

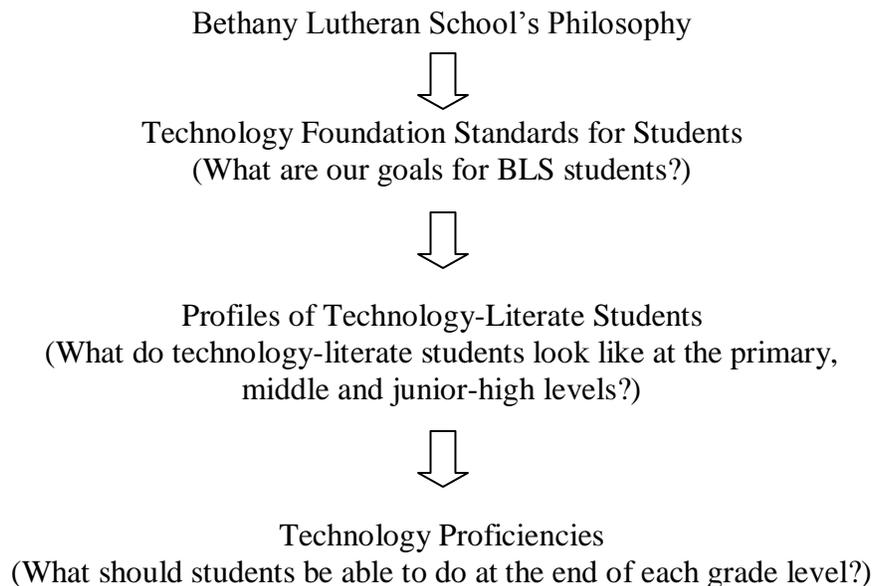
# **Bethany Lutheran School** **Technology Curriculum Guide**

## **Philosophy**

Students at Bethany Lutheran School must be equipped to use technology to collect, organize process and present information. As technology becomes more transparent and ubiquitous in daily existence, students will need to apply technology skills in all facets of their lives. To that end, Bethany Lutheran School students and teachers will integrate technology in all aspects of the curriculum, using it to enhance instruction and application of learned skills.

## **Map**

This curriculum guide can be mapped as follows:



## **Technology Foundation Standards for Students**

(as drafted by the International Society of Technology Education-ISTE ([www.iste.org](http://www.iste.org) 2007)- and enhanced by Bethany Lutheran School)

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

- Students apply existing knowledge to generate new ideas, products, or processes.
- Students create original works as a means of personal or group expression.
- Students use models and simulations to explore complex systems and issues.

- Students 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 interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
- Students communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- Students develop cultural understanding and global awareness by engaging with learners of other cultures.
- Students responsibly use social networking sites to connect with others.
- Students 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 plan strategies to guide inquiry.
- Students locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- Students evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- Students 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 identify and define authentic problems and significant questions for investigation.
- Students plan and manage activities to develop a solution or complete a project.
- Students collect and analyze data to identify solutions and/or make informed decisions.

- ❑ Students use multiple processes and diverse perspectives to explore alternative solutions.

**5. Digital Citizenship:** Students understand human, cultural, societal and Christian faith-based issues related to technology and practice legal and ethical behavior.

- ❑ Students advocate and practice safe, legal and responsible use of information, social networking, and technology.
- ❑ Students exhibit a positive attitude toward using technology that supports collaboration, learning and productivity.
- ❑ Students demonstrate personal responsibility for lifelong learning.
- ❑ Students exhibit leadership for digital citizenship.
- ❑ Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.

**6. Technology Operations and Concepts:** Students demonstrate a sound understanding of technology concepts, systems, and operations.

- ❑ Students understand and use technology systems.
- ❑ Students select and use applications effectively and productively.
- ❑ Students troubleshoot systems and applications.
- ❑ Students transfer current knowledge to learning of new technologies.

## **Profiles of Technology-Literate Students**

*(As drafted by ISTE and enhanced by BLS)*

### Grades K-2

*Prior to completion of Grade 2 students will:*

- ❑ Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer, earphones) to successfully operate computers, DVDs, CDs, and other technologies.
- ❑ Use a variety of media and technology resources for directed and independent learning activities.
- ❑ Communicate about technology using developmentally-appropriate and accurate terminology.

- ❑ Use developmentally-appropriate multimedia resources (e.g., interactive books, educational software, elementary online encyclopedias) to support learning.
- ❑ Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom.
- ❑ Demonstrate Christ-like behavior when using technology.
- ❑ Practice responsible use of technology systems and software.
- ❑ Create developmentally-appropriate multimedia products with support from teachers, family members, or student partners.
- ❑ Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories.

### Grades 3-5

*Prior to completion of Grade 5 students will:*

- ❑ Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.
- ❑ Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide.
- ❑ Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use.
- ❑ Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum.
- ❑ Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.
- ❑ Use technology resources (e.g., calculators, data collection probes, DVDs, educational software) for problem-solving, self-directed learning, and extended learning activities.

- ❑ Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems.
- ❑ Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources.

### Grades 6-8

*Prior to completion of Grade 8 students will:*

- ❑ Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.
- ❑ Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society.
- ❑ Exhibit Christ-like behaviors when using information and technology, and discuss consequences of misuse.
- ❑ Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.
- ❑ Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum.
- ❑ Design, develop, publish, and present products (e.g., Web pages, DVDs) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.
- ❑ Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.
- ❑ Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.
- ❑ Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.

## **Technology Proficiencies**

*(Credit is given here to Tom Wrege of St. Peter's Lutheran School, Columbus, IN, for his invaluable work on the subject.)*

### Kindergarten

- ❑ Use basic technology vocabulary when referring to computer terms: computer, monitor, mouse, mouse pad, keyboard, CD-ROM, printer, enter key, escape key, caps lock key, and software
- ❑ Know the school's rules for using computers
- ❑ Able to plug in headphones to the computer
- ❑ Use mouse to select programs or objects; learn to click, double-click, and drag
- ❑ Use the keyboard: select letters and numbers; use the shift key; the space bar and enter key
- ❑ Use menu items: Save, Open, Close, Print
- ❑ Use correct posture
- ❑ Use simple drawing software
- ❑ Understand the use of the computer to access information using pre-selected websites

### First Grade

- ❑ Review and enhance kindergarten skills
- ❑ Plug in headphones and adjust sound setting to a comfortable level
- ❑ Log on/off of network resources with password
- ❑ Understand use of Control/Alt/Delete command
- ❑ Demonstrate keyboard skills: use of right and left hand, select letters and numbers; use of shift, space bar, backspace, enter, escape, caps lock, and delete keys; number pad and num lock key
- ❑ Manipulate mouse to select programs or objects, click, double-click, and drag; use menu to save, open, close, and print
- ❑ Use simple drawing software and integrate graphics, text and sound.
- ❑ Create a simple multimedia presentation to depict a pattern of growth such as the life cycle of a plant

- ❑ Demonstrate basic skills learned and correct posture during all computer use
- ❑ Be introduced to guided Internet access with pre-selected websites
- ❑ Demonstrate safe and cooperative use of technology.

### Second Grade

- ❑ Review and enhance first grade skills
- ❑ Illustrate and communicate original ideas and stories using digital tools and media-rich resources
- ❑ Create simple multimedia presentations
- ❑ Begin use of graphic organizer software such as Kidspiration
- ❑ Experience guided Internet access with age appropriate and grade appropriate topics to develop research skills for topics such as a current or historical person
- ❑ Practice curriculum skills using computers
- ❑ Demonstrate basic skills learned and correct posture during all computer use
- ❑ Demonstrate safe and cooperative use of technology

### Third Grade

- ❑ Review and enhance second grade skills
- ❑ Further develop drawing skills
- ❑ Integrate graphics, text, and sound
- ❑ Further develop skills to create multimedia presentations
- ❑ Further develop use of graphic organizer software to use as guide for writing projects
- ❑ Use guided access to Internet with teacher-selected websites
- ❑ Participate in Webquests
- ❑ Demonstrate critical thinking skills

- ❑ Demonstrate Hyperstudio basics
- ❑ Demonstrate basic skills learned and correct posture during all computer use
- ❑ Demonstrate safe and cooperative use of technology

#### Fourth Grade

- ❑ Review and enhance grade three skills
- ❑ Understand the need for the school's acceptable use policy
- ❑ Intensify keyboard skills by participating in keyboard "camp" at least once per week to reach a goal of 20 WPM with 95 percent accuracy
- ❑ Identify and understand the use of: word processing, network, Internet and search engines
- ❑ Integrate graphics, text, and sound in multimedia presentations on various topics including state history, endangered animals, famous persons, and inventions
- ❑ Further develop Internet research skills with assisted search engine use
- ❑ Show proper care of software and hardware
- ❑ Explain the safety and ethical issues involved in cell phone use and social networking
- ❑ Demonstrate ability to blog
- ❑ Demonstrate basic skills learned and correct posture during all computer use
- ❑ Demonstrate safe and cooperative use of technology

#### Fifth Grade

- ❑ Review and enhance fourth grade skills
- ❑ Expand keyboarding skills to a goal of 25 WPM with 95 percent accuracy.
- ❑ Able to create basic spreadsheet and graph using Microsoft Excel
- ❑ Demonstrate independent Internet research skills
- ❑ Demonstrate file downloading using a web browser

- ❑ Create a multimedia state report using multiple applications and digital resources
- ❑ View web pages selected by teacher; explore Internet links
- ❑ Explain cybersafety rules for MySpace/Facebook/AIM profiles, posting pictures online.
- ❑ Apply Christian ethical principles in social networking.
- ❑ Demonstrate basic skills learned and correct posture during all computer use
- ❑ Demonstrate safe and cooperative use of technology

### Sixth Grade

- ❑ Review and enhance fifth grade skills
- ❑ Expand keyboarding skills to 30 WPM with 95% accuracy
- ❑ Demonstrate proficiency in creating multi-media presentations
- ❑ Work collaboratively or independently when using technology
- ❑ Gather data, examine patterns, and apply information for decision-making using digital tools and resources on topics such as earthquake safety.
- ❑ Explore Internet links provided by teacher
- ❑ Demonstrate basic skills learned and correct posture during all computer use
- ❑ Demonstrate use of emerging technologies such scanners, digital cameras, flash drives, and the like
- ❑ Conduct general PC troubleshooting to diagnose simple computer malfunctions
- ❑ Show proper care of software and hardware including computer maintenance such as cleaning, anti-virus/spyware applications, and defragmenting hard drive.
- ❑ Demonstrate safe and cooperative use of technology

### Seventh/Eighth Grade

- ❑ Review and enhance sixth grade skills

- ❑ Expand keyboarding skills to a goal of 40 words per minute with minimal errors
- ❑ Apply critical thinking skills to online research to locate, evaluate, and collect information from a variety of sources.
- ❑ Select and use the appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.
- ❑ Integrate a variety of file types to create and illustrate a document or presentation.
- ❑ Use technology resources such as calculators and data collection probes for gathering information
- ❑ Demonstrate proficiency in creating multi-media presentations
- ❑ Independently use technology tools to create and communicate for individual and/or collaborative projects including *The Hobbit* travel brochure, U.S. Presidents PowerPoint presentation, *Farewell to Manzanar* postcards.
- ❑ Produce documents demonstrating the ability to edit, reformat, and integrate various software tools
- ❑ Demonstrate proficiency in burning CDs
- ❑ Demonstrate proficiency in using a USB flash drive
- ❑ Show proper care of software and hardware
- ❑ Apply computer skills/knowledge to a mock purchase of computer system
- ❑ Explain Christian ethical principles involved in plagiarism, cyberbullying, social networking and software/music downloads
- ❑ Explain cybersafety rules involved in social networking
- ❑ Apply the concept of balance in life (go without electronics for a time)
- ❑ Demonstrate basic skills learned and correct posture during all computer use
- ❑ Demonstrate safe and cooperative use of technology