Las Lomitas Elementary School District
District Technology Plan
2017-2022

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INTRODUCTION

The rapidly changing access to and use of technology is changing the way we communicate, learn, create and teach. When incorporated effectively, technology in the classroom can be a game-changer for many students. It can be a powerful tool to transform teaching and learning. Technology today can facilitate the redesign of traditional tasks and allow for the creation of new and entirely different tasks, previously considered inconceivable.

Las Lomitas Elementary School District deeply recognizes the importance of technology and its associated opportunities and challenges. Technology represents an essential tool for student learning and career preparedness, as well as being a vital engine driving efficient staff operations.

Guided by the 2012-2021 LLESD Strategic Plan and LCAP Goals, the District will implement a technology strategy with student learning and staff training at the center, supported by an infrastructure to support technology integration and system integration.

LLESD Strategic Plan and LCAP Alignment

Strategic Plan

Technology: PREPARE OUR STUDENTS TO THRIVE IN A GLOBALLY COMPETITIVE ENVIRONMENT USING A RIGOROUS CURRICULUM AND INNOVATIVE LEARNING METHODS

- Students will demonstrate achievement of the California Common Core State Standards in math, language arts, science and social studies, as well as achieve and apply a solid standards-based foundation in the arts, **technology**, world languages, and physical education.
- Students will benefit from **technology** to support learning and communication and will select and utilize current technologies to research, collaborate, explore, analyze and communicate ideas.
- Students will be active learners who generate ideas, pose and solve problems, and demonstrate adaptability, self-direction, curiosity, creativity, and analytical thinking.
- Students will apply knowledge across disciplines, through projects, and in real life situations.
- Students will demonstrate their learning in a variety of ways.

LCAP Goal 4:

Technology: "Students will benefit from technology to support learning and communication, and will select and utilize current technologies to research, collaborate, explore, analyze and communicate ideas, …" (SP-1.C)

- Students will demonstrate positive digital citizenship.
- Students will improve their foundational, online and multimedia skills.
- Students will improve their communication, collaboration, critical thinking, and creativity (4Cs) skills.

- Students and Teachers will have appropriate hardware and applications for teaching and learning.
- Students in grades 3-8 will have access to a one-to-one device to support their learning.
- Teachers will demonstrate positive digital citizenship.
- Teachers will improve their foundational, online and multimedia skills.
- Teachers will improve their communication, collaboration, critical thinking, and creativity (4Cs) skills.

The Las Lomitas Elementary School District 2012-2020 Strategic and LCAP plans can be found online at *https://llesd-ca.schoolloop.com*

The 2016-2021 Technology Plan was drafted using the following resources: LLESD 2012-2021 Strategic Plan, LLESD 2015-17 LCAP Goals and Actions, and the International Society for Technology in Education (ISTE) Standards for Teachers and Students. Referenced resource links may be found in the appendix.

The writing committee 2015-17 consisted of the following participants:

- Alain Camou, Las Lomitas Elementary
- Jillian Chingos, Classroom Teacher
- Katie Hatfield, Classroom Teacher
- Eric Holm, Director of Bond
- Mark Jones, La Entrada Principal
- Parker Kelly, Technology Teacher on Special Assignment
- Suzanne Mitchell, Director of Technology
- Nicole Montre, Classroom Teacher
- Stacy Olson, Classroom Teacher
- Angela Ping, Technology Teacher
- Michelle Pitt, Media Center Technician
- Shannon Potts, Director of Curriculum & Instruction
- Darrell Sasagawa, Classroom Teacher
- Bobbi Thielemann, Media Center Technician
- Teagan Webster, Classroom Teacher

The Technology Committee met three times in 2015-2016. While visiting schools, they evaluated furniture solutions that could support 21st Century Learning Environment. From that experience and based on curriculum needs and student learning targets, the Technology Committee redesigned two flexible lab spaces at La Entrada. The team reviewed the Common Core Embedded Technology Standards, the ISTE Standards for Students and Teachers, and the Bright Bytes Data. They wrote three technology goals based on their learning and submitted them for review by the District School Board.

The draft and goals were reviewed from November 2016-January 2017 by the technology committee, site and district administrators, the information technology department members, and additional teachers and staff. After review and comments/edits from the above groups, parent input was received. Comments were considered before a final edit. The plan was then taken to the Board of Education for approval. This plan remains a working document and to be revisited and revised annually.

Duration

The start date will be July 1, 2017, and will end June 30, 2021.

Stakeholders

Position	Name
Superintendent	Lisa Cesario
Local Board Members	Board of Education
Director, Curriculum & Instruction	Shannon Potts
Director, Technology	Suzanne Mitchell
District, Bond Projects	Eric Holm
Site Administrators	Mark Jones, Alain Camou
School Community	Student, Parents
Classroom Teachers/Technology TOSA, Teacher On Special Assignment	Parker Kelly, Angela Ping
Classroom Teachers	La Entrada and Las Lomitas

Outline of the Plan

The technology plan is divided into the following five sections:

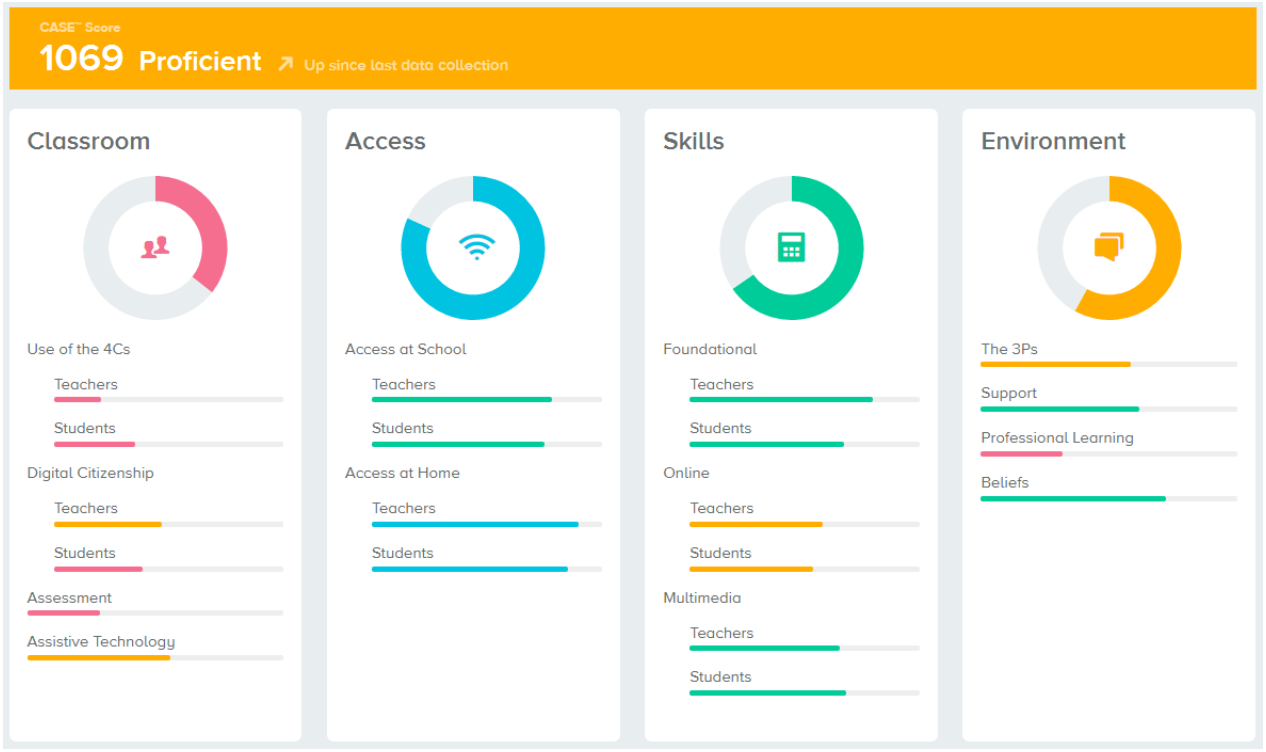
- Current Status
- Teaching, Learning, and Assessment
- Professional Learning
- Infrastructure and Digital Tools
- Data and Privacy

CURRENT STATUS

Collect and analyze data to determine the impact of technology to improve learning outcomes and focus on providing meaningful experiences that drive student achievement.

With the goal of improving decisions made about technology in the classroom, LLESD is using BrightBytes Clarity, a highly-effective, online platform designed to provide schools with evidence-based data that examines classroom technology use, access to technology in and out of school, attitudes toward technology usage, and technology skills of students and educators. It utilizes short, research-driven survey questions given to administrators, teachers, and students, and the results can be disaggregated in a number of different ways so that the district can pinpoint where we need to target our next steps for intervention and development.

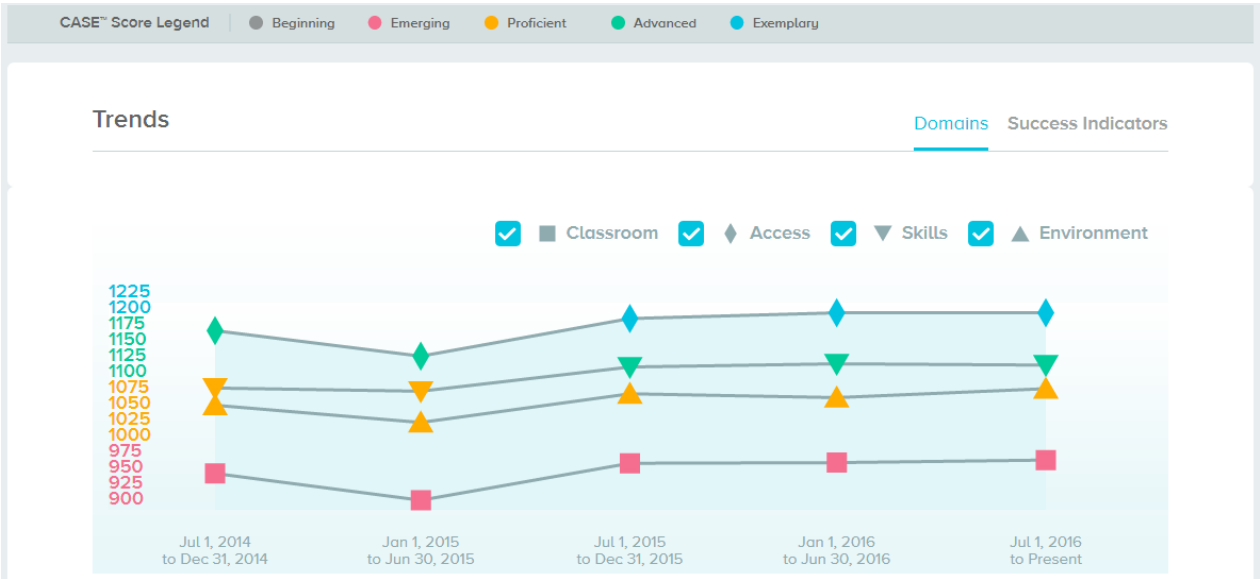
Based on the Fall 2016 data, our overall numeric score is 1069 – Proficient which is an improvement over our Fall 2014 score of 1042 – Proficient.
(Numeric scale between 800 and 1300 and maturity levels: Beginning, Emerging, Proficient, Advanced, and Exemplary)



Each of the four domains has shown improvement over the last two years with the continuously highest score in the area of *Access*. There was a noticeable improvement in *Access* and *Skills*.

957 Classroom
1181 Access
1091 Skills
1064 Environment
Jul 1, 2014 to Dec 31, 2014
2 Schools

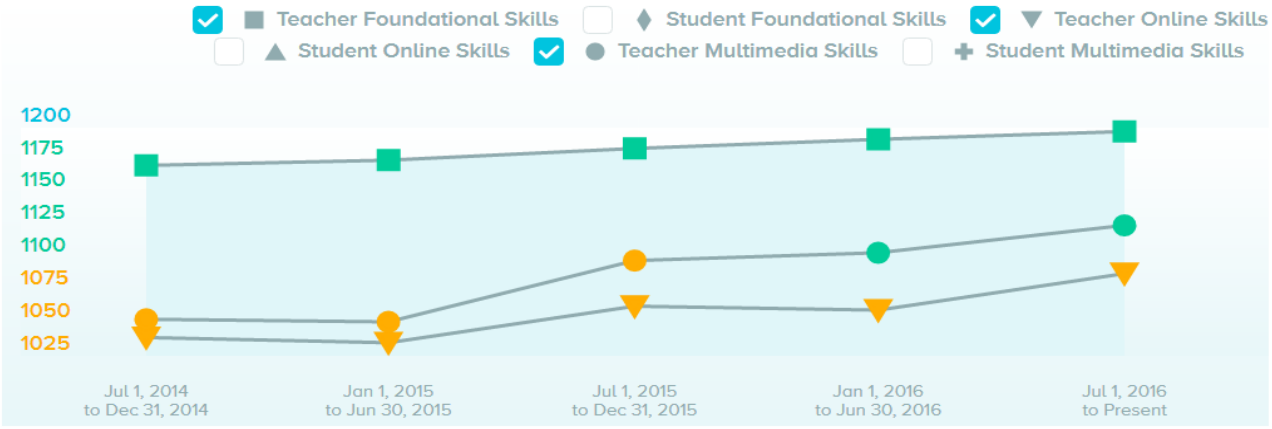
978 Classroom
1209 Access
1127 Skills
1090 Environment
Jul 1, 2016 to Present
2 Schools



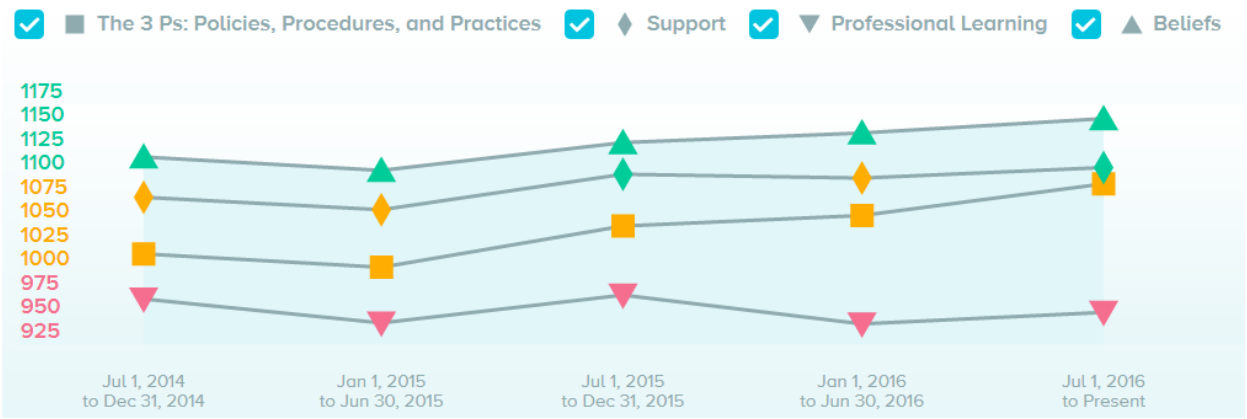
1158 Teachers at School
1142 Students at School
1233 Teachers at Home
1204 Students at School
Jul 1, 2014 to Dec 31, 2014
2 Schools

1192 Teachers at School
1176 Students at School
1250 Teachers at Home
1227 Students at Home
Jul 1, 2016 to Present
2 Schools

Teacher and student access has increased since 2014. Both sites have wireless access to support technology in the classroom and auxiliary spaces. The district has purchased 430 Chromebooks to facilitate CAASPP testing at grades 3-8. Each classroom has a Smart Board/Projectors and/or a document camera to support the teachers' and students' use of technology. The classes have access to local and network computers in their classrooms and the computer labs (two labs at La Entrada and one lab at Las Lomitas). The teachers utilize the district servers and Google Drive to archive work, collaborate and view and evaluate student work.

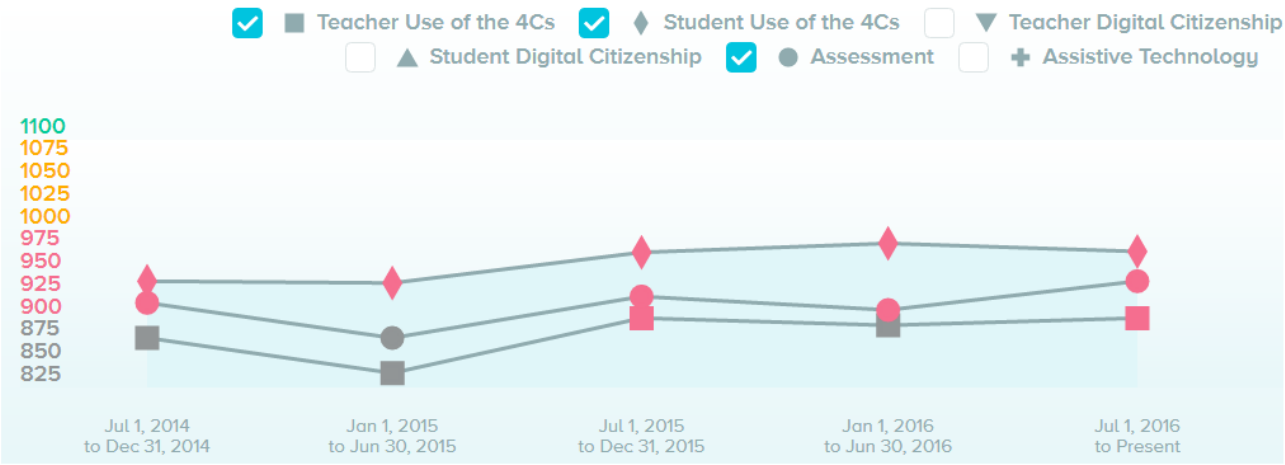


Teachers' *Foundational*, *Multimedia*, and *Online Skills* continue to improve each year, moving from Proficient to Advanced since 2014. The students scored Proficient in 2014 and moved slightly to more Proficient (1105 to 1136 and 1124-1141)

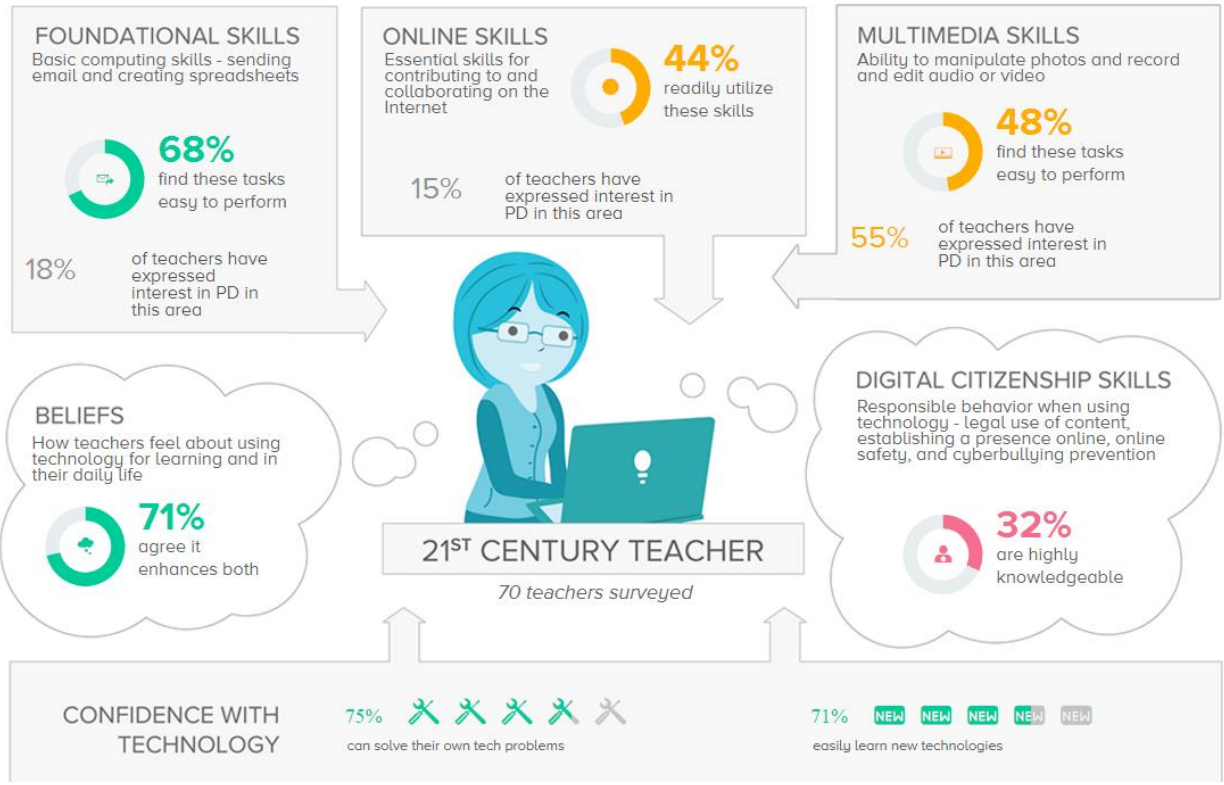


LLESD teachers and staff are Advanced in their beliefs about technology integration and learning. With strong beliefs as our basis, the District has put much time and energy over the last two and a half years to establish policies, procedures, and practices to enable improvement in technology use and integration across both campuses. We have begun addressing professional development needs, but the data still indicates that professional development is a key area in need of improvement. The data shows that there exists a need for increased support and professional development in technology integration. Upon deeper data disaggregation, the teachers and the students need more support in the 4Cs, both as consumers and creators of technology.

Both the teachers and the students scored the lowest in the area *of Classroom Integration* and *Use of Technology*. Students in Las Lomitas Elementary School have weekly lab times where the curriculum supportive software are demonstrated and practiced, and then many of the resources are available in site licenses for student use in the classrooms. Chromebook Carts are available for the third graders and each class has 4-5 iPads for classroom use.

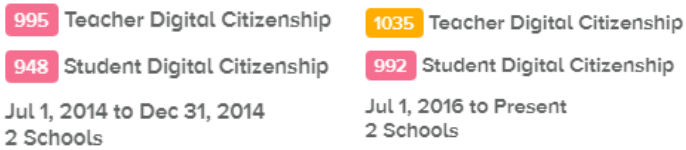


At La Entrada Middle School, technology is more integrated into the daily classroom curriculum; one computer media lab is available for class projects, an additional teaching lab offers weekly curriculum and support in the 4-5th grade with elective offerings in 6-8th grade. The 6-8th grade students each have an iPad for use in all classes at school and home. The 4th and 5th grade classrooms have 4-5 iPads in each classroom and access to three shared Chromebook Carts.



To address the teachers' professional development needs, we have offered a variety of professional development. We have a technology TOSA who offers support in "just in time learning." We have sent teachers to the National, State and local CUE conferences. We have had grade level/department training on Google Drive and integrating technology in the classroom. Teachers regularly collaborate and support each other on new apps and software. All new teachers are trained on our district systems. They are expected to use PowerTeacher (SIS), School Loop (Webpage), School Loop (Gradebook 6-8), Illuminate (Data Management Module and Progress Reports for K-5), School Dude (IT and Maintenance requests) and Google Apps for Education including, Docs, Sheets, Email, and Calendar.

All teachers are aware of the need to educate our students on cyber safety, the Standards of Internet protocols, and digital footprint. In grades 4 and 5, the students receive cyber safety lessons by Digital Tat2. This is reinforced during their technology elective which the students attend weekly. All students sign an Acceptable Use Policy (AUP) at the beginning of the year and the adults protect their technology use. The network



software, the Google Apps for educators. Other apps and software enable a safe environment for the future student.

STUDENT INTERNET USE POLICY REQUIRED
"A school district that provides pupils with access to the internet or online service shall adopt a policy regarding access by pupils to internet and online sites that contain or make reference to harmful matter as defined in subdivision (a) of Section 313 of the Penal Code." (Education Code 51870.5 (a).)

The district has a closed network and security software to maintain the safety of students, (profile, passwords, access). The Google domain with its student gmail and file storage has restricted access or distribution to only the users in the LLESD Google domain.

The **Children's Internet Protection Act**(**CIPA**) requires that K-12 schools and libraries in the United States use internet filters and implement other measures to protect children from harmful online content. LLESD filters the internet via a Fortinet web filter with an additional Apple layer of filters on the iPads.

Additionally, LLESD is compliant with Federal COPPA and FERPA laws.

Software and web applications used by the district are screened and recorded as compliant to comply with latest Act AB1584 which protects Student Data Privacy and limits what information a vendor can distribute on students.

TEACHING, LEARNING, AND ASSESSMENT

Improving teaching, enhancing learning, and assessing student outcomes with technology.

The 2016 Future Ready Learning; National Education Technology Plan, NETP, refers to the Digital Use Divide as;

> *"Traditionally the digital divide referred to the gap between students that had access to the internet and devices at school and home and those who did not. … However, a digital use divide separates many students who use technology in ways that transform their learning from those that use the tools to complete the same activities but now with electronic device (e.g. digital worksheets, on-line multiple-choice tests)"*

The LLESD Technology Plan intent is to promote and support teachers and students to use technology in ways that can improve learning to accelerate and scale up adoption of effective approaches and technologies in the classroom. In LCAP Goal 4, action items 2, 3, 5, 7, and 8 it is stated as;

> *Students will benefit from technology to support learning and communication, and will select and utilize current technologies to research, collaborate, explore, analyze and communicate ideas, …" (SP-1.C)*
>
> - *Students will improve their foundational, online and multimedia skills.*
> - *Students will improve their communication, collaboration, critical thinking and creativity (4Cs) skills.*
> - *Students in grades 3-8 will have access to a one-to-one device to support their learning.*
> - *Teachers will improve their foundational, online and multimedia skills.*
> - *Teachers will improve their communication, collaboration, critical thinking, and creativity (4Cs) skills.*

Informational Literacy Overarching Goal: Las Lomitas Elementary School District students will acquire and maintain the skills they need in order to approach, evaluate, use, manage and add to the vast library of information and media to which they already have access.

The following section is broken into two specific goals and each goal will be reached by addressing the following sub areas:

> **Teaching** refers to: understand how students learn; design and implement engaging lessons and learning experiences; strategies and instructional practices to deliver content and support learning.
>
> **Learning** refers to: Student centered activities, exploration, revision, with the goal of providing equity and accessibility.
>
> **Assessment** refers to: how students demonstrate what they have learned, formative and summative, and how teachers recognize the learning.

Goal Number One: Understanding, Utilizing, and Creating Information and Media Literacy

Students in Las Lomitas Elementary School District will **understand how to best identify and apply the endless amount of media resources available** to them for learning and to be able to **use media creations tools** that exist and will exist in the future in order to create compelling products such as video, podcast and websites in order **to communicate effectively and efficiently.** Teachers and students will understand that technology greatly affords relevant and real world learning and communication.

Tasks	Who/Timeline	Funding
Teaching: Teachers will design and implement pedagogically sound, authentic learning experiences, which incorporate the use of contemporary and/or emerging technologies including media resources to teach the Common Core Standards and Next Generation Science Standards. • Teachers will be introduced to thinking and planning models that support and outline how to create technology embedded lessons. (TPACK, SAMR, ISTE Standards for Teachers Framework). • Teachers will have adequate access to the equipment (devices) and applications necessary and know how to select and use the most appropriate creation tools available. • Teachers will focus on one content area, one unit or concept each year; they will grow their learning each year. • Teachers will collaborate with partners and teams around their chosen content area/unit and media resources. • Teachers will be provided with professional development specific to multimedia instruction and presentations that will include learning how to use multimedia tools in addition to ways to incorporate multimedia learning into the curriculum. • Teachers will collaborate and exchange lesson plans, ideas, and learning experiences electronically with grade level partners, grade level teams, across grade levels (i.e. blogs, boards, shared documents, etc.).	Year 1: One teacher lead per grade level or department Year 1: Develop a mentor teacher model Year 1: Site Tech Committee work together to expand the support Year 2: Two or three teachers per grade level or department Year 3: All teachers will complete one lesson/unit, and most teachers will complete multiple lessons	

Learning: All learners will have engaging and empowering technology-embedded learning experiences that utilize and build their skills in the area of multimedia to show their understanding and to communicate effectively and efficiently. • Students will have access to the equipment (devices) necessary in order to understand and utilize the most appropriate creation tools available. • With the District and Site administration, sites will redesign the computer labs at both sites to ensure access to multiple creation tools, appropriate for grade levels and content areas (i.e. claymation station, video production, sound recording station, etc.) • Students will have increased opportunities for media literacy learning in K-8, (in the classrooms and in the labs). • Students will have access to digital collaboration and creativity tools such as Google docs, iMovie, etc. • Students will have opportunities to identify, analyze and solve problems. They will learn to think creatively and work collaboratively as they use technology to communicate the solutions.		
Assessment: Teachers will use technology to assess learning. Students will have opportunities to show their learning through a variety of ways including a variety of media tools. • Teachers will collect examples of student media work. • Teachers will collaborate on setting values to the quality of media projects created, the communication embedded in the projects and the learning objective.		

Goal Number Two: Understanding and Creating Information and Using Communication Technology Tools (ICT)
Students in Las Lomitas Elementary School District will **know how to access information efficiently and effectively,** and most importantly they **will evaluate information critically and competently.** Students **will communicate and collaborate effectively** using digital communication tools.

Task	Who/Timeline	Funding
Teaching: Teachers will design and implement pedagogically sound, authentic learning experiences, which incorporate the use of gathering and interpreting information to teach the Common Core Standards and Next Generation Science Standards. • Teachers will focus on one content area, one unit or concept each year; they will grow their learning each year. • Teachers will have access to lessons from Common Sense Media, Digital Tat2, and iKeepSafe to teach students to use sound judgment and reason when using information technology. • With the District and Site administration, sites will develop and implement a schedule to provide Students with instruction on internet safety. • Teachers will engage students in lessons where they develop an understanding of the web as a genre. Teachers will explicitly teach text structure of a web page, and how to navigate components of a website, and the skills necessary to do effective and efficient searching. • Teachers will be provided with professional development in the use of information and communication technology tools in order to appropriately create lessons/units that teach students to manage, integrate, evaluate and create information appropriately. • Teachers will create opportunities for students to think critically and creatively while using logical reasoning, analysis, inquiry and problem-solving techniques. • Teachers will be provided professional development on designing inquiry-based lessons and asking questions that promote critical and creative thinking in students. • With the District and Site administration, La Entrada will develop a transition plan for the iPads and the Google Chromebooks • With the District and Site administration, La Entrada will develop a 6th- 8th one to one device implementation plan for 2017-18 school year.	Year 1: One teacher lead per grade level or department Year 1: Develop a mentor teacher model Year 1: Site Tech Committee work together to expand the support Year 2: Two or three teachers per grade level or department Year 3: All teachers will complete one lesson/unit, and most teachers will complete multiple lessons	

• Teachers will be given professional development to determine best ways for students to use one-to-one devices.		
<u>Learning:</u> All learners will have engaging and empowering technology-embedded learning experiences that utilize that build their skills in the area of accessing, evaluating, and creating information. • Students will be given access to devices that are appropriate and flexible and that provide equal access to all students regardless of economic status. • Students will have access to a one-to-one device beginning in the 6th grade. This device should be flexible and applicable across content areas. • Students will have access to digital and online instructional materials across curriculum areas (i.e. NewsELA, online textbooks, Notability). • Students will Identify and ask significant questions that clarify point of view to solve problems. • Students will discern the quality and value of information collected using digital technologies and recognize bias and intent of the associated sources. • Teachers and Students may pilot, review and/or utilize tools that support accessing and evaluating information.		
<u>Assessment:</u> Teachers will use technology to assess learning, Students will have opportunities to show their learning through a variety of ways including a variety of media tools. • Teachers will collect examples of student research. • Teachers will collaborate on setting values to the quality of research completed.		

The International Society for Technology in Education (ISTE), states our charge as the following:

> *"As educators, we are preparing students for a future that we cannot yet imagine. Empowering students to become lifelong learners and providing them with the skills to face future challenges resourcefully and creatively is critical. It's not about using digital tools to support outdated education strategies and models; it's about tapping into technology's potential to amplify human capacity for collaboration, creativity, and communication. It is about leveling the playing field and providing young people worldwide with equitable access to powerful learning opportunities."*

The LLESD Technology Plan's intent is to promote and support teachers and students to use technology in ways that can improve learning to accelerate and scale up adoption of effective approaches and technologies in the classroom. In LLESD Strategic Plan, action items 1, 3, and 4 it is stated as;

> ***Technology:*** *PREPARE OUR STUDENTS TO THRIVE IN A GLOBALLY COMPETITIVE ENVIRONMENT USING A RIGOROUS CURRICULUM AND INNOVATIVE LEARNING METHODS*
>
> - *Students will demonstrate achievement of the California Common Core State Standards in math, language arts, science and social studies, as well as achieve and apply a solid standards-based foundation in the arts,* ***technology****, world languages, and physical education.*
> - *Students will be active learners who generate ideas, pose and solve problems, and demonstrate adaptability, self-direction, curiosity, creativity, and analytical thinking.*
> - *Students will apply knowledge across disciplines, through projects, and in real life situations.*

Computer Science Overarching Goal: Las Lomitas Elementary School District students will acquire and maintain the skills to be well educated citizens in a computing-intensive world and begin their preparation for careers in the 21st century. They will have a preliminary skills, abilities, and understanding of the principles and practices of computer science.

The following section has one specific goals and the goal will be reached by addressing the following sub areas:

> **Teaching** refers to: understand how students learn; design and implement engaging lessons and learning experiences; strategies and instructional practices to deliver content and support learning.
>
> **Learning** refers to: student centered activities, exploration, revision, with the goal of providing equity and accessibility.
>
> **Assessment** refers to: how students demonstrate what they have learned, formative and summative, and how teachers recognize the learning.

Goal Number Three: Understanding the Fundamentals of Computer Science		
Students in Las Lomitas Elementary School will understand the fundamental concepts of computer science. Students will understand that computer science involves more than just programming and is important to their lives, regardless of their interests or career path they choose because the work involves collaborating in an equitable learning environment where students support each other.		
Task	**Who Who/Timeline**	**Funding**
<u>Teaching</u>: • Teachers will be provided with professional development specific to Computer Science. • 6-8 science teachers will be provided professional development specific to how CS standards and curriculum fit with the NGSS. • Teachers will be trained on CS curriculum and learn how to integrate the CS curriculum into the 4^{th}- 5^{th} grade specialists classes and into the K-5 classrooms.	Year 1: Technology elective teachers, one science teacher Year 2: Technology elective teachers, all MS science teachers, one 6-8 math teacher, K-3 teachers (one per grade level) Year 3: K-5 teachers, MS math teachers.	
<u>Learning:</u> • With the District and Site administration, sites will redesign the computer labs at both sites to ensure access to computer science and NGSS tools, appropriate for grade levels and content areas. • Students will have opportunities for computer science learning in K-8. (in the classrooms and the labs) • Students will have additional technology electives at La Entrada. (Coding, Mobile Apps) • Students will have increased opportunities to use computer science in conjunction with the NGSS. • Students and families will have exposure to computer science curriculum through organizations such as Code.Org.		

<u>Assessment:</u> • TBD after the summer 2017 training		

PROFESSIONAL LEARNING

Effective professional learning for teachers can have an enormous impact on teaching and learning in an organization. Specifically, the Center for American Progress reports that 14 hours of high quality professional learning on a single topic is needed before the classroom is impacted to a statistically significant degree. However, CASE data (Classroom, Access, Skills, Environment) collected from hundreds of schools indicates that 75% of teachers report less than 17 hours of school-sponsored professional learning around technology in the last 12 months. Although we have been steadily increasing professional learning opportunities since 2013, in LLESD, 77% of the teachers reported that they participated in less than 8 hours in 2015-16.

The explosion of internet access and affordability of wired and wireless devices has initiated a revolution in how teachers teach, the ways in which students learn, and the methods used to assess student progress. Now, more than ever, teachers must become fluent users of technologies available for education and be skilled in embedding technology in the teaching and learning in their classroom. Research from the International Society of Technology Education (ISTE) also reveals that high quality professional learning is job-embedded, personalized, and designed to promote skill transfer. Professional learning experiences must respond to teachers' interests, needs, and classroom settings. In many cases, these types of learning experiences can extend beyond the traditional school in-service setting to include webinars, Twitter chats, and other virtual experiences. Keeping teachers current with best practices in technology integration through embedded personalized learning experiences will require on-going professional development, using a variety of platforms.

> **Professional Learning** opportunities across the content areas and technology specific that provide multiple sessions on a variety of technology tools and how to apply them in the classroom.
>
> **Technology TOSA/Coach** will support teachers to increase technology integration across the curriculum (STEAM) and with a specific emphasis in Science.
>
> **Collaboration Opportunities** will be designed so that teachers can collaborate with their peers and across the district.

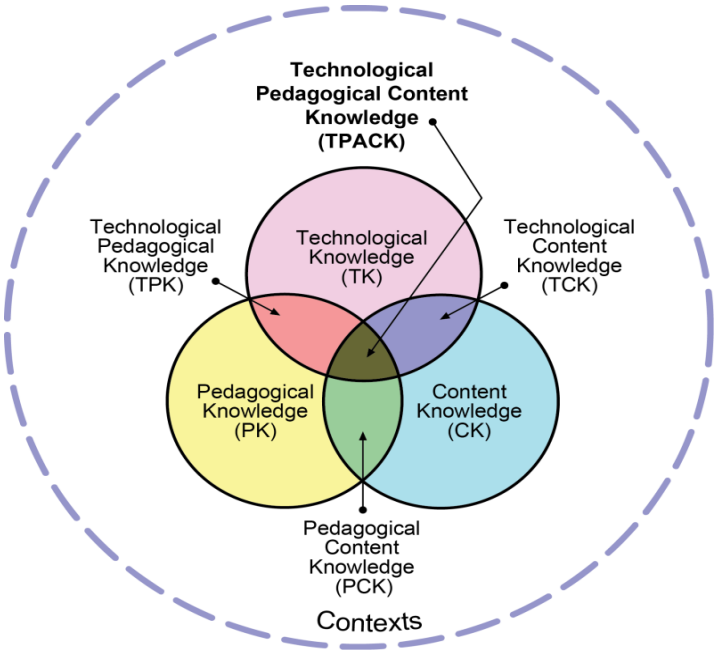
In order for teachers to build goals around improving their personal technology skills and improving technology integration in their classrooms, they must be aware of their own skills and needs. Teachers need to be introduced to thinking and planning models that support and outline how to create technology embedded lessons. The TPACK and SAMR models will help educators, both leaders and teachers, infuse technology such that equity and accessibility are in the forefront. The concept of equity and accessibility applies to accommodating the individual needs of students, such as English language learners, economically disadvantaged, and embedded assistance such as text-to-speech, audio, and digital text formats to differentiate instruction.

Technological Pedagogical Content Knowledge (TPACK) is model representing the overlapping teacher "knowledge" circles required to effectively integrate technology in the classroom. The three major circles of the diagram include:

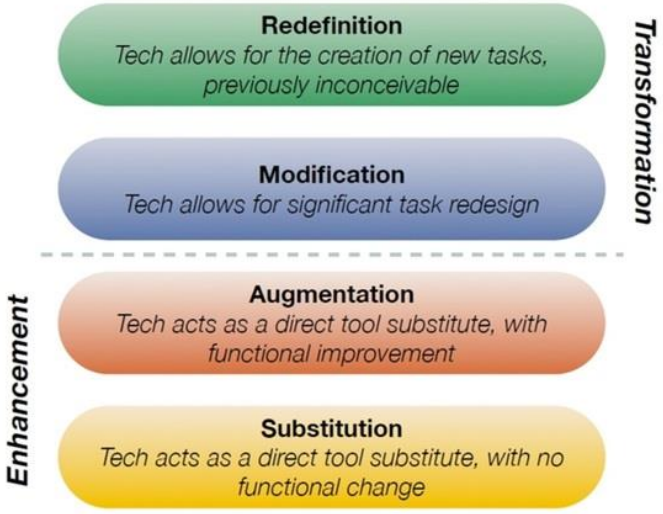
- Content Knowledge - knowledge about the subject matter. This includes knowledge of concepts, theories, ideas, organizational frameworks, practices and approaches toward developing such knowledge.

- Pedagogical Knowledge - knowledge and understanding of how students learn, general classroom management skills, lesson planning, and student assessment.

- Technology Knowledge - knowledge about technology, tools, and resources that support student acquisition of content knowledge in conjunction with the teacher's pedagogical knowledge.



The SAMR Model (Substitution, Augmentation, Modification, and Redefinition) is a model designed to help educators infuse technology into teaching and learning. Popularized by Dr. Ruben Puentedura, the model supports and enables teachers to design, develop, and infuse digital learning experiences that utilize technology.



In addition to these models, the International Society for Technology in Education (ISTE) Standards for Teachers offers a framework for enriching professional practice and becoming a community of teacher learners. The ISTE Standards for Students is a helpful guide for student acquisition of the technology and information literacy skills needed for college and career readiness. Both sets of standards are included in the appendix.

Goal Number Four: Professional Development

Provide professional development choices in best practices that demonstrate the use of contemporary and/or emerging technologies to support student mastery of Common Core Standards, NGSS, ISTE Standards. Teachers who use technology frequently place the highest emphasis on using technology to promote problem-solving, critical thinking, and communication.

Task	Who/Timeline	Funding
<u>Professional Development:</u> • Provide technology professional development opportunities for staff to stay up to date on the latest best practices in educational technology (i.e. Google Summit, CUE conference, district sponsored professional development, computer science) • Teachers will attend Professional Development that support the integration of technology in the classrooms with a specific emphasis in science. • Teachers will work together to create lessons that support NGSS • Continue to investigate and implement STEAM curriculum and activities and opportunities. • Teachers will be introduced to thinking and planning models that support and outline how to create technology embedded lessons. (TPACK, SAMR, ISTE Standards for Teachers Framework)	Year 1: One teacher lead per grade level or department. Site Tech Committee Year 1: Elective teachers Year 2: Two or three teachers per grade level or department Year 2: All elective teachers Year 1: MS science teachers, Year 2: K- 5 science teachers	One – Time Funds General Funds Grants SVEF Partnership
<u>TOSA/Coach:</u> • Teachers will receive continuous, just-in-time professional development, mentors, and informal training. • In conjunction with the classroom Teachers, the TOSA will provide support to pilot new technologies before full implementation. (i.e. Google Classroom, specific apps, etc.)	Year 1: Part time TOSA/Coaching support Year 2: Part time TOSA/Coaching support	One – Time Funds

<u>Collaboration:</u> Provide educators opportunities where they can collaborate with their peers in their schools or district wide. Helping to become a learning community that collaborates and learns from each other.	All teachers interested	One – Time Funds General Funds

INFRASTRUCTURE AND DIGITAL TOOLS

Teachers' and students' access to technology at school is a prerequisite for 21st Century Learning. According to NCES, the ratio of students to computers in the classroom every day is 5.3 to 1. However, this is often not sufficient for transformative instruction to occur. In Las Lomitas Elementary School District, 71% of teachers report that the ratio for student access is closer 2 to 1 and 1 to 1 in the upper grades. Only 53% of all Clarity: Bright Bytes teachers in the nation report that it is always easy to get access to computers when needed for class. In LLESD, we are much higher than the national average, 89% of teachers can get devices for their students when needed more than half the time. Further, only 12% of Clarity Teachers across the nation rate the quality of computers and internet access at their school as excellent while in LLESD, 70% of the teachers report excellent internet speed. Teachers who have difficulty getting access to high quality computers for students when needed are much less likely to plan and implement classroom activities that include digital communication, digital collaboration, digital creativity, and critical thinking. We are set for success in increased technology integration because we have ensured that most students at all schools have sufficient access to technology throughout the school day.

The robust infrastructure needed to support the vision of one-to-one computing requires substantial institutional investment. Leaders are responsible for meeting the challenges and ensuring ubiquitous access among administrators, teachers, and students to connectivity and devices. In addition to the initial cost of purchasing hundreds or thousands of electronic devices, there are very substantial ongoing costs, including implementation, training, software licensing, monitoring, security, upgrades and maintenance. The intent is to assure equity for all students by closing the digital use divide as described in the introduction of the Teaching, Learning, and Assessment section.

Goal Number Five: Infrastructure			
The technology infrastructure which supports all learning and administrative needs, be scalable for growth and maximize security.			
Task	**Who**	**Timeline**	**Funding**
Bandwidth – New Internet	Presently 1 gig and in the ongoing redesign for Nov 2017 currently bidding to 10 gig.	INET expires Nov 2017 and RFQ in process for that upgrade	ERATE 40%, district 60%
Access	Students and staff have access to mobile devices for use anywhere on campuses	Additional Chromebooks for students and laptops for teachers Jan 2017 and June 2016	Technology Refresh cycles

Wireless/Access Points	Students and staff have internet/computer access from all corners of campuses.	Access Points were completed in all rooms July 2015, and will be included in all new construction.	ERATE 40%, district 60%
Servers	Students and staff have access to network servers. We are transitioning to more cloud-based servers.	PowerSchool went to the cloud in June 2015 as the last LLESD-server hosted product. Only systems and network management servers remain onsite now.	

Goal Number Six: Digital Tools			
The digital tools researched and purchased and/or provided supports and correlate with teaching, learning and administrative needs and goals.			
Task	**Who**	**Timeline**	**Funding**
New technology	Tech committee as a whole, and individual members will actively review new hardware and software that support the learning and administrative needs of the district.	Ongoing, via conferences, research, etc.	General Fund, Technology budget or site budgets.
Software & Applications	We will provide instructional software and systems software that address and support our diverse student needs and provide opportunities for individual student success.	Reviewed upon annual renewals and product requests.	Tech & Curriculum and Instruction budgets.
Replacement	Sites, District Office, Computer Labs, Student Computers	See Replacement Plan	General Fund
Life-cycle cost management plan for replacement of end-of-life devices.	Printers, Doc Cameras, class peripherals. Switches and hardware reviewed annually for replacement.	As needed	Tech budget

Servers	Currently under discussion with Tech Committee Servers are reviewed annually to replace 25% annually.	As needed	Tech budget
Student computers	All 6th-8th will have access to an electronic device to use in the classrooms. Increased access to the 2nd-5th grade students	Beginning 2016-17	General Fund

Equipment Replacement Plan

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-2022	2022-23
LL Teachers/ Staff	Explore/ Purchase	Year 1	Year 2	Year 3	Year 4	Year 5 Explore/ Purchase	Year 1
LE Teachers/ Staff		Explore/ Purchase	Year 1	Year 2	Year 3	Year 4	Year 5 Explore/ Purchase
LL Lab			Explore/ Purchase	Year 1	Year 2	Year 3	Year 4
LE Mac Lab		Explore/ Purchase	Year 1	Year 2	Year 3	Year 4	Year 5 Explore/ Purchase
LE Labs			Explore/ Purchase	Year 1	Year 2	Year 3	Year 4
District Office	Explore/ Purchase	Year 1	Year 2	Year 3	Year 4	Year 5 Explore/ Purchase	Year 1
Student Computers	Explore/ Purchase	Year 1	Year 2	Year 3	Explore/ Purchase	Year 1	Year 2
Chrome Books				Explore/ Purchase	Year 1	Year 2	Year 3
Network Equipment	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
Telecom. Equipment				Explore/ Purchase			
Budget	$250,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000

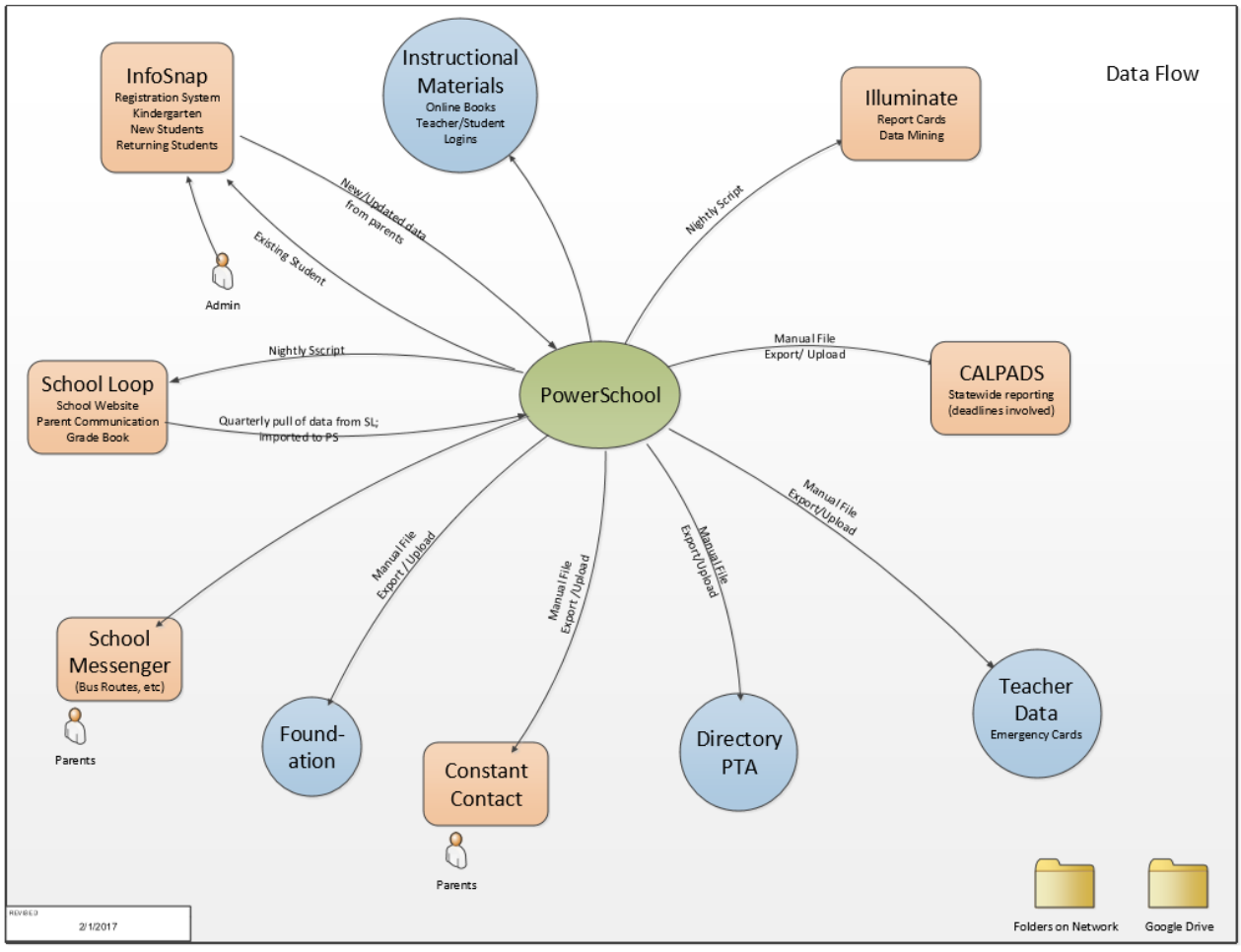
Goal Number Seven: Support			
The support structure and design will enable the District to maintain the technology infrastructure and the hardware and software on District devices. The support will enable maximum teaching, learning, and productivity while working within a systematic approach.			
Task	**Who**	**Timeline**	**Funding**
IT Staff: Provide sufficient IT support to ensure efficient timely and quality technology support using a measurable system (i.e., SchoolDude)	Dir of Tech Data Technician Tech Support (2) Site Lab Technician (2)	TBD	General
Provide ongoing training opportunities, i.e., conferences, seminars, webinar	C & I, Tech		
Provide communications to teachers and staff on upcoming webinars and online learning resources	C & I, Tech		
Train Staff to optimize technical resources through various and local on line methods	Tech		

DATA AND PRIVACY

Data collection is integral to state and federal accountability systems as well as local evaluations. Accurate data is crucial to any evaluation system because if the data has errors, the decisions will be error prone as well. The Center on Great Teachers and Leaders (GTL Center) states:

> *"... data can inform decisions about individuals' performance and state/district programming. A data infrastructure can collect, validate, interpret, track, and communicate principal performance data to inform stakeholders, guide professional learning decisions, and assess evaluation system quality....Data integrity and transparency are, therefore, imperative to any evaluation system. The importance of data integrity and transparency cannot be underestimated. Carefully administered procedures must be in place to ensure data integrity. Data integrity requires verification and cleaning of data and establishing clear procedures for data collection. "*

Presently, LLESD maintains a comprehensive, centralized database of student information which is managed and supported by the Director of Technology. PowerSchool is the web based Student Information System (SIS) which stores historical student records as they progress through the K-8 environment. The SIS is the primary data source for all software programs, including curriculum, communication, achievement (state and local) and state reporting. Student grades and report cards are electronically maintained by teachers through School Loop and Illuminate.



Goal Number Eight: Data Integrity			
LLESD will maintain district, staff and student data accurately and securely.			
Task	**Who**	**Timeline**	**Funding**
Update PowerSchool with accurate information	Data Tech, Dir of Tech	Scheduled audits	n/a
Update CALPADS	Data Tech, Dir of Tech	Ongoing with scheduled audits	n/a
Create Desk Manuals for static process	Dir of Tech	2016-17 and 2017-18	
Update SEIS on a regular basis and coordinate the accuracy of the data with PowerSchool and CALPADS	Spec Ed Administrative Asst, Dir of SPED	As necessary, Audits in place by November 2017	
Cross train members of the support team, office, staffs	Dir of Tech	2017-18, 2018-19	
Update Audit Schedules, Train on Audits	Dir of Tech	Summer 2017, 2017-18	
Train users on Data Systems Offer Professional Development for Teachers – PowerSchool, Illuminate, School Loop	Dir of Tech, Dir of C & I	Beginning of each year, as needed	
Regular Classified Meetings	Superintendent, Directors as applicable	Quarterly	

Technology tools and apps are making it possible for educators and students to collaborate, create, and share ideas more easily than ever. When schools use technology, students' data—including some personal information—is collected both by educators and often the companies that provide apps and online services. With the use of technology in schools, traditional data is now often shared with companies that provide Student Information Systems (SIS), Learning Management Systems (LMS), and many other technologies. It is essential that teachers utilize technology in the classroom while protecting their students' privacy. There are legal and ethical restrictions that impact districts, schools, and teachers.

Teachers should be aware of Family Educational Rights and Privacy Act (FERPA), COPPA, along with their district or school policies regarding the protection of student data.

Goal Number Nine: Student Privacy			
The district will design and support processes to protect student data, so all student information and access is compliant per all applicable laws.			
Task	**Who**	**Timeline**	**Funding**
AB1584 compliance. Reviewing and documenting any products with student data or information conforms to the requirements of the bill	Dir of Tech	Before any software is purchased or downloaded	n/a
Review Employee and Student Acceptable Use Policy		Annually, March	n/a
Overview of Student Privacy w/ staff	Dir of Tech, Site Admin	Twice a year	n/a
Parents overview of Student Privacy w/ Parents	Dir of Tech, Site Admin	Annually or twice a year	

APPENDIX

Existing Hardware:

Network Hardware	# of servers	19
	# of switches	79
	# of routers	1
	# of firewall	1
	# of 28+ port switch	5
	# Access Points	118

Computers	01-Teacher Computer	115	452
	02-Adm Computer	18	
	03-Support (Certif) Computer	24	
	04-Student Desktop	279	
	05-Student Laptop	16	
iPads, Chromebooks	06-Tablet/iPad	718	1218
	07-Chromebooks	500	
Peripherals	08-SmartBoard	64	325
	09-Projector	104	
	10-Printer 3-D Printer	156 1	
Cameras	11-Document Camera	68	101
	12-Digital Camera	33	
Misc	13-Accessory Dash Robots	21 7	28

Existing Electronic Learning Resources:

- Electronic resources & electronic textbooks of adopted core curriculum
- Big Ideas Math
- Brain Pop series (K-8)
- Common Sense Media Curriculum (K-12, Digital Citizenship and Safety)
- Discovery Education (K-8)
- Destiny/Follet Library System (K-8, Library catalog)
- Final Cut Pro (KPAW)
- Geometer's Sketchpad (8th)
- Google Apps for Education (K-12, Productivity)
- iLit
- iMovie
- IXL Math (K-8)
- IXL Language Arts (1-3)
- Khan Academy (3-8, Mathematics)
- Let's Go Learn (4-8, Reading/Math)
- Lexia Learning
- Moby Max
- PhotoShop (Photography classes 7-8,)
- Quia (Spanish)
- Redbird Education Services (Math Pilot 2016-17)
- Reading A-Z, RAZ-Kids (K-5, Language Arts)
- Rosetta Stone (K-8, EL Support)
- TypingPal (2-5, Keyboarding)
- Office Suite (K-12, Productivity)

Existing System Software:

- Aesop/Frontline (Teacher Absence Management Tool)
- AG Irepair (Management of iPad repairs)
- Calpads (Student /Teacher reporting to to state)
- Chrome (Management Device Tool for Chromes)
- Constant Contact (Email communication tool)
- CRDC (reporting software for state civil rights data collection)
- Document Tracking Services (SARC, LCAP, and SPSA)
- Envoy (Visitor badge tool)
- Fortinet (Firewall and Web Filter)
- Follette Library Database
- Google
- Google Analytics (Tracking LLESD website use)
- INET (1 gig fiber and internet connection)
- InfoSnap (Student/family data collection tool)

- Illuminate (Student Data Assessment tool)
- Logitech Surveillance Camera
- Meraki Interface (Management Device Tool for iPads)
- Meraki Servers and Access Points
- Microsoft Office Licensing
- Network Solutions (Site licenses and web domain)
- PowerSchool (Student Information Systems)
- PowerSource (PowerSchool users' training and support site)
- PTC Wizard (Grade 6-8 Parent Conference Appointment tool)
- Reflector (projection software teacher computer to wall)
- SchoolDude (Staff helpdesk)
- School Loop (District and site website, home-school communication, 6-8 interface for homework & grades)
- SchoolMessenger (School to home communication/Emergency broadcast tool via text, phone or email)
- Symantec (Computer and server virus protection)
- Vault (Retains previous emails)

Existing Technical Support:

- Technicians
- Lab Support
- Director of IT
- Tech Ease: Tech savvy students to provide tech support to the iPads

ISTE Standards for 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.

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.

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.

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 iste.org/standards.

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.

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

ISTE Standards for 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.

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.
   - 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.

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 ISTE Standards Teachers International Society for Technology in Education. 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.
   - Communicate relevant information and ideas effectively to Students, parents, and peers using a variety of digital age media and formats.

- 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.
   - 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.
   - Address the diverse needs of all learners by using learner-centered strategies providing equitable access to appropriate digital tools and resources.
   - Promote and model digital etiquette and responsible social interactions related to the use of technology and information.
   - Develop and model cultural understanding and global awareness by engaging with colleagues and Students of other cultures using digital age communication and collaboration tools *iste.org/standards*.

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.
   - Participate in local and global learning communities to explore creative applications of technology to improve student learning.
   - 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.
   - 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.
   - Contribute to the effectiveness, vitality, and self renewal of the teaching profession and of their school and community.

Common Core State Standards K-12 Technology Skills Scope and Sequence
https://www.cde.state.co.us/cdesped/accommodationsmanual_ccss_k12_techscope

Acceptable Use Policies

BP 6163.4 & E 6163.4 Acceptable Use of Computers and Informational Networks

Additional Resources
NGSS - Next Generation Science Standards
K12CS - K-12 Computer Science Framework
NETP - National Education Technology Plan
The 4Cs - Communication, Creation, Creativity, Critical Thinking
TPACK - Technological, Pedagogical and Content Knowledge
AB 1584
FERPA - Family Educational Rights and Privacy Act
COPPA - Children's Online Privacy Protection Act
2016 Future Ready Learning