CCUSD #301

Technology Curriculum

Grades K-12

Contributing SAC Committee Members

Linda Chapman
Brianne Clements
Katie Eskey
Paula Evans
Sheri Hennig
Kelly Greene
Julia Leffelman
Kristine Mogul
Ryan Robinson
Lisa Scott
Marge Smith
Brian Weick
Cathy Mullahy (Facilitator)

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District Mission Statement

To provide quality education within a nurturing environment which enables all students to become life-long learners who strive for excellence and who are responsible contributors to our changing global society.

Technology Mission Statement

Central District 301 technology curriculum will serve as a spring board for students to live, learn, and work successfully in an increasingly complex and information rich society. Students will demonstrate technological proficiency in an enriched educational environment. Students will become:

- Competent and proficient information technology users
- Information seekers, analyzers, and evaluators
- Problem solvers and decision-makers
- Creative, effective, and ethical users of productivity tools
- Communicators, collaborators, publishers, and producers.

Technology Curriculum

Kindergarten

Focus: Basic Technology Concepts

Purpose: Students will demonstrate knowledge of basic operations and concepts of productivity and communication technologies and implement ISAFE Curriculum.

Outcome: **T.K.1** Students will demonstrate basic operations associated with the PC.

Components: **T.K.1.1** – Use the mouse to open an application, make a choice or activate a link. 60.A.1a

T.K.1.2 – Recognize and use buttons and icons to operate programs. 60.A.1c

T.K.1.3 – Use the keyboard to type letters and numbers. 60.A.1d

T.K.1.4 – Demonstrate proper hand position at the keyboard. 60.A.1d

T.K.1.5 – Demonstrate proper care of hardware components (i.e., refrains from touching computer screen; keeps computer area free from food and drink). 60.A.1e

T.K.1.6 – Demonstrate opening and closing a file. 60.B.1

T.K.1.7 – Follow school rules for appropriate use of computers. 61.A.1

Outcome: **T.K.2** Students will participate in the use of productivity and communications technologies.

Components: **T.K.2.1** – Recognize that people use computers to work, learn, communicate and play. 61.A.1

T.K.2.2 – Identify common technology used in the home. 60.A.1b

T.K.2.3 – Use technology for learning tasks (teacher models). 61.A.1

T.K.2.4 – Use basic drawing tools with assistance. 63.A.1

T.K.2.5 – Produce a product with assistance, using appropriate technology tools (i.e., create pictures). 63.A.1

Outcome: **T.K.3** Students will gain an understanding of the importance of having adult assistance when using the internet.

Components: **T.K.3.1** – Discuss the concept of safety while online.

T.K.3.2 – Reinforce that students should have adult assistance when using the internet, including e-mail at home.

T.K.3.3 – Evaluate student knowledge of internet safety.

1st Grade

Focus: Use of a networked PC for personal communication and productivity.

Purpose: Students will refine basic operational use of the keyboard, and demonstrate proficiency in hand placement and log-in procedures and implement ISAFE Curriculum.

Outcome: **T.1.1** Students will demonstrate basic computer operating procedures.

Components: **T.1.1.1** – Follow school rules for computer use. 61.A.1

T.1.1.2 – Be able to log on and off the system properly. 60.A.1e, 60.A.1a

T.1.1.3 – Demonstrate proper keyboard hand and finger placement and posture. 60.A.1d

T.1.1.4 – Identify and use: Enter key, delete key, arrow keys and backspace key correctly. 60.A.1c

T.1.1.5 – Use basic commands—open file, print, close. 60.B.1

T.1.1.6 – Insert and launch a CD-ROM. 60.A.1e

Outcome: **T.1.2** Students will demonstrate guided use of productivity software.

Components: **T.1.2.1** – Create a word processing document. 61.A.1, 62.A.1

T.1.2.2 – Use drawing tools to create a picture. 62.A.1

T.1.2.3 – Participate as teacher models use of a slideshow in a class project. 62.A.1

T.1.2.4 – Participate as teacher models the creation of a chart and graph. 62.B.1

T.1.2.5 – Import clipart. 63.B.1

T.1.2.6 – Choose best technology tool for a given task. 64.B.1

Outcome: **T.1.3** Students will review communications technologies and their appropriate use.

Components: **T.1.3.1** – Describe the use of various technologies for communication - TV, Radio, DVD, CD, Internet, etc. 61.A.1

T.1.3.2 – Participate as teacher models correct use of a search engine - forward, back, and home. 61.C.1, 63.A.1, 64.A.1

T.1.3.3 – Participate as teacher models correct use of the Internet as a research and information gathering tool. 61.C.1, 63.A.1, 64.A.1

Outcome: **T.1.4** Students will gain an understanding of the importance of having adult assistance when using the internet and email safety basics.

Components: **T.1.4.1** – Discuss the concept of safety while online, including e-mail at home.

T.1.4.2 – Reinforce that students should have adult assistance when using the internet.

T.1.4.3 – Evaluate student knowledge of Internet safety.

2nd Grade

Focus: Use of networked PC for creating and publishing written products.

Purpose: Students will demonstrate use of editing tools and enhancement tools such as graphics software/clip-art/card shop to create and publish written products and implement ISAFE Curriculum.

Outcome: **T.2.1** Students will demonstrate beginning keyboarding skills and knowledge of common commands.

Components: **T.2.1.1** – Demonstrate how to log on and off the computer with a password. 60.A.1a, 62.A.1

T.2.1.2 – Apply basic commands to open and close documents or programs. 60.B.1, 60.C.1

T.2.1.3 – Use correct key entry posture, hand position, and finger placement on home row. 60.A.1d

T.2.1.4 – Demonstrate left mouse click and double click. 60.A.1a, 60.B.1

T.2.1.5 – Demonstrate how to change fonts. 60.A.1d, 62.A.1

T.2.1.6 – Create a document with clip art. 62.A.1

T.2.1.7 – Save and print a created document. 60.A.1a, 62.A.1

Outcome: **T.2.2** Students will demonstrate use of productivity software and knowledge of attributes of common productivity tasks.

Components: **T.2.2.1** – Identify the hardware, software and peripherals (CPU, Monitor, keyboard, mouse, disk, printer, CD-ROM, DVD, etc.) 60.A.1a, 60.A.1b, 60.C.1

T.2.2.2 – Describe proper care of hardware, software, and peripherals. 60.A.1e

T.2.2.3 – Locate a saved document. 62.B.1

T.2.2.4 – Explore use of menus and tool bars. 63.B.1

T.2.2.5 – Explore use of the spell check feature. 63.B.1

T.2.2.6 – Explore use of format options (bold, underline, color of type). 63.B.1

Outcome: **T.2.3** Students will use technology responsibly to find and retrieve information.

Components: **T.2.3.1** – Collect and create pictures or images. 62.B.1

T.2.3.2 – Use, with teacher guidance, a variety of media to communicate ideas. 63.B.1, 65.A.1

T.2.3.3 – Understand computer navigating vocabulary. (arrows, back, escape, URL, home) 64.A.1

T.2.3.4 – Explore the use of the Internet with teacher guidance. 65.B.1, 65.A.1, 64.B.1

T.2.3.5 – Review information retrieved with assistance. 65.A.1

Outcome: **T.2.4** Students will examine personal safety and cyber security issues while using the internet.

Components: **T.2.4.1** – Recall the importance of rules and laws in keeping people safe, on-line.

T.2.4.2 – Summarize how to use netiquette (computer etiquette) when communicating on-line.

T.2.4.3 – Explore the concepts of cyber security and share what they have learned.

3rd Grade

Focus: Beginning keyboarding skills.

Purpose: Students will apply beginning keyboarding skills and internet search skills; demonstrate proficiency in use of publishing applications and implement ISAFE Curriculum.

Outcome: **T.3.1** Students will demonstrate ability to access a computer on a network.

Components: **T.3.1.1** – Identify the hardware, software, and peripherals. 60.C.2

T.3.1.2 – Demonstrate how to log on and off the computer with a password. 60.A.2a

T.3.1.3 – Demonstrate how to use a mouse to double click on an icon. 60.A.2a, 60. A.2c

T.3.1.4 – Demonstrate the left and right-click of the mouse. 60.A.2c

T.3.1.5 – Save and print documents. 60.A.2a, 60.B.2

T.3.1.6 – Save documents on the network. 60.A.2a, 60.B.2

Outcome: **T.3.2** Students will create and edit documents using a variety of available software.

Components: **T.3.2.1** – Create a document using a variety of software. 62.A.2

T.3.2.2 – Apply basic commands to open and close, and save a document. 62.A.2

T.3.2.3 – Change the fonts. 62.A.2

T.3.2.4 – Use the tab key to indent paragraphs. 62.A.2

T.3.2.5 – Demonstrate appropriate use of spell check and thesaurus. 60.A.2c

T.3.2.6 – Apply drawing tools to appropriate tasks. 61.A.2

T.3.2.7 – Use a template to produce slide presentations. 62.A.2

T.3.2.8 – Produce various desktop publications (calendar, brochure, etc.) 62.B.2

T.3.2.9 – View and interpret a spreadsheet. (graphs and charts) 64.C.2

Outcome: **T.3.3** Students will demonstrate keyboarding techniques.

Components: **T.3.3.1** – Demonstrate the correct hand position on the keyboard to touch type. 60.A.2d

T.3.3.2 – Demonstrate the correct fingering of the enter key, backspace key, and delete key. 60.A.2d

T.3.3.3 – Lock key, space bar and shift keys. 60.A.2d

T.3.3.4 – Demonstrate the correct fingering patterns on the keyboard of the alpha keys. 60.A.2d

T.3.3.5 – Demonstrate the correct fingering of the Numeric keys. 60.A.2d

T.3.3.6 – Use the mouse to highlight text. 63.B.2

Outcome: **T.3.4** Students will demonstrate responsible use of technology.

Components: **T.3.4.1** – Follow class and school rules for proper use of computers. 61.A.2

T.3.4.2 – Locate information on the Internet using teacher selected bookmarked sites. 61.B.2

T.3.4.3 – Compare information from multiple sites. 61.C.2, 64.C.2

T.3.4.4 – Evaluate information obtained from Internet sites. 65.B.2

T.3.4.5 – Organize information from diverse sources in order to draw conclusions. 65.A.2

Outcome: **T.3.5** Students will develop an understanding of the concept of Intellectual Property and apply this understanding to their Internet use.

Components: **T.3.5.1** – Define the basic concepts of property and Intellectual Property.

T.3.5.2 – Identify and give examples of Intellectual Property, including vocabulary, introduction to piracy and how to cite sources.

T.3.5.3 – Recognize the importance of citing sources found on the internet--example: web address for text or images or a book title.

4th Grade

Focus: Use of networked PC and internet for creating and publishing products.

Purpose: Students will create a variety of curriculum related projects using several different applications and implement ISAFE Curriculum.

Outcome: **T.4.1** Students will demonstrate skill in the routine use of basic input and output devices.

Components: **T.4.1.1 –** Apply the skills learned in the district keyboarding. program 60.A.2a

T.4.1.2 – Explore the various uses of removable storage devices. 60.A.2c

T.4.1.3 – Discuss the need for routine maintenance to enhance computer performance (proper shutdown, virus protection). 60.A.2e, 60.C.2

T.4.1.4 – Maintain, organize and retrieve files on the server. 60.B.2, 60.C.2

T.4.1.5 – Use toolbar to center, bold, underline, bullet, etc. 61.C.2

Outcome: **T.4.2** Students will point out the social and ethical implications of technology use.

Components: **T.4.2.1** – Compare and contrast the effectiveness of various communication technologies. (telephone, e-mail, writing) 63.B.2

T.4.2.2 – Explain the purpose and value of the Acceptable Use policy. 61.B.2

T.4.2.3 – Describe the purpose for classroom and school rules regarding technology use. 61.B.2

T.4.2.4 – Use appropriate software and Internet resources to support personal productivity. 63.B.2

T.4.2.5 – Use search engines with assistance. 64.B.2, 65.B.2

T.4.2.6 – Recognize attributes of credible Internet resources using a bookmarked list of sites. (author, date published etc.) 64.A.2

T.4.2.7 – Choose appropriate key words for searches. 64.A.2, 64.B.2

T.4.2.8 – Use appropriate Internet terminology (search engine, homepage, webpage, site, URL, address, WWW, search, edu, org, com). 60.C.2

T.4.2.9 – Identify telecommunication tools and their uses. 64.C.2, 63.A.2

Outcome: **T.4.3** Students will incorporate technologies in creating a curriculum related product.

Components: **T.4.3.1** – Create a slide presentation. 62.A.2

T.4.3.2 – Create a publishing document (ex. brochure, greeting card). 62.A.2

T.4.3.3 – Create a small chart on a spreadsheet. 62.A.2, 61.C.2

T.4.3.4 – Use editing features on personal documents for final draft. 61.C.2, 60.A.2c

T.4.3.5 – Select appropriate tools programs and resources to accomplish a task. 61.A.2

T.4.3.6 – Analyze online resources for curriculum related projects. 61.C.2, 64.A.2, 64.C.2, 65.B.2

T.4.3.7 – Create a project using productivity applications in which information is identified, organized and recorded for communication to an identified audience. 64.C.2

T.4.3.8 – Recognize the importance of citing sources found on the internet--example: web address for text and images or book title author.

Outcome: **T.4.4** Students will understand netiquette as they communicate with others, and develop resources to cope with cyber bullying.

Components: **T.4.4.1** – Identify the attributes and differences of a physical and cyber community.

T.4.4.2 – Compare and contrast bullying in the physical community to cyber bullying.

T.4.4.3 – Articulate and communicate their knowledge and understanding of kindness, and how it relates to Internet behavior.

T.4.4.4 – Utilize appropriate resources if confronted with an online bully.

T.4.4.5 – Discuss how students can make a difference in other people's lives by behaving considerately, both online and in the physical community.

5th Grade

Focus: Use all available technology and use search engines to navigate the Internet.

Purpose: Students will create multi-media projects and demonstrate mastery of the keyboard. Students will use the internet appropriately and safely to obtain and share information and implement ISAFE Curriculum.

Purpose: Basic Operation and Concepts

Outcome: **T.5.1** Students will demonstrate an awareness of basic operation and concepts.

Components: **T.5.1.1** – Apply the skills learned in the district keyboarding program. 60.A.2d

T.5.1.2 – Demonstrate proper use and care of the computer; identify and apply basic technology vocabulary. 60.A.2c, 60.A.2a, 60.A.2e

T.5.1.3 – Demonstrate use of special purpose keys on the keyboard. (arrow, escape, backspace, delete, caps lock, and control) and explain their applications. 60.A.2d

T.5.1.4 – Identify and verify the importance of allowing the computer to update system and application software. (Antivirus, Adware, Spyware software). 60.A.2e

T.5.1.5 – Demonstrate proper use of Web browser. (Internet Explorer) 64.A.2

T.5.1.6 – Use a teacher prepared list of web links to navigate the web. 64.A.2, 64.B.2

Purpose: Social, Ethical, and Human Issues

Outcome: **T.5.2** Students will examine ethical issues related to technology.

Components: **T.5.2.1** – Show proper use of technologies and information (acceptable and unacceptable computer use) through responsible actions. 61.A.2

T.5.2.2 – Weigh implications and follow district's acceptable use policies and consequences for misuse of technology. (Copyright laws, plagiarism, and file-sharing) 61.B.2

T.5.2.3 – Describe how technology improves their ability to communicate, be productive, or achieve personal goals. 62.C.2

Purpose: Productivity Tools

Outcome: **T.5.3** Students will apply technological tools to develop and distinguished projects.

Components: **T.5.3.1** – Create multimedia projects using various AV technologies. (i.e. LCD projectors, overhead projectors, smart boards, television, DVD/VCR players, or camcorders) 60.A.2b

T.5.3.2 – Use the proper tools and toolbars. (Save, Print, Format, Spell Check, Thesaurus, Dictionary, Inserting Graphics, and Charts and Tables) 60.A.2d, 60.A.2c

T.5.3.3 – Maintain, organize and retrieve files. (Proper storage locations, Creating and maintaining folders) 60.B.2

T.5.3.4 – Apply editing skills in various applications including: Word Processing, drawing, and spreadsheets. 61.A.2

T.5.3.5 – Determine which application would best suit a given assignment. 62.A.2, 65.B.2

T.5.3.6 – Create a written document as it relates to current curriculum. (a letter, brochure, newspaper, or slideshow) 64.C.2, 65.A.2

Purpose: Technology Research and Communication Tools

Outcome: **T.5.4** Students will use technology to locate, evaluate, and collect information from a variety of sources.

Components: **T.5.4.1** – Utilize technology tools to gather and share information. 64.B.2

T.5.4.2 – Identify and describe how to navigate common search engines. 64.A.2

T.5.4.3 – Demonstrate proper search engine syntax to produce specific results. 64.A.2

T.5.4.4 – Site sources for a given assignment in the curriculum. (bibliography) 64.B.2

T.5.4.5 – Produce a product based on curriculum by selecting and using appropriate information and communication technology tools and resources. (Slide show, timeline software, database, written document and conceptual mapping) 65.B.2, 65.A.2, 64.C.2

Purpose: Technology Problem Solving and Decision Making Tools

Outcome: **T.5.5** Student will choose technology resources for solving problems and making informed decisions.

Components: **T.5.5.1** – Demonstrate how to select information and communication technology tools and resources that can be used to solve particular problems. (Concept mapping, sequencing, and organizing thoughts) 65.A.2, 63.B.2

T.5.5.2 – Use information and communication technologies and other resources to collect and organize information for the purpose of evaluating real world problems. 65.B.2

Outcome: **T.5.6** Students will be able to identify and make responsible choices that will lead to safe Internet experiences.

Components: **T.5.6.1** – Read and analyze the importance of the Internet Safety Tips.

T.5.6.2 – Discuss the basic concepts of internet safety and possible dangers on the internet.

T.5.6.3 – Engage in interactive group activities that has students recognize and avoid dangerous situations online.

T.5.6.4 – Use class discussion to connect the groups to identify what they have learned, and why internet safety is important.

6th – 8th Grade

Purpose: Students will apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning through the curriculum and implement ISAFE Curriculum.

Outcome: **TMS.1** Students demonstrate a sound understanding of the nature and operation of technology systems.

Components: **TMS.1.1** – Demonstrate use of common peripherals (digital cameras, video projectors) and how they are accessed, controlled, connected, and used effectively and efficiently. 60.A.3a

TMS.1.2 – Select and use appropriate technology tools and information resources to communicate content information appropriately, addressing the target audience and providing accurate citations for sources. 60.A.3b

TMS.1.3 – Select appropriate file formats for a variety of applications as necessary, for effective use in Web, video, audio, graphic, presentation, word processing, database, publication, and spreadsheet applications. 60.A.3c

TMS.1.4 – Demonstrate appropriate keyboarding skills. 60.A.3d

Outcome: **TMS.2** Students demonstrate proficiency in the use of technology.

Components: **TMS.2.1** – Identify strategies and procedures for effective management and maintenance of computer files on a hard drive and network. 60.B.3

TMS.2.2 – Solve basic hardware, software, and network problems that occur during everyday use, i.e. restarting the computer, checking the network cord, or checking that the computer is plugged in. 60.C.3

TMS.2.3 – List ways to protect networks and information from viruses, vandalism, and unauthorized use. 60.C.3

TMS.2.4 – Access online help and user documentation to solve common software problems. 60.C.3

Outcome: **TMS.3** Students practice responsible use of technology systems, information, and software. Students understand the ethical, cultural, and societal issues related to technology.

Components: **TMS.3.1** – Identify legal and ethical issues related to Intellectual properties (i.e., privacy, security, copyright, file-sharing, plagiarism) and recognize consequences of its misuse. 61.B, 61.A.3

TMS.3.2 – Examine issues related to netiquette and discuss means for encouraging more effective use of technology to support effective communication and collaboration. 61.C.3

TMS.3.3 – Understand appropriate use of Cyber communication tools. Example: email, text messaging, blogging.

Outcome: **TMS.4** Students use productivity tools to collaborate in constructing technology enhanced models, prepare publications, and produce other creative works.

Components: **TMS.4.1** – Describe how to use online environments or other collaborative tools to facilitate design and development of materials, models, publications, and presentations. 62.B.3

TMS.4.2 – Apply utilities for editing pictures, images, and charts. 62.B.3

TMS.4.3 – Apply common software features (i.e., spelling and grammar checkers, dictionary, thesaurus, editing options) to maximize accuracy in development of word processing documents. 62.A.3

TMS.4.4 – Apply sorting, formulas and chart generation in spreadsheets. 62.A.3

TMS.4.5 – Insert pictures, movies, sound, and charts in presentation software to enhance communication to an audience, promote productivity, and support creativity, with proper citations. 62.A.3

Outcome: **TMS.5** Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.

Components: **TMS.5.1** – Describe how to use online environments or other collaborative tools to facilitate design and development of materials, models, publications, and presentations. 63.A.3

TMS.5.2 – Know how to use telecommunications tools such as online collaborative environments to exchange data collected and learn curricular concepts by communicating with peers, teachers, experts, and other audiences. (e-mail, blogs, on-line discussion groups) 63.A.3

TMS.5.3 – Apply use of advanced utilities to compress and convert files for a variety of different media and formats.

Outcome: **TMS.6** Students use technology to locate, evaluate, and collect information from a variety of sources.

Components: **TMS.6.1** – Conduct an advanced search using Boolean logic and other search functions to evaluate information from a variety of sources for accuracy, bias, appropriateness, and comprehensiveness. 64.A.3

TMS.6.2 – Select and use information and communication technology tools and resources to collect and analyze information and report results on an assigned hypothesis or research question. 64.C.3

TMS.6.3 – Site sources using APA format.

Outcome: **TMS.7** Students employ technology in the development of strategies for solving problems in the real world.

Components: **TMS.7.1** – Use a variety of media and formats to design, develop, publish, and present products (i.e., presentations, newsletters, web pages) that effectively communicate ideas to multiple audiences. 63.B.3

TMS.7.2 – Compare information from a variety of approved credible Internet sources.

TMS.7.3 – Determine the need for additional information and draw conclusions for addressing real-world problems. 64.B.3

Outcomes: **TMS.8.2** Students will examine ethical issues related to technology.

Components: **TMS.8.2.1** – Show proper use of technologies and information (acceptable and unacceptable computer use) through responsible actions. 61.A.2

TMS.8.2.2 – Use technology to improve their ability to communicate, be productive, or achieve personal goals. 62.C.2

Outcome: **TMS.9** Students will be able to make responsible choices that will lead to safe Internet experiences.

Components: **TMS.9.1** – Read and analyze the importance of the Internet Safety Tips.

TMS.9.2 – Demonstrate the basic concepts of internet safety and possible dangers on the internet.

TMS.9.3 – Engage in interactive group activities that has students recognize and avoid dangerous situations online.

9th – 12th Grade

Purpose: Students will use productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning through the curriculum. Technology will be utilized to analysis, synthesis and evaluate real world problems and to develop solutions.

Outcome: **THS.1** Students demonstrate a sound understanding of the nature and operation of technology systems. (Nature and Operations)

Components: **THS.1.1** – Describe new and/or advanced technology resources information dissemination operations (i.e. video servers, webcasting, compressed video delivery, online file-sharing, graphing calculators, multifunction communications devices, global positioning software) and technology career opportunities. 60.A.4a

THS.1.2 – Identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning, and workplace needs. 60.A.4b

THS.1.3 – Collaborate in teams to illustrate content-related concepts integrating a variety of media (i.e. print, audio, video, graphic, probes, simulations, models) with presentation, word processing, publishing, database, graphics design software, or spreadsheet applications. 60.A.4c

THS.1.4 – Apply routine touch typing techniques with advanced facility, accuracy, speed, and efficiency as they complete their assignments. 60.A.4d

THS.1.5 – Know how to use advanced utilities (i.e., compression, antivirus) with computer files in a variety of different media and formats. 60.B.4

THS.1.6 – Know how to identify, assess, and solve advanced hardware, software, and network problems by using online help and other user documentation and support. 60.C.4

Outcome: **THS. 2** Students practice responsible use of technology systems, information, and software.

Components: **THS.2.1** – Analyze current trends in information and communication technology and assess the potential of emerging technologies for ethical and unethical uses in culture and society. 61.A.4

THS.2.2 – Analyze the consequences and costs of unethical use of information and computer technology and identify how individuals can protect their technology systems from the unethical and unscrupulous user. 61.B.4

THS.2.3 – Analyze current trends in information and communication technology and discuss how emerging technologies could affect collaboration, enhance personal productivity, meet the diverse needs of learners, and promote opportunities for lifelong learning among local and global communities. 61.C.4

THS.2.4 – Identify and discuss their understanding of the comparison between the physical community and the cyber community, including their behaviors within those communities. 61.C.4

THS.2.5 – Understand and apply self-management techniques to actively protect their personal information as they engage in online activities and to develop leadership qualities and attitudes that will allow them to become advocates for the safe use of technology. 61.A.4

THS.2.6 – Develop a comprehensive understanding of appropriate use of the Internet and intellectual property. 61.A.4, 61.B.4, 61.C.4

THS.2.7 – Develop an understanding of threats to the security of computers and information via the Internet i.e. viruses, worms, trojan horses, and identity theft and how to protect themselves and their computers. 61.B.4

THS.2.8 – Develop an awareness of the citizenship responsibilities involved with Internet usages as well as current security threats such as steganography, hacking, hactivism, and cyber terrorism. 61.A.4, 61.B.4, 61.C.4

THS.2.9 – Develop an awareness of the social issues affecting Internet use including cyber relationships, cyber dating, the grooming process, cyberstalking, harassment, etc. and that there are dangers inherent to each. 61.A.4, 61.B.4, 61.C.4

Outcome: **THS.3** Students will apply technological tools to develop and distinguish projects.

Component: **THS.3.1** – Understand and apply advanced software features such as templates and styles to improve the appearance of word processing documents, spreadsheets, and presentations and to provide evidence of learning, productivity, and creativity. 62.A.3

Outcome: **THS.4** Students evaluate and select new information resources and technological innovations based on the appropriateness of specific tasks.

Components: **THS.4.1** – Analyze a plan and procedures for development of a multimedia product (i.e., model, presentation, publication, other creative work, webcast), and other hardware and software resources, research, and team personnel needed to plan, create, and edit. 62.B.4

THS.4.2 – Plan and implement collaborative projects (with peers, experts, or other audiences) using advanced telecommunications tools to support curriculum concepts or benefit the local, regional, or global community. 63.A.4

THS.4.3 – Know how to use a variety of media and formats to design, develop, publish, and present products, (i.e., presentations, newsletters, Web sites) that incorporate information from the curriculum and communicate original ideas to multiple audiences. 63.B.4

THS.4.4 – Formulate a hypothesis or research question on a curriculum topic they choose; and design, create, and populate a database to process data and report results. 64.B.4

THS.4.5 – Formulate a hypothesis or research question and select and use appropriate information and communication technology tools and resources for collecting and analyzing information and reporting results to multiple audiences. 64.C.4

Outcome: **THS.5** Student will choose technology resources for solving problems and making informed decisions.

Components: **THS.5.1** – Describe integration of two or more information and communication technology tools and resources to collaborate with peers, community members, experts, and others to solve a problem and present results, or to present an informed rationale for a decision. 64.A.4

THS.5.2 – Integrate information and communication technology to analyze a real-world problem, design and implement procedures to monitor information, set timelines, and evaluate progress toward the solution of a real-world problem. 64.B.4

Notes

1. Note in grades K-5 many of the issues dealing with computer and internet safety will be covered in the health classes.

   STATE GOAL 24: Promote and enhance health and well-being through the use of effective communication and decision-making skills.

   A. Demonstrate procedures for communicating in positive ways, resolving differences and preventing conflict.

   B. Apply decision-making skills related to the protection and promotion of individual health.

   C. Demonstrate skills essential to enhancing health and avoiding dangerous situations.

2. In grades 4-5 keyboarding skills developed in 3rd grade should be reinforced. The 3rd grade curriculum is attached.

Glossary of Terms

GLOSSARY OF TECHNOLOGY TERMS

- Acceptable use policy (AUP) is a set of rules and guidelines for an individual to use a computer network and Internet.
- Bookmarks are electronic bookmarks.
- Boolean logic is the method of using symbols to narrow down the search results.
- Button is an image that represents a command.
- Clip-Art are images, movies, or sounds.
- Command is an action, i.e. printing a document.
- Communication technology tools is using any form of technology to communicate, i.e. cell phones, clickers, or gaming consoles.
- Copyright Law is a rule designed to protect the rights of a creator, such the author of a poem or lyrics/music for a song.

- Cyber communication tools are devices used to communicate.
- Cyber bullying using technology to harass, or bully someone else.

- Database is a collection (file) that contains information on a computer or network.
- Database a collection of information stored in a computer in a systematic way.

- File is a document
- File extensions are at the end of a file name, after the period or after the web address, giving the domain.
- File formats are extensions which indicate what application was used to create and manipulate files.
- File sharing is the sharing of files.
- Firewall technology that prevents users from visiting inappropriate web sites and protects the network from unauthorized users.

- Firmware is software and hardware updates.
- Font is the shape and style of text.

- Format is setting up, editing text or a document.
- gif is a picture format that is not compressed as small as a jpeg.
- GPS **Global Positioning System** (**GPS**) is the only fully functional Global Navigation Satellite System. The **GPS** uses a constellation of between 24 and 32 Medium Earth Orbit satellites that transmit precise microwave signals, that enable **GPS** receivers to determine their current location, the time, and their velocity (including direction).
- Hardware is the physical parts of a computer mouse, keyboard, and speakers
- Hyperlink is special text that when clicked jumps the user from one related topic to another.
- Icon is a button that represents a command: shortcut on the desktop

- Intellectual properties, i.e. legal property rights, are the legal rights for intangible items, i.e. music downloads, literary and artistic works, inventions, words, phrases and designs.
- Internet is the term given to the network of networked computers that provide information worldwide.
- iSafe is the Internet safety education non-profit foundation that educates and empowers youth to use the Internet safely.
- Jpeg (Joint Photographic Experts Group) a file format for photos.
- Multimedia is the process of using different programs to create various interactive visual productions, i.e. . web pages, movies, or games.
- Navigate is a way to move through a file, a software, or Internet page.
- Netiquette is computer etiquette.
- Network is a system of connection of the computers that allows users to share files and equipment.
- Online communication tools are threaded discussions, blogs, forums, and other web based sites.
- Peripherals are devices attached to a computer.
- Plagiarism is using another person's work as their own.
- Publish means to upload documents to the Internet.
- Publishing applications are softwares that can be used to publish, i.e. Word or Publisher.
- Search engine syntax is the words and symbols used to specify search results.
- Search engines are computers programs that look for specific words or phrases and return a list of documents in which they are found.
- Software computer programs, saved files, operating systems
- Software Piracy is the illegal duplication of copyrighted software.

- Storyboard is a set of sketches, arranged in sequence on panels, outlining the scenes that will make up something to be filmed.

- Toolbars are collections of buttons or icons that will execute a command.
- Virus, worms, and Trojan horses are programs that insert themselves and are designed to damage computer files.
- Web address (URL-Universe Resource Locator) i.e. www.google.com

The ISTENational Educational Technology Standards (NETS•S) and Performance Indicators for Students

1. Creativity and Innovation

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

a. apply existing knowledge to generate new ideas, products, or processes.
b. create original works as a means of personal or group expression.
c. use models and simulations to explore complex systems and issues.
d. identify trends and forecast possibilities.

2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance,
to support individual learning and contribute to the learning of others. Students:

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

3. Research and Information Fluency

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

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

4. Critical Thinking, Problem Solving, and Decision Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make
informed decisions using appropriate digital tools and resources. Students:

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

5. Digital Citizenship

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

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

6. Technology Operations and Concepts

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

a. understand and use technology systems.
b. select and use applications effectively and productively.
c. troubleshoot systems and applications.
d. transfer current knowledge to learning of new technologies.

60 *Technology* Basic operations and concepts.

60A Students demonstrate a sound understanding of the nature and operation of technology systems. (Nature and Operations)

60.A.1a Students describe how to use basic input devices (e.g., keyboard fingering and mouse or track-pad manipulation), output devices (e.g., monitor and printer use), and software resources (e.g., diskette, CD-ROM use).

60.A.1b Students name common technology found in homes (e.g., VCRs, tape or digital recorder, CD player, digital still and video cameras, telephones, radios).

60.A.1c Students identify functions represented by symbols and icons commonly found in application programs (e.g., font, size, bold, underline, alignment, color of type).

60.A.1d Students know how to use correct sitting, hand, arm, and fingering positions to type complete sentences (including shift for capital letters, space bar for spacing, and punctuation keys).

60.A.1e Students discuss how to properly care for and use software media (e.g., mini DV tapes, videotapes, audio tapes).

60.A.2a Students know how to use basic input and output devices (including adaptive devices as needed); access network resources (e.g., printers, file- servers); and use common peripherals (e.g., scanners, digital probes, digital cameras, video projectors).

60.A.2b Students recognize, discuss, and visually represent ways technology has changed life and work at school and in the home, community, business, industry, and government over the past three decades.

60.A.2c Students identify and know how to use Menu options in application programs to develop text, graphic, spreadsheet, and Web documents; save, print, format, and add multimedia features; store, access, and manage files; and use dictionary, thesaurus, and spell check.

60.A.2d Know proper keyboarding position and technique to touch type using the correct hands for alphabetic, numeric, and special purpose keys (arrows, escape, backspace, delete, caps lock, and control); and know how to use these keys and the Edit Menu items.

60.A.2e Students identify characteristics suggesting that the computer needs upgraded system or application software, virus detection software, or spam defense software to protect the information and functioning of the technology system.

60.A.3a Students recognize hardware and software components used to provide access to network resources and know how common peripherals (e.g., scanners, digital cameras, video projectors) are accessed, controlled, connected, and used effectively and efficiently.

60.A.3b Students know how to evaluate, select, and use appropriate technology tools and information resources to design, plan, develop, and communicate content information appropriately, addressing the target audience and providing accurate citations for sources.

60.A.3c Students know how to identify appropriate file formats for a variety of applications and apply utility programs to convert formats, as necessary, for effective use in Web, video, audio, graphic, presentation, word processing, database, publication, and spelling.

60.A.3d Students continue touch typing techniques, increasing keyboarding facility and improving accuracy, speed, and general efficiency in computer operation.

60.A.3e Students examine changes in hardware and software systems over time and identify how changes affect businesses, industry, government, education, and individual users.

60.A.4.b Students identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning, and workplace needs.

60.A.4a Students describe new and/or advanced technology resources information dissemination options (e.g., video servers, webcasting, compressed video delivery, online file-sharing, graphing calculators, multifunction communications devices, global positioning)

60.A.4C Students collaborate in teams to illustrate content- related concepts integrating a variety of media (e.g., print, audio, video, graphic, probes, simulations, models) with presentation, word processing, publishing, database, graphics design software.

60.A.4d Students routinely apply touch typing techniques with advanced facility, accuracy, speed, and efficiency as they complete their assignments.

60.A.4e Students collaborate in teams to evaluate software, hardware, and networking systems to inform the development of a technology plan for a specific real-world business, educational entity, industry, organization, or other group.

60B Students are proficient in the use of technology. (information management)

60.B.1 Students recognize functions of basic File Menu commands (new, open, close, save,save as, print) and folders to manage and maintain computer files on a hard drive or other storage medium (diskette, CD-ROM).

60.B.2 Students identify basic software commands used to manage and maintain computer files on a hard drive, diskette, or CD-ROM; manage and maintain their files on a network; and know how to exchange files with other Students and the teacher via network files.

60.B.3 Students identify strategies and procedures for efficient and effective management and maintenance of computer files in a variety of different media and formats on a hard drive and network.

60.B.4 Students know how to use advanced utilities (e.g., compression, antivirus) with computer files in a variety of different media and formats.

60C Students are proficient in the use of technology. (terminology and problem solving)

60.C.1 Students recognize accurate terminology to describe hardware, software, multimedia devices, storage media, and peripherals and to identify the basic functions of technology resources (hardware and software) commonly used in early elementary classrooms.

60.C.2 Students identify correct terminology used to describe basic hardware, software, and networking functions, and to discuss the functions, processes, and/or procedures applied in common use of these technology resources.

60.C.3 Students know how to solve basic hardware, software, and network problems that occur during everyday use; protect computers, networks, and information from viruses, vandalism, and unauthorized use; and access online help and user documentation to solve co

60.C.4 Students know how to identify, assess, and solve advanced hardware, software, and network problems by using online help and other user documentation and support.

61 *Technology* Social, ethical and human issues.

61A Students understand the ethical, cultural, and societal issues related to technology.

61.A.1 Students identify common uses of information and communication technology in the community and in daily life.

61.A.2 Students identify issues related to how information and communication technology supports collaboration, personal productivity, lifelong learning, and assistance for students with disabilities.

61.A.3 Students identify legal and ethical issues related to use of information and communication technology, recognize consequences of its misuse, and predict possible long-range effects of ethical and unethical use of technology on culture and society.

61.A.4 Students analyze current trends in information and communication technology and assess the potential of emerging technologies for ethical and unethical uses in culture and society.

61B Students practice responsible use of technology systems, information, and software.

61.B.1 Students recognize that copyright affects how one can use technology systems, information, and software resources.

61.B.2 Students discuss basic issues related to responsible use of technology and information, identify scenarios describing acceptable and unacceptable computer use, and describe personal consequences of inappropriate use.

61.B.3 Students discuss issues related to acceptable and responsible use of information and communication technology (e.g., privacy, security, copyright, file-sharing, plagiarism), analyze the consequences and costs of unethical use of information and computer t 61.B.4 Students analyze the consequences and costs of unethical use of information and computer technology and identify how individuals can protect their technology systems from the unethical and unscrupulous user.

61C Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

61.C.1 Students describe acceptable and unacceptable computer etiquette and how to work cooperatively with peers, family members, and others when using technology in the classroom or at home.

61.C.2 Students identify software or technology-delivered access that is valuable to them, and describe how it improves their ability to communicate, be productive, or achieve personal goals.

61.C.3 Students examine issues related to computer etiquette and discuss means for encouraging more effective use of technology to support effective communication, collaboration, personal productivity, lifelong learning, and assistance for individuals with disabilities.

61.C.4 Students analyze current trends in information and communication technology and discuss how emerging technologies could affect collaboration, enhance personal productivity, meet the diverse needs of learners, and promote opportunities for lifelong learning.

62 *Technology* Technology productivity tools

62A Students use technology tools to enhance learning, increase productivity, and promote creativity.

62.A.1 Students know how to use word processing, drawing tools, presentation software, concept- mapping software, graphing software, and other productivity software to illustrate concepts and convey ideas.

62.A.2 Students identify and apply common productivity software features such as menus and toolbars to plan, create, and edit word processing documents, spreadsheets, and presentations.

62.A.3 Students describe and apply common software features (e.g., spelling and grammar checkers, dictionary, thesaurus, editing options) to maximize accuracy in development of word processing documents; sorting, formulas and chart generation in spreadsheets; an

62B Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.

62.B.1 Students know how to work together to collect and create pictures, images, and charts for development of word processed reports and electronic presentations.

62.B.2 Students know procedures for importing and manipulating pictures, images, and charts in word processing documents and spreadsheets, presentations, and other creative works.

62.B.3 Students describe how to use online environments or other collaborative tools to facilitate design and development of materials, models, publications, and presentations; and to apply utilities for editing pictures, images, and charts.

62.B.4 Students analyze a plan and procedures for development of a multimedia product (e.g., model, presentation, publication, other creative work, webcast), and identify authoring tools, other hardware and software resources, research, and team personnel needed.

63 *Technology* Technology communications tools

63A Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.

63.A.1 Students, with assistance from teacher, parents, or student partners, identify procedures for safely and securely using telecommunications tools (e.g., e-mail, bulletin boards, newsgroups) to read, send, or post electronic messages for peers, experts, a

63.A.2 Students identify telecommunications tools (e- mail, online discussions, Web environments) and online resources for collaborative projects with other Students inside and outside the classroom who are studying similar curriculum-related content.

63.A.3 Students know how to use telecommunications tools such as e-mail, discussion groups, and online collaborative environments to exchange data collected and learn curricular concepts by communicating with peers, experts, and other audiences.

63.A.4 Students plan and implement collaborative projects (with peers, experts, or other audiences) using advanced telecommunications tools (e.g., groupware, interactive Web sites, simulations, joint data collection, videoconferencing) to support curriculum content.

64 *Technology* Technology research Tools

64A Students use technology to locate, evaluate, and collect information from a variety of sources.

64.A.1 Students, with assistance from teacher, parents, or student partners, identify steps for using technology resources such as CD-ROMs (reference or educational software) and Web- based search engines to locate information on assigned topics in the curriculum.

64.A.2 Students describe steps for using common Web search engines and basic search functions of other technology resources to locate information, and guidelines for evaluating information from a variety of sources for its relevance to the curriculum.

64.A.3 Students know how to conduct an advanced search using Boolean logic and other sophisticated search functions; and know how to evaluate information from a variety of sources for accuracy, bias, appropriateness, and comprehensiveness.

64.A.4 Students know how to locate, select, and use advanced technology resources (e.g., expert systems, intelligent agents, real-world models and simulations) to enhance their learning of curriculum topics selected.

64B Students use technology tools to process data and report results.

64.B.1 Students, with assistance from the teacher, know how to use existing common databases (e.g., library catalogs, encyclopedias, online archives, electronic dictionaries) to locate, sort, and interpret information on assigned topics in the curriculum.

64.B.2 Students describe how to perform basic queries designed to process data and report results on assigned topics in the curriculum.

64.B.3 Students know how to identify and implement procedures for designing, creating, and populating a database; and in performing queries to process data and report results relevant to an assigned hypothesis or research question.

64.B.4 Students formulate a hypothesis or research question on a curriculum topic they choose; and design, create, and populate a database to process data and report results.

64C Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.

64.C.1 Students identify technology resources (e.g., simple conceptual mapping software, drawing software) to show steps in a sequence; to demonstrate likenesses and differences, and to recognize, record, and organize information related to assigned curricular t

64.C.2 Students identify, record, and organize information on assigned topics in the curriculum by selecting and using appropriate information and communication technology tools and resources (e.g., slide show, timeline software, database, conceptual mapping).

64.C.3 Students know how to select and use information and communication technology tools and resources to collect and analyze information and report results on an assigned hypothesis or research question.

64.C.4 Students formulate a hypothesis or research question and select and use appropriate information and communication technology tools and resources for collecting and analyzing information and reporting results to multiple audiences.

65 *Technology* Technology problem-solving and decision-making tools

65A Students use technology resources for solving problems and making informed decisions.

65.A.1 Students know how to select information and communication technology tools and resources that can be used to solve particular problems (e.g., concept-mapping software to generate and organize ideas for a report; illustrate or sequence a story; a drawing p

65.A.2 Students know how to apply their knowledge of problem-solving tools to select appropriate technology tools and resources to solve a specific problem or make a decision.

65.A.3 Students identify two or more types of information and communication technology tools or resources that can be used for informing and solving a specific problem and presenting results, or for identifying and presenting an informed rationale for a decision

65.A.4 Students describe integration of two or more information and communication technology tools and resources to collaborate with peers, community members, experts, and others to solve a problem and present results, or to present an informed rationale for a d

65B Students employ technology in the development of strategies for solving problems in the real world.

65.B.1 Students identify ways technology has been used to address real-world problems.

65.B.2 Students know how to select and use information and communication technology tools and resources to collect, organize, and evaluate information relevant to a real-world problem.

65.B.3 Students describe the information and communication technology tools they might use to compare information from different sources, analyze findings, determine the need for additional information, and draw conclusions for addressing real-world problems.

65.B.4 Students integrate information and communication technology to analyze a real-world problem, design and implement procedures to monitor information, set timelines, and evaluate progress toward the solution of a real-world problem.