Wilton Lyndeborough School District

SAU #63

Technology Plan

July 2014 – June 2017

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1 Introduction

1.1 Technology Committee

Bruce Ballou, Technology Committee Co-chair & District Technology Coordinator
Brian Bagley, WLC Principal
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Sam Dignan, Elementary Teacher
Jacqueline Hernandez, Technology Coordinator for Elementary Schools
Molly Moore Lazar, Elementary Teacher
Carol LeBlanc, Community Representative
Julie Lemire, Elementary Teacher
Wanda Meagher, Technology Integrator for Elementary Schools
Tim O'Connell, Principal for Elementary Schools
Tara Roper, Elementary Teacher
Shirley Schneider, Technology Committee Co-chair & WLC Math Teacher
Amy White, WLC Librarian and Media Specialist

1.2 District Mission Statement

Wilton-Lyndeborough Cooperative School District provides a safe and educational environment that promotes student exploration, critical thinking, and responsible citizenship.

Our Schools will strive to accomplish the mission by:
- Encouraging students to reach their potential and become responsible, productive citizens.
- Preparing, challenging and empowering our students to be life-long learners.
- Providing a safe and diverse learning environment.

1.3 District Demographic Description

Wilton-Lyndeborough Cooperative School District serves the educational needs of two neighboring communities in the south central part of the state of New Hampshire.

The community of Wilton has a total population (2012) census) of 3,672. It has a median income of $71,023 with 4.7% of families with incomes below the poverty level. The unemployment rate in 2012 was at 4.9%. Wilton is home to many small businesses and industries.

The Lyndeborough population was listed at 1,683 in the 2012 census. Median household income is $77,037 and 4.1% of the population lives below the poverty level, with unemployment at 4.2%. Lyndeborough has a mountainous terrain covering a geographic region of 30.2 square miles. Formerly a large farming area, it has gradually become a bedroom community to the larger cities of Nashua and Manchester. There are no major businesses or industries in Lyndeborough.

Both elementary schools are organized K-5. Lyndeborough students in grades 6-12 are transported by bus to the Wilton-Lyndeborough Cooperative Middle/Senior High School in the town of Wilton. Student population at Lyndeborough Central School has declined from a high of 126 students in 1998 to its current level of 70. Florence Rideout Elementary School in Wilton currently has 212 students, and the Middle/Senior High School has 331 students, bringing the total population of the school community to 613. This number represents a population that is 98% white with the remainder being equally divided among African and Asian American minorities. Students attending the private elementary and high schools or being home schooled comprise of 12% of the school-aged population. English is the primary language spoken in students' homes, with 27% of its students participating in the free/reduced lunch program.

Expansion of the school's facilities in 1999 has allowed WLC to successfully maintain a pedagogically separate 7th and 8th grade middle school from a grade 9 through 12 high school in the same building. The 6th grades from both FRES and LCS were moved to WLC in the fall of 2012, creating a "true" middle school model at WLC. Currently grades 6, 7, and 8 have 125 students while grades 9-12 have 206 students.

High school students have the option of taking courses in two area regional high schools' vocational programs: 10 students were enrolled at Milford HS in 2013-2014 and 5 students were enrolled in the programs at Mascenic Regional HS in New Ipswich. High school students also have the option to take courses of study through Virtual High School and Virtual Learning Academy: 25 students were enrolled in VHS and 22 students were enrolled in VLACS in the 2013-2014 school year.

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1.4 Technology Vision Statement

The technology mission of the WLC School District is to promote a community of students, staff, administrators, and parents who can adapt to the challenges of the 21st century through the access and utilization of technology in gathering, using and communicating information.

Our use of technology will encourage students to become
- self-directed learners who inquire creatively and develop a life-long passion for learning.
- critical thinkers who use information to solve problems and make informed decisions.
- responsible, global citizens who practice legal and ethical behavior.
- collaborators who communicate information and ideas effectively.

2 Goals

1. The district will integrate technology into instruction at all levels and programs, in accordance with current national and state technology standards.
2. District staff will participate in professional development opportunities to gain the skills and knowledge needed to effectively integrate, utilize and maintain the available technologies.
3. The district will ensure continued technical viability, security, and integrity of the systems and the network.
4. The district will fully implement technology in order to better facilitate communication with parents, to improve administrative efficiencies in the classroom, and to affect greater consistency throughout the district.
5. The district will be prepared to utilize all pertinent academic assessments as needed and required to measure student achievement.

3 Action Plan

More and more teachers in SAU63 are looking to technology to enhance and strengthen the educational experiences of their students. In many cases, this takes the form of having each student in the class using a computer during class time to perform educational tasks. This is across all subject areas and all grade levels. Much educational research has indicated that students benefit from more access to technology and that the engagement in learning that occurs with the use of technology is much higher. In a survey administered by the SAU63 Technology Committee, the largest need that was identified by teachers was access during class time for all students.

Presently, student computer resources are centralized at all grade levels. At the elementary schools, there is one computer lab at each school. The lab at Florence Rideout consists of 20 computers and the lab at Lyndeborough Central consists of 10 computers. In addition, each elementary school has a laptop cart of 15 out-of-date Macbooks.

At the middle/high school, there are 2 computer labs (one at the high school and one at the middle school) consisting of 20 computers each. Additionally, there is a laptop cart of 15 laptops for use by the middle school and a smaller computer lab (14 computers) in the library for use by either middle or high school. The computer labs are also used for academic testing such as NWEA and will have to be used for any state-mandated testing beginning in the Spring of 2015.

Recently, the HS/MS Science department purchased 8-12 thin-client computers with a server for each of their classrooms. This provides them with more access during their class periods, but the access is limited to science classes. However, this is likely not a long-term solution and will have to be upgraded in the future.

These numbers demonstrate that the availability of computers to students is somewhat limited. Currently, based on the centralized model, the use of computers by students is limited to one class per time period at each elementary schools and two classes per time period at the high school and 3 classes at the middle school level. This limited availability makes it difficult for our teachers to plan technology-based projects and assessments on a regular basis. Any access to these resources must be planned for and scheduled well ahead of time.

It is imperative that our students leave our district college-ready and career-ready. In this technological age, an understanding of the use of technology is key to the success of our students in life after high school. It is up to us to prepare them for this future.

The future goal for all of our schools is to provide greater availability to technology to each student in every one of their classes. Over the next three years, we will work toward providing enough systems in each classroom to make the use of technology more practical and more consistent across departments and grade-levels. By ensuring that there is adequate access to technology, our teachers can continue to improve the integration of technology into their lessons and can continue to teach our students how to make the best use of technology for accomplishing our learning goals.

In summary, the Technology Committee is recommending that we use 2014-2015 as our "Planning and Preparation Year." During this year, we will improve our infrastructure and network in order to ensure a successful rollout of additional systems for use by our students and staff. We will train our staff on the improved and increased use of technology within their instruction. We will determine the best set of software and hardware tools to provide on all systems in order to ensure consistency.   Hardware roll-out will be limited during this first year in order to ensure a manageable environment long-term. During this school year, at the elementary level, we will be rolling-out laptop carts to the 5th grade classrooms early in the year and will be replacing the current computer lab at FRES in the late Spring for use when the new school is complete. This will improve the availability at the elementary level and will give us an opportunity to assess this strategy. At the HS/MS, we will be replacing the computers in the high school computer lab and replacing a subset of the teachers' systems with laptops. We can use these updates as a way to pilot our software environment over this first year.

School year 2015-2016 will be our "Roll-out and Pilot Year." At the elementary school, we will roll-out laptop carts to the 3rd and 4th grade classrooms. At the HS, we will roll-out mobile computer labs of laptops, one lab to each of three departments (Math, English, and Social Studies). In addition, we will roll-out a mobile lab of tablet-based systems for use by the Unified Arts Department. All of these systems will be pre-populated with the software set determined in the previous year. During this year, the Technology Committee will collect data about use of the systems and about changes in student-achievement.

During 2016-2017, the Technology Committee will assess the results of the previous year of rollout. We will analyze the collected data and determine whether more systems are

warranted. At this time, a recommendation will be made for the 2017-2018 school year as to what is needed by our students.

3.1 Access to Technology Resources

District-Wide Administrative Systems

Currently, the district uses the following Administrative Systems to support the different needs:

Service	Product
Student Information	PowerSchool
Financial System	iVisions Financial software (Tyler Solutions)
Communication and Cloud Storage	Google Applications for Education
Food Services	POS system for Cafeteria (Mealtime as of 2014-2015 school year)
Health Services	SNAP (software for Nurses)
Telephone Services	TDS VoIP phones (Hosted by TDS)
Website Hosting	SchoolFusion
Library management	Destiny Library software (Follett Systems)
Facilities & Technology Support	SchoolDude
IEP Administration and Creation	EASYIEP (website)

3.2 Hardware/Software Implementation and Support

The Technology Committee will be responsible for implementing the technology plan. Any future technology purchases will need to be approved by the Technology Committee. All

budget for technology will be part of the District-wide Technology Budget.

Currently, we have two Technology Coordinators in our district; one for the school district/WLC, and one for the two elementary schools. The Technology Coordinators are responsible for technology support. The Coordinators design, select, purchase, implement, and support the computers and infrastructure as well as the Internet connections. The Technology Coordinators offer informal training as requested by teachers and provide technical support where needed. The Technology Coordinators handle all technology purchasing. The Technology Coordinators maintain support agreements with software companies and makes purchases or renewals as applicable.

Additionally, we have two technology teachers at the high school/middle school; one who teaches the required application and business skills and one who teaches technology in conjunction with electronics. Neither of these teachers teach technology full-time. Both are teaching classes outside of technology as well. Also at the high school/middle school level we have a Media Specialist who manages our library and provides support to teachers for using technology within their curriculum. At the elementary level, we have one part-time technology integrator who also teaches technology skills to students.

4 Technology/ICT Literacy

The primary focus of instruction in grades K – 5 is on skill development. In grades 6 through 8, greater emphasis is placed on exposure to practical applications and collaboration. When students reach grade 9 they are expected to select and use the appropriate technology tool for the learning task at hand. That focus is expected to continue throughout high school as students apply their acquired technology skills as they complete their course assignments.

Our students will meet the following International Society for Technology in Education (ISTE) standard technology goals.   These technology literacy goals are defined in more detail as grade level standards for SAU 63 in Appendix A.
> **Goal #1**: Creativity and Innovation
> **Goal #2**: Communication and Collaboration
> **Goal #3**: Research and Information Fluency
> **Goal #4**: Critical Thinking, Problem Solving, and Decision Making
> **Goal #5**: Digital Citizenship
> **Goal #6**: Operations and Concepts

SAU 63 will provide students with the following resources and opportunities in order to meet these literacy goals, increase student academic achievement and succeed in an increasingly digital world.

a. **Move toward a better student device ratio.**
   i. Devices will be age appropriate, portable and accessible to all students.
   ii. Devices will have single student sign on to WIFI, the local area network and to the internet/wide area network with sufficient network capabilities to support all devices.
   iii. Devices will be maintained and replaced on a regular schedule.
   iv. Devices will have sufficient RAM, hard drives and processor speeds to meet the multimedia, application and operating system requirements for effective student use.
   v. Additional devices, peripherals and other media with capabilities like touch screen, e-reading, built in cameras and microphones will be accessible to students. Peripherals will include larger monitors, external mice, headphones, printers, external keyboards, video cameras and microphones.

b. **Continue to integrate more technology into the grade level classrooms.**
   i. Provide students with access to age appropriate web based and application based learning with possible opportunities for blended learning.
   ii. Provide a technology integration specialist who will provide support to teachers on creating technology integrated lesson plans, as well as recommending and implementing tools and applications for teacher and student use. The technology integration specialist will also provide support within the classroom during integrated lessons.
   iii. Provide tools and criteria for each student to organize and maintain an ePortfolio that allows them to reflect on their digital work. The portfolio will show growth and competency in all academic areas for grades K-12 as defined by NH state standards.
   iv. All instructional spaces will be equipped with interactive whiteboard technology.
   v. Continue to improve the use of whiteboard technology and document cameras to effectively engage students within the classroom.
   vi. Expand the use of inquiry based research resources.
   vii. Provide technology resources that allow for student collaboration and communication across multiple medias.

c. **Provide age appropriate basic technology instruction of operations and concepts as well as digital citizenship.**
   i. Teach students to use their devices as tools for learning and demonstrating knowledge.
   ii. Teach students to transfer current knowledge of devices to new technologies and devices.
   iii. Teach students to become responsible, safe and ethical consumers and producers of digital content.
d. **Provide students with 24/7 access to appropriate school and student resources through web based interfaces.**
   i. This will include library resources, access to student accounts, access to collaborative tools and access to blended learning opportunities.

5 Professional Development

Ongoing and sustained professional development for teachers and other personnel is key to a successful technology program. During the summer of 2014, a committee of teachers from across the district will serve as a steering committee to define and implement professional development opportunities for the district. Several ideas will be investigated for feasibility. These include:

A. Institute a staff trainer or resident expert who will be available to provide ongoing, and sustained professional development for teachers, principals, administration, and school library media personnel.
B. Devote one or more professional development days to technology based training of staff.
C. Require one technology-related goal in each staff member's professional growth plan.
D. Provide ongoing technology-focused opportunities at monthly staff meetings.

Identifying areas of professional development need would be primarily done by survey, or based on new technologies implemented/purchased for a given school year or time, and as requested by staff.
- Areas where staff need ongoing professional development:
  - Embedding technology into curriculum
  - Promethean Boards and Promethean devices
  - Student devices including laptops, iPads, etc.
  - Technology based Community Outreach (fusionpages, school website)
  - Common Core initiatives
  - Google Applications (drive,email, etc.)
  - Phone system

- ○ Instructional websites
- ○ PowerSchool
- ○ Other (driven by staff need, new technologies, etc.)

The timeline for implementing new technology will be established by administration through consultation with the Technology Committee and will allow adequate time for staff to learn and implement new technologies in phases (i.e. integrate technology into one language arts unit by end of first trimester).

6 CommunityInvolvement

We will create a culture that embraces the use of technology tools, for communication with staff, students, parents, and the community. To foster parental involvement in this culture, opportunities for technology support will be provided to parents as we embrace new technologies.

Community involvement and opportunities for training in technology will be integral components to support the district's technology plan.

Communication
     A. Technology will be used to communicate with parents, the community, and others.
     B. Communication systems will be used to connect within the school buildings, with the community, and with the outside world.
     C. Emergency Alert Systems will notify parents of critical information by phone or email.
     D. Parents will be able to access information concerning their child via district software.(Powerschool and others)
     E. The district website will inform the community of significant achievements, upcoming events, and any other information of interest in the district.
     F. Teachers are encouraged to develop their own individual web sites. Information on sites will include class calendar, teacher/classroom information, and other areas of interest.

Support
     A. As the use of technology increases in each classroom, parents will be given an opportunity for on-site and online training.
     B. The school facilities are used for many public meetings. During these meetings, the school's technological capabilities are utilized.

7 Evaluation

The Evaluation of our technology plan falls into three categories. We will be evaluating and monitoring the effectiveness of the professional development plan, the integration of technology into lessons, and the performance on culminating tasks through portfolio assessment.

To formatively assess our professional development plan, we need to examine the needs of teachers through several modes: surveys, observations, and assessment of technology rich lesson plans. From this, we will be creating professional development that meets each educator where they are to then move them forward with richer technology integration in lessons and technology literacy skills embedded in the delivery of curriculum. The next step in this process is to look for increased integration. We will be able to assess this through surveys and teacher checklists upon reflection of lessons and activities where technology was used. This is a formative process as it will continue to shape the professional development provided in the district.

To determine the level of technology integration, we will need to consider current baselines as well as examine increased use of technology over time. This will be done through teacher surveys, technology checklists, and from administrator feedback.

The ultimate goal of our technology plan is to equip our students with 21st century skills. This goal includes literacy in multiple areas identified by the International Society for Technology in Education. Students will be progressing in the areas of digital citizenship, creativity and innovation, communication and collaboration, research and information fluency, critical thinking, problem solving, and decision making. Students will be building a digital portfolio through the integration of technology into their classrooms. These portfolios will be assessed using rubrics that will identify student proficiency levels with technology use.

Individual student proficiency will be observed by teachers who will be using a rating system based on their performance with technology in the classroom based on grade level goals. (Based on ISTE goals)

8 Budget

2014-2015 Budgeted Technology (District-Wide)

$60,000.00	Internet hosting, WAN Management, and telephony
$145,000.00	Cumulative building accounts for Hardware, software.
$3,320.00	District contracted services for server maintenance and central licenses.
$3,150.00	District web hosting, etc.
$11,000.00	Cumulative building accounts for technology supplies
$222,470.00	Total budget 2014-2015

9 Policies and Procedures

9.1 Policies and Procedures

The Wilton-Lyndeborough School District has School Board approved policies guiding various technology topics. All of these policies can be found on the WLC School District Website: http://www.sau63.org. All policies are reviewed and updated periodically.

9.1.1 Technology Use Policies

The Wilton-Lyndeborough School District has policies and procedures guiding staff and student use of technology. These include School Board approved policies such as the Computer, Network and Internet Use policies for students and employees.

9.1.2 Copyright and Fair Use Policy

The Wilton-Lyndeborough School District has policies and procedures guiding staff and student compliance with copyright laws.

9.1.3 Data and Records Retention

The Wilton-Lyndeborough School District has policies and procedures for data retention that complies with Department of Education guidelines.

9.1.4 Computer Equipment Donation Guidelines

The Wilton-Lyndeborough School District has policies and procedures for data retention that complies with Department of Education guidelines.

Appendix A
Student Technology Goals Grades K-5   2014-2017

Goal: Students will exhibit proficiency in technology operations and concepts.
Grade K-1

    a. Power on/off available technology device.

    b. Be able to login, locate, navigate, and launch age appropriate program/application, and shutdown.

    c. Demonstrate proficiency with computer interface tools mouse (left/right click functions), keyboard, headphones, interactive whiteboard stylus, monitors, etc with assistance as needed.

    d. Students will demonstrate basic keyboarding skills (identify/locate the home row and other age appropriate special keys) as well as cursor functions.

    e. Students will utilize a toolbar to assist them with navigating through specific programs (within slideshows, websites, games, etc.).

    f. Students will recognize the functions of basic file menu commands (open, save, print, quit/exit).

Grade 2-3

    a. Power on/off available technology device, **with using proper name**.

    b. Be able to login, locate, navigate, launch appropriate age appropriate program/application, and shutdown.

    c. Demonstrate basic step in using peripheral devices without assistance.

    d. Students will demonstrate **intermediate** keyboarding skills (identify/locate the home row and other age appropriate special keys).

    e. Students will apply basic concepts and functions (window tabs, editing functions, navigational tools, and help menu) with assistance.

    f. Students will **demonstrate proficiency** with the functions of basic file menu commands (open, save, print, quit/exit).

Grade 4-5

a. When using available technology students will name and define device and know the proper device to use for a task given.
b. Students will complete previous (grades') tasks as well as switch users, log out, restart, sleep, and device.
c. Demonstrate **intermediate steps** in using peripheral devices with assistance (ie downloading images from a camera and video, printing, and document cameras).
d. Students will meet individual typing speed goals and know common shortcut keys (ctrl c, ctrl v, ctrl x, ctrl p, etc.).
e. Students will apply basic concepts and functions (window tabs, editing functions, navigational tools, and help menu) **without assistance. Students will also navigate folder and file management.**
f. Students will continue to demonstrate proficiency with the functions of all age appropriate menu commands.

Goal: Students will demonstrate knowledgeable and responsible digital citizenship.

Grade K-1

    a. Students will follow classroom rules for appropriate use of device (including understanding balancing screen time), peripheral devices, and resources.

    b. Students will differentiate between private and public information and what to do when accessing specific websites.

    c. Students will understand and demonstrate age appropriate online etiquette (treating people kindly and respectfully as they would in person).

    d. Demonstrate respect for computer work of others (for example only accessing your folder, respecting that it may be a shared device, keeping hands on own device, and eyes on their own work).

    e. Students will identify the difference between a designated classroom device, and a device shared among several other students and will care for them appropriately in and out of school.

    f. Demonstrate knowledge of and apply ergonomics and electrical safety when using computers (proper seating, lighting, size of devices, outlets that can manage electricity of required devices, using wireless devices).

Grade 2-3

    a. Students will follow school rules for appropriate use of device (including understanding balancing screen time), peripheral devices, and resources.

    b. Students will **understand and create and use passwords** to protect personal/private information for themselves and others.

    c. Students will understand and demonstrate age appropriate online etiquette (treating people kindly and respectfully as they would in person, **being clear in their writing, not saying something they would never say in person, and digital footprints).**

    d. Demonstrate respect for **others ideas and opinions and give proper credit to other peoples' work (text, music, images, video) and know that there are consequences for plagiarism, pirating, and cheating.**

    e. Students will identify the difference between a designated classroom device, and a device shared among several other students and will care for them

appropriately in and out of school.

    f. Demonstrate knowledge of and apply ergonomics and electrical safety when using computers (proper seating, lighting, size of devices, outlets that can manage electricity of required devices, using wireless devices).

Grade 4-5

    a. Students will follow school rules for appropriate use of device (including understanding balancing screen time), peripheral devices, and resources.

    b. Students **will be responsible for remembering and using their own passwords** to protect their personal/private information for themselves and others.

    c. Students will understand and demonstrate age appropriate online etiquette (treating people kindly and respectfully as they would in person, being clear in their writing, not saying something they would never say in person, **differentiating between conversations to have in person vs. via technology**, and digital footprints).

        i. **Students will identify cyberbullying and describe strategies to deal with a situation.**

    d. Demonstrate respect for others ideas and opinions and give proper credit to other peoples' work (text, music, images, video) and understand that there are consequences for plagiarism, pirating, and cheating **that will be enforced**.

    e. Students will identify the difference between a designated classroom device, and a device shared among several other students, and will care for them appropriately in and out of school.

    f. Demonstrate knowledge of and apply ergonomics and electrical safety when using computers (proper seating, lighting, size of devices, outlets that can manage electricity of required devices, using wireless devices).

Goal: Creativity and Innovation

Grade K-2

    a. Students will use an application to write, edit, print, and save simple assignments.

    b. Students will insert and transform a graphic in a program.

    c. Students will demonstrate the ability to use tools in painting and/or drawing programs.

Grade 2-3

    a. Students will use **menu/toolbar functions in a program to format**, edit, and print **a document (use bulleting and numbering tools, justification tools, table tools).**

    b. Students will **copy and paste text and images within a document, as well as from one document to another.**

    c. Students will demonstrate the ability to use tools in painting and/or drawing programs to **visually convey their ideas**.

    d. Students will **apply tools to assist in proofreading and editing using appropriate resources.**

Grade 4-5

    a. Students will use menu/toolbar functions in a program to format, edit, and print a document (use bulleting and numbering tools, justification tools, table tools).

    b. Students will copy and paste text and images within a document, as well as from one document to another.

    c. Students will demonstrate the ability to use **multimedia programs** to visually convey their ideas.

    d. Students will apply tools to assist in proofreading and editing using appropriate resources (**multimedia).**

Goal: Communication and Collaboration

Grade K-1

        a. Students will recognize advertisements vs. information.

        b. Students will describe usage of different digital devices.

             i.   identify users

            ii.   types of uses (entertainment, research, work, communication)

          iii.   technology as a tool

        c. Students will be able to explain that the internet links digital devices around the world, allowing people to access computers and communicate.

        d. Students will use a variety of age appropriate technologies to communicate and exchange ideas (multi-user games, presentation software).

Grade 2-3

        a. Students will recognize advertisements vs. information.

        b. Students will describe and **apply** usage of different digital devices.

             i.   continue to identify users

            ii.   types of uses (entertainment, research, work, communication)

          iii.   technology as a tool

        c. Students will be able to **use** the internet to access digital devices around the world, allowing them to access computers and communicate.

        d. Students will use a variety of age appropriate technologies to communicate and exchange ideas (multi-user games, presentation software, and **social media**).

Grade 4-5

        a. Students will identify **and evaluate** the purpose of a media message (inform, persuade, or entertain)

        b. Students will **independently apply** usage of different digital devices (create, edit, and format text on a slide).

        c. Students will be able to **use** the internet to access digital devices around the world, allowing them to access computers and communicate.

        d. Students will use a variety of age appropriate technologies to communicate and exchange ideas, **collaboration software, word processing software**, multi-user games, presentation software, and social media).

Goal: Research and Information Fluency

Grade K-1

      a. Students will explain that computers store information and it can be located (performing search, library books, retrieving saved documents, etc.).

      b. Students will use teacher selected internet resources to support classroom learning.

Grade 2-3

      a. Students will explain **and apply** that computers store and **organize** information, and it can be located (performing search, library books, retrieving saved documents)

      b. Students will use teacher selected internet resources to support classroom learning.

      c. Students will define the term database, and related terms (record, field, and search) and do simple searches.

Grade 4-5

      a. Students will understand **and apply** the process of saving/storing/organizing information.

      b. Students will apply previously learned knowledge to determine whether or not internet resources support classroom learning.

      c. Students will define the term database, and related terms (record, field, and search), do simple searches, and provide real life examples.

      d. Students will be able to locate, identify, and utilize applicable/appropriate research resources from an internet search.

            i.   using two or more keywords and techniques to refine and limit such searches

Goal: Critical Thinking, Problem Solving and Decision Making

<u>Grade K-1</u>

    a. Students will use a simple graphing application to display data.

    b. Students will use age appropriate technologies to organize and analyze data.

<u>Grade 2-3</u>

    a. Students will select the **appropriate type** of graph to display data (bar, pie, line, etc.)

    b. Students will use age appropriate technologies to **gather**, organize and analyze data (spreadsheet software).

<u>Grade 4-5</u>

    a. Students will use appropriate technology tools to **organize** and display data, solve problems and propose hypotheses (graphic organizers, outlining, etc).

    b. Students will use spreadsheets and other applications to make predictions, solve problems, and draw conclusions from patterns and analysis.