrix of Essential Computer Skills--See Appendix A) will be incorporated as part of the Grades 3, 5, and 8 Learner Outcomes.	<ul style="list-style-type: none">• Board will approve an updated Tech Plan during the 2015-2016 school year• As part of this Technology Plan, a Scope and Sequence guiding the introduction and mastery of Student Technology Skills will be reviewed by teachers and adopted for a soft roll-out beginning in the 2016-17 school year• Teachers will identify and develop lessons or links with outside resources for lessons on Cybersafety (Common Sense Media) as part of the skills outlined in the Tech Skills Scope and Sequence• By Spring of 2016-2017, District Administration will finalize the suite of lessons supporting Cybersafety. Lessons and materials will be reviewed on an annual basis henceforth• During the 2015-16 school year, and in subsequent school years, 3rd, 4th, and 5th Grade students will practice keyboarding at school and home.• By Spring 2017, staff will design an assessment to measure student achievement of the recommended Common Core 4th, 5th and 6th Grade benchmarks (See Scope and Sequence).

By 2018-19, the majority of teachers will reflect consistent focus on and embedding of Tech-Infused components in their Project Based Learning Units.	<ul style="list-style-type: none"> • Teachers in coordination with their colleagues, and under the guidance of their site principals, will include Tech tools and skills integrated into their PBL Units as part of their unit planning. • Teachers will share examples of tech-infused tools and competencies in an online repository or other means
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Measures:

1. *By June of 2019, 80% of students or above will demonstrate grade appropriate competencies in computer and cyber citizenship skills as part of exit outcomes for grades 3, 5 and 8.*
2. *By June of 2019, 80% of teachers will demonstrate a consistent focus on, and embedding of Tech-Infused components in their Project Based Learning Units based upon principal observational and survey results of actions in practice.*

C. Breaking Down Walls

A major theme of the Strategic plan is to identify opportunities and logical next steps towards fully leveraging personalized learning and enlisting strategic partners to meet the needs of students. Identifying appropriate and genuine opportunities to incorporate blended learning resources independent of and in support of project-based learning, personalized learning, enrichment, and varied elective offerings for students is paramount to enacting 21st Century learning. Students can extend their classroom learning experience through portals to blended and flipped learning and engage in global citizenship via video conferencing and other emerging technologies.

Year 3 Target: The concept of school learning will be expanded and transformed as evidenced by teaching and learning occurring outside of the constraints of time and place of the traditional classroom

Year 1 Target: Establish two well-matched and robust partnerships and incorporate two blended learning services, one in Math and one in English/Language Arts, in support of expanding the reach of 21st Century and Problem Based Learning.

Outcomes	Actions
During the Spring of 2017 school, present a system for connecting industry and community experts to students in classrooms (and other learning environments) that supports student learning through face-to-face visits and distance education opportunities with video conferencing and other web-based services.	<ul style="list-style-type: none">● Create a web-based database for collecting and sharing parent and outside expert subject area resources● Develop a plan to identify and connect internal expertise● Define means to manage and keep expert resources current on an annual basis● Develop a plan to track effectiveness and pervasiveness of community resources on student learning

By Spring of 2018, establish a system of well-articulated resources, protocols, and tools that support personalized student learning that allows for learning to take place within and outside the traditional classroom settings	<ul style="list-style-type: none"> ● During the 2015-16 school year, staff will pilot a variety of personalized learning platforms that support our strategic plan and ultimately learning outcomes ● Develop protocols for assessing efficacy of personalized learning platforms ● During 2016-17 school year, staff will pilot the protocols to vet platforms
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Measures:

1. *Every grade level at each school site will make at least one connection to an external site via teleconferencing or the web during the 2018-19 school year and subsequent years at K-5.*
2. *Every core subject at each middle school site will make at least one connection to an external site via teleconferencing or the web during the 2018-19 school year and subsequent years grade 6-8*

D. Educator Preparedness

In order to realize the learning outcomes outlined in the Strategic Plan, there is a need to establish responsive, robust staff professional development programs and technology support networks to guarantee the seamless implementation and realization of tech-infused 21st Century Learning. Teachers in grades K through 8 will be prepared implement project based learning and personalized learning strategies for individualizing student learning and assessment.

Year 3 Target: All staff will become confident users of technological tools and systems to support 21st Century teaching and learning. All teachers will demonstrate proficiency in all facets of the International Society for Technology in Education ISTE Standards for Teachers (See Appendix B).

Year 1 Target: Develop a District-wide technology professional development plan to promote 21st Century teaching and learning. Develop systems to promote the ability to support technology needs promptly.

Outcomes	Actions
By the end of 2017-2018, District administration will recommend a plan for Professional Learning that incorporates personalized professional goals, blended, and distance learning environments on an ongoing basis as well as leveraging the expertise of onsite Tech Support	<ul style="list-style-type: none">• During 2016-2107 School Year, District Administration will develop a PD Advisory Committee to identify key elements of professional learning and outline shifts needed to meet the varying levels of staff• District administration in coordination with principals and educators identify flexible and tech-enhanced options that may meet identified needs• Various platforms of blended and distance professional development will be piloted and assessed for overall effectiveness• Professional learning through collaboration of Tech Team and educators will be assessed for overall effectiveness• Conduct an annual Faculty Technology Survey to understand better the technology needs and levels of their technology competency• During the summer of each school year, District Administration will finalize the following year's plan for all staff to participate in some combination of mini-tech seminars at faculty and staff meetings, online certifications, and access to online PD opportunities and resources

Develop a strategy to provide professional growth incentives for staff to pursue technology professional development opportunities and certifications.	<ul style="list-style-type: none"> By the Fall of 2017 the Asst. Superintendent will conduct a pilot and support a minimum of one faculty member per grade per school to pursue a Technology certification as part of a professional growth plan.
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Measures:

1. *By Spring of 2019, 90% of faculty will identify as "confident users of technology".*
2. *By Spring of 2019, 90% of faculty will report that technology is naturally and seamlessly infused as part of their everyday teaching.*

2. Assessments, Data Reporting, and Evaluation

The District Strategic Plan calls for the creation of new rubrics and measurements of student, school, and district success, including measuring Whole Child outcomes (e.g. physical wellness, character development, social-emotional learning, etc.); a practice for collaborative review including self-review, and authentic assessment of student work. In support of these goals, the District will develop a longitudinal data system with protocols to support collaborative and personal assessment of student performance.

Access to Data

The District will develop and implement a suite of tech-enabled programs and systems to monitor and support student learning. This suite will include but not be limited to; portfolio assessments, assessments for learner outcomes, results from statewide measures (Smarter Balanced, CELDT, etc.), integration of current measures (Renaissance Learning and MARS assessments, etc.), and a growing suite of blended and formative assessments.

Year 5 Target: Provide a seamlessly integrated tech-enabled suite of assessments that include qualitative and quantitative as well as formative and summative assessments. Provide integration of current data and assessment systems (e.g. PowerSchool, Illuminate, Google Docs, etc.). Have in place a well-established data system/dashboard that provides community, teachers, and students with real-time access to clear and consistent assessment data and information. Students, Parents, and Teachers will have access to data and will reflect on and curate evidence of student learning and technological literacy.

Year 1 Target: Adoption, training and implementation of a data information system that incorporates current and future assessments in a single system that is easy to access and understand. Pilot a repository for longitudinal student portfolios.

Outcomes	Actions
<p>By the Spring of 2019, staff will create an assessment map that addresses the whole child and is inclusive of quantitative and qualitative student measures both formative and summative for grades TK-8.</p>	<ul style="list-style-type: none"> ● During each school year, the District Administration will perform a needs assessment and plan for the successful, seamless administration of the state-mandated CAASPP assessment as well as district-selected measures (e.g., MARS, Writing rubric, DRA-2, Second Step, etc.) ● Determine needs and purchase equipment, conduct training and actualize systems to successfully implement California Assessment of Student Performance and Progress (CAASPP) assessments improving the process from prior year administrations
<p>By Spring of 2018, create a system of formative assessments in classrooms to support Common Core standards and Project Based Learning for all learners with an additional focus on supporting students with special needs.</p>	<ul style="list-style-type: none"> ● On an annual basis, Asst. Superintendent will update Board on the status of formative assessment programs and progress toward supporting students with special needs (SPED, EL, etc.). ● Director of SPED will engage SPED staff in identification and vetting of formative assessments for progress monitoring of SPED needs students ● Assistant Superintendent, in coordination with Principals and educators, will identify and vet formative assessment to monitor EL student progress
<p>By the beginning of each school year, the District Administration will ensure that acceptable use policies, technology services contracts, research studies, and MOUs are in strict adherence to District adopted protocols, Board policies, and State and Federal regulations to ensure privacy and confidentiality of student data.</p>	<ul style="list-style-type: none"> ● When necessary and in consultation with legal counsel, Assistant Superintendent, District Administration and other District leaders will review and refine systems and policies to ensure student safety and privacy of personal information/data as applicable laws and software are adopted

By 2018-2019 School Year, student data that informs learning will be routinely and easily accessed by parents, teachers, and students.	<ul style="list-style-type: none"> • District and site staff will continue to access and make use of data in the Illuminate data management system. • In 2017-2018, staff will fully implement Illuminate as a “go to” data management system and engage in data-driven dialogue that informs their instruction and student support. • Parents and students will access student data via Illuminate parent and student portals • Students and Parents will have access to student achievement and grade book data at the 6-8 level • In 2016-17 School Year, Grade 4-5 staff will pilot authentic assessment measures for future consideration of adoption district-wide
By 2018-2019, the District will have a fully functional and easily accessible data dashboard for the community to gauge quickly progress against District measures and the Strategic Plan.	<ul style="list-style-type: none"> • During the 2106-17 school year, the District Administration will identify and pilot a set of online Dashboard tools to graphically capture aggregate district summary data. • During the 2017-2018 school year, District Administration will refine benchmark measures and visual representations of district data
By 2018-2019, staff and students will access a digital portfolio of student learning as a measure of longitudinal growth and as a resource for student-parent conferencing.	<ul style="list-style-type: none"> • During the 2016-17 school year, the District Administration will investigate student online portfolio assessment systems and bring a recommendation for adoption to the Board in the Spring of 2017. • During 2017-18, staff will pilot an online portfolio assessment system

Measures:

1. *Successfully implement CAASPP annual assessments with greater than 99% student completion rates.*
2. *By Fall of 2017 all students, staff, and parents will have ready access to student achievement data through a data management system for individual students.*
3. *By Fall of 2017, all students, staff, parents, and community members will have access to student achievement and summary data on a District Dashboard.*

3. District Infrastructure

An overarching strategic goal is to ensure that all District learning and work environments will have robust technology infrastructures and flexibility for future growth and technological developments. A dependable, seamlessly functioning network and wireless infrastructure are of primary importance to the day-to-day and long-term educational enterprise.

Outcomes	Actions
By Spring of 2017, the district network will have been upgraded to ensure enhanced security and ability to more effectively filter student web-accessed content.	<ul style="list-style-type: none">• During the Spring of 2016, District Administration will recommend purchase of a new firewall and content filter partially supported by E-Rate funds for inclusion in the 2016-17 budget• In 2016-2017, district will upgrade network Firewall and Content Filter to enterprise-class solution to safeguard against malware, viruses, objectionable websites, and popups
By the Fall of 2018, District Administration will present a plan with budget projections for upgrading network infrastructure to 10 Gigabits per second.	<ul style="list-style-type: none">• In 2017-2018, the Tech Team will research, develop a timeline, and recommend upgrades to network hardware and site wiring to accommodate increasing Internet bandwidth from 1 Gigabits per second to 10 Gigabits per second
By 2018-19, the district will replace desktop computer labs with flexible spaces that feature mobile computing devices	<ul style="list-style-type: none">• In 2016-17, District will upgrade the computer labs at Brittan Acres and White Oaks to a flexible, mobile computing format• In 2017-18, District will upgrade Arundel's computer lab to flexible mobile computing format

Measures:

1. District network and wireless infrastructure will experience no more than 1% downtime.

San Carlos School District K-8 Technology Skills Scope and Sequence

Introduction to the Scope and Sequence Document

This Scope and Sequence is adapted from the Fresno County Office of Education Recommended Digital Literacy and Technology Skills to Support the California Common Core State Standards.

The skills identified for each grade level align to the Common Core State Standards (CCSS) 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 ISTE (International Society for Technology Education) Standards for Standards - 2014: Creativity and Innovation; Digital Citizenship; and Technology Operations and Concepts.

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

San Carlos School District K-8 Technology Skills Scope and Sequence

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

Mathematics standards are focused mainly in grades 6-8 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. Mathematical Standards of Practice (SMP) are also referenced as they encompass use of appropriate technology tools across various standards.

The scope and sequence goes from K-8 but is broken up into sections for K-5 and 6-8. Even though students in grades K, 1, and 2 are not tested for CCSS, 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.

Keyboarding Skills

4th Grade – Students demonstrate sufficient command of keyboarding skills to type a minimum of **one page** in a single sitting. (SBAC English/Language Arts Writing Standard W 4.6)

5th Grade - Students demonstrate sufficient command of keyboarding skills to type a minimum of **two pages** in a single sitting. (SBAC English/Language Arts Writing Standard W 5.6)

6th Grade - Students demonstrate sufficient command of keyboarding skills to type a minimum of **three pages** in a single sitting. (SBAC English/Language Arts Writing Standard W 6.6)

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/ SBAC	Skills	K	1	2	3	4	5
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 test taking skills	Turn on a computer and login	I	R	M	M	M	M
		SBAC test taking 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
		SBAC test taking skills	Use desktop icons, windows and menus to open applications and documents	I	R	M	M	M	M
		SBAC test taking skills	File management – saving documents	O	I	R	M	M	M
		SBAC test taking skills	Explain and use age-appropriate online tools and resources (e.g. tutorial, assessment, web browser)		I	R	M	M	M
		W 6	Keyboarding <ul style="list-style-type: none">• Use proper posture and ergonomics• Locate and use letter and numbers keys with left and right hand placement.• Locate and use correct finger, hand for space bar, return/enter and shift key• Gain proficiency and speed in touch typing	I	R	M	M	M	M
	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
		W 5, W 6, W 10	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
		W.5, W6, W 10	Highlight text, copy and paste text		O	I	R	M	M
		W 5, W 6, W 10	<ul style="list-style-type: none">• Copy and paste images within the document and from outside sources• Insert and size a graphic in a document		I	R	M	M	M
		L 4	Proofread and edit writing using appropriate resources (e.g. dictionary, spell checker, grammar, and thesaurus).		O	I	R	M	M
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level									

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/ SBAC	Skills	K	1	2	3	4	5
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.				I	R	M
		SBAC testing skills	Identify and explain terms and concepts related to spreadsheets (i.e. cell, column, row, values, labels, chart graph)			O	I	R	M
		MD , SBAC testing skills	Enter/edit data in spreadsheets and perform calculations using formulas			O	I	R	M
		MD , SBAC testing skills	Use mathematical symbols e.g. + add, - minus, *multiply, /divide, ^ exponents				I	R	M
		RI 7	Use spreadsheets and other applications to make predictions, solve problems and draw conclusions.				I	R	M
	Multimedia and Presentation Tools	W 6	Create, edit and format text on a slide		I	R	M	M	M
		W 6	Create a series of slides and organize them to present research or convey an idea			I	R	M	M
		W 6, SL 5	Copy and paste or import graphics; change their size and position on a slide			O	I	R	M
		W 6, SL 5	Use painting and drawing tools/ applications to create and edit work			I	R	M	M
		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
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level									

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	K	1	2	3	4	5
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	R	M	M	M	M
		Digital Citizenship	Explain responsible uses of technology and digital information; describe possible consequences of inappropriate use	I	R	M	M	M	M
		Digital Citizenship	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		I	R	M	M	M
		Digital Citizenship	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
		Digital Citizenship	Demonstrate safe email practices, recognition of the potentially public exposure of email and appropriate email etiquette				I	R	M
		Digital Citizenship	Identify cyberbullying and describe strategies to deal with such a situation	I	R	M	M	M	M
		Digital Citizenship	Recognize and describe the potential risks and dangers associated with various forms of online communications		I	R	M	M	M
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level									

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	K	1	2	3	4	5
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	M	M	M	M
		RI 5, RI 7	Perform basic searches on databases, (e.g. library, card catalog, encyclopedia) to locate information.			I	R	M	M
		RI 5, RI 7	Evaluate teacher-selected or self-selected Internet resources in terms of their usefulness for research	I	R	M	M	M	M
		RI 7	Use content specific technology tools (e.g. environmental probes, sensors, and measuring devices, simulations) to gather and analyze data.			O	I	R	M
		RI 6, RI 7, RI 9	Use Web 2.0 tools (e.g. online discussions, blogs and wikis) to gather and share information			O	I	R	M
		RL 7	Identify and analyze the purpose of a media message (to inform, persuade and entertain)	I	R	M	M	M	M
	Communi- cation and Collaboration	W 6	Work collaboratively online with other students under teacher supervision			I	R	M	M
		W 6, W 10	Use a variety of age-appropriate technologies (e.g. drawing program, presentation software) to communicate and exchange ideas		I	R	M	M	M
		W 6, W 10 SL 2, SL 5	Create projects that use text and various forms of graphics, audio, and video, (with proper citations) to communicate ideas.			I	R	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.			O	I	R	M
		W 6, W 10 SL 1	Use district approved Web 2.0 tools for communication and collaboration			I	R	M	M
I – Introduce		R – Reinforce	M – Mastery (ability to teach others)	O – Optional for grade level					

Adapted from The Fresno County Office of Education Recommended Digital Literacy and Technology Skills to Support the California Common Core State Standards

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8
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	Identify successful troubleshooting strategies for minor hardware and software issues/problems (e.g., “frozen screen”).	I	R	M
		Technology Operations & Concepts	Independently operate peripheral equipment (e.g., scanner, digital camera, camcorder), if available.	I	R	M
		Technology Operations & Concepts	Compress and expand large files	I	R	M
		Technology Operations & Concepts	Identify and use a variety of storage media (e.g., CDs, DVDs, flash drives, school servers, and online storage spaces), and provide a rationale for using a certain medium for a specific purpose.	I	R	M
		W 6	Demonstrate automaticity in keyboarding skills by increasing accuracy and speed. (For students with disabilities, demonstrate alternate input techniques as appropriate.)	R	M	M
		Creativity & Innovation	Identify and assess the capabilities and limitations of emerging technologies.	I	R	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, end notes, bullet and numbering, tables).	I	R	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
		W.5, W6, W 10	Highlight text, copy and paste text	R	M	M
		W 5, W 6, W 10, SL 1	Use the Comment function in Review for peer editing of documents	I	R	M
		W 5, W 6, W 10, SL 1	Use the Track Changes feature in Review for peer editing of documents		O	I
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level						

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San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8
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
		F, SMP 5, RI 7	Enter formulas and functions; use the auto-fill feature in a spreadsheet application.	I	R	M
		F, EE, SMP 5, RI 7	Use functions of a spreadsheet application (e.g., sort, filter, find).	I	R	M
		EE, SMP 6	Use various number formats (e.g. scientific notations, percentages, exponents) as appropriate	I	R	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
		SMP 5, RI 7	Differentiate between formulas with absolute and relative cell references.			I
		SMP 5, RI 7	Use multiple sheets within a workbook, and create links among worksheets to solve problems.		O	I
		SMP 5, RI 7	Import and export data between spreadsheets and other applications.		O	I
	Mathematical Applications	G, SMP 5	Draw two and three dimensional geometric shapes using a variety of technology tools	I	R	M
		EE, SMP 5	Use and interpret scientific notations using a variety of technology applications			I
		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	M
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level						

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8
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
		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
		SL 5	Make strategic use of digital media to enhance understanding	R	M	M
		W 6, SL 5	Use painting and drawing tools/ applications to create and edit work	R	M	M
		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
		SMP 3, SL 5	Independently use appropriate technology tools (e.g., graphic organizer, audio, visual) to define problems and propose hypotheses.	I	R	M
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
		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
		Digital Citizenship	Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.	I	R	M
		Digital Citizenship	Give examples of hardware and applications that enable people with disabilities to use technology.	I	R	M
		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
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level						

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8
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, au).	I	R	M
		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
		RI 5, RI 7	Use search engines and online directories. Explain the differences among various search engines and how they rank results.	I	R	M
		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
		RI 5, RI 7, SMP 3	Explain how technology can support communication and collaboration, personal and professional productivity, and lifelong learning.	I	R	M
		RI 5, RI 7	Write correct in-text citations and reference lists for text and images gathered from electronic sources.	I	R	M
		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
		RI 7, RI 10, SMP 5	Use and modify databases and spreadsheets to analyze data and propose solutions.	I	R	M
		RI 7, SMP 3	Develop and use guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects.	I	R	M
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level						

San Carlos School District K-8 Technology Skills Scope and Sequence

Digital Literacy Categories		Alignment to CCSS/SBAC	Skills	6	7	8
Demonstrate the ability to use technology for research, critical thinking, decision making, communication, collaboration, creativity and innovation.	Communi- cation 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
		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
		RI 6, RI 7, RI 9, SMP 3, SL 5	Use a variety of district approved Web 2.0 tools (e.g., e-mail discussion groups, blogs, etc.) to collaborate and communicate with peers, experts, and other audiences using appropriate academic language.	R	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
		RI 6, RI 7, RI 9, SMP 3	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).	I	R	M
I – Introduce R – Reinforce M – Mastery (ability to teach others) O – Optional for grade level						

ISTE Standards Students

1. Creativity and innovation

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

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

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.

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

3. Research and information fluency

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

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

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.

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

5. Digital citizenship

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

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

6. Technology operations and concepts

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

- a. Understand and use technology systems
- b. Select and use applications effectively and productively
- c. Troubleshoot systems and applications
- d. Transfer current knowledge to learning of new technologies

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ISTE Standards

Teachers

Effective teachers model and apply the ISTE Standards for Students (Standards•S) as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community. All teachers should meet the following standards and performance indicators.

1. Facilitate and inspire student learning and creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

- Promote, support, and model creative and innovative thinking and inventiveness
- Engage students in exploring real-world issues and solving authentic problems using digital tools and resources
- Promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes
- Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

- Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
- Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress
- Customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources
- Provide students with multiple and varied formative and summative assessments aligned with content and technology standards, and use resulting data to inform learning and teaching

2. Design and develop digital age learning experiences and assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the Standards•S.

3. Model digital age work and learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.

- Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations
- Collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation

- c. Communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital age media and formats
- d. Model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

4. Promote and model digital citizenship and responsibility

Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

- a. Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources
- b. Address the diverse needs of all learners by using learner-centered strategies providing equitable access to appropriate digital tools and resources
- c. Promote and model digital etiquette and responsible social interactions related to the use of technology and information
- d. Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital age communication and collaboration tools

5. Engage in professional growth and leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

- a. Participate in local and global learning communities to explore creative applications of technology to improve student learning
- b. Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others
- c. Evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning
- d. Contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

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