

St. Philomena School

**MODEL CONTENT STANDARDS
&
GRADE LEVEL EXPECTATIONS

TECHNOLOGY**

INTRODUCTION

Model Content Standards for Technology

Technology Knowledge, Skills, and Competencies offers a set of guidelines for schools concerning what PreK-12 students should know and be able to do in order to use technology effectively for learning in all content areas.

This document contains technology skills and competencies grouped in grade spans to promote a strong foundation for academics and 21st century skills including a scope and sequence concerning online behavior, digital citizenship, ethics, and safety

“Curriculum and instruction for 21st century learning prepares students to become expert users of technology, able to create, publish, and critique digital products that reflect their understanding of the content and their technological skills.” International Society for Technology Education (ISTE) Standards and related National Educational Technology Standards (NETS) form the foundation for these technology guidelines. As digital natives our students need to understand digital citizenship and become digitally literate. The Partnership for 21st Century Skills states in its Policymakers' Guide, "To thrive in the world today, students need higher-end skills, such as the ability to communicate effectively beyond their peer groups, analyze complex information from multiple sources, write or present well-reasoned arguments about nuanced issues and develop solutions to interdisciplinary problems that have no one right answer. In this light, technology is a powerful springboard to higher- level learning."

The accompanying documents represent learning activities/tasks that are attainable. Students need to determine the appropriate technology for a specific task, be able to locate and evaluate information related to the task, and to communicate the information to a specific audience. Thus, these activities are intended to help students realize the power of technology as they develop technological literacy to learn the content of the curriculum.

As a result, the teaching and learning of these skills and competencies should not be taught in isolation, but should be integrated into various content areas. By integrating technology into the content areas, learning is enhanced in that content area while students are able to apply technology skills to various content areas, the school community, their life outside of the classroom, and to their future.

Technology is no longer a separate standard in the Common Core; it is embedded throughout the standards. The Digital Literacy and Technology Skills support the standards and build a strong foundation for academics and 21st century skills while integrating skills such as communication, critical thinking, creativity and collaboration skills. Likewise, the College and Career Readiness Standards that anchor the K-12 standards call for students to learn skills through technology and multimedia.

MODEL CONTENT STANDARDS

1. Creativity and Innovation

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

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.

3. Research and Information Fluency

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

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.

5. Digital Citizenship

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

6. Technology Operations and Concepts

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

Standard 1:

Creativity and Innovation

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

GRADE K

- Use iPads to combine media such as text and graphics (with assistance) to communicate ideas.
- Use basic computer drawing tools, colors, and shapes to illustrate or communicate ideas.
- Explore the tool palette of a graphics program.

GRADE 1

- Use iPads to express ideas learned through curriculum studies using different media elements that include text, graphics, and sound (with moderate assistance).
- Use more advanced drawing tools, colors, and shapes.
- Make appropriate choices from the tool palette.

GRADE 2

- Use technology to express ideas using different media elements such as text, images, sound, and voice to express knowledge and to entertain.
- Begin to locate, select and use appropriate images to enhance curriculum projects.

GRADE 3

- Begin to use image-editing techniques such as selecting and resizing.
- Use various graphics (such as scanned photographs and drawings and clip art), styles, and layouts to enhance expression and communicate information.
- Locate, select and use appropriate images.

GRADE 4

- Develop image-editing techniques (select, resize, crop, copy and paste).
- Create interactive multimedia presentations using text, images, audio, and video to convey curriculum concepts.
- Demonstrate sense of color, shape and space in designing a presentation that communicates research information or expresses ideas.

GRADE 5

- Master image-editing techniques to effectively present information.

- Continue to use basic principles of design and typography (text formatting techniques) to enhance ideas or to persuade an audience.

GRADE 6

- Use technology resources for self-expression through original stories.
- Use a variety of media that may include text, graphics, digital images, videos, and sound to communicate and express ideas.
- Understand concepts of digital photography/video.

Standard 2:

Communication & Collaboration

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

GRADE K

- Use iPads to facilitate letter recognition and vocabulary development.
- Use iPads to facilitate reading, writing, listening, and speaking.
- Use pictures to support emergent writing and to communicate concepts or information learned.

GRADE 1

- Use iPads to publish a short story, poem, or expository writing involving the use of text and graphics with appropriate spacing and punctuation.
- Collaborate and interact with peers to create a team multimedia project communicating curriculum ideas.

GRADE 2

- Use iPads to type stories, poetry, or research reports related to curriculum.
- Use the iPads to develop a multimedia presentation through a sequence or storyboard.
- Contribute to team projects.

GRADE 3

- Use computers for creative and expressive writing using basic formatting techniques and tools (select text to delete, copy, paste; indent, spacing, alignment, altering font/style).

- Insert and reposition graphics in or between documents.
- Begin to use electronic spell check.

GRADE 4

- Use computers to create multimedia presentations with text, graphics, sound, and animation.
- Continue to develop computer skills for a variety of writing tasks using tools to import graphics from various applications.
- Insert/reposition graphics in documents.
- Develop appropriate use of spell check.

GRADE 5

- Use a variety of media that may include text, graphics, scanned images, and sound.
- Use technology for creative and expository writing using more complex publishing tools.

GRADE 6

- Introduce Web social media tools to publish and respond to fiction and non-fiction work.
- Use technology to create a multimedia presentation that incorporates text, graphics, digital images, video, and sound.

Standard 3:

Research and Information Fluency

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

GRADE K

- Use teacher-selected Web sites to enhance and support curriculum.

GRADE 1

- Within teacher-selected Web sites, explore information on various curriculum topics.

GRADE 2

- Select appropriate application for tasks.

- Use teacher-selected Web sites to locate and access information related to curriculum.

GRADE 3

- Introduce basic keyword search techniques.
- Begin to download images from the Internet to support research.
- Begin to cite sources.

GRADE 4

- Develop strategies to locate information from appropriate Internet sources.
- Navigate Web sites with assistance.
- Begin to download images from the Internet to support research.
- Develop and practice note-taking strategies.
- Begin to cite information and image sources.

GRADE 5

- Continue to use appropriate search engines and directories for research.
- Apply advanced search techniques such as Boolean operators to search for information.
- Develop strategies for evaluating sources.
- Continue to take notes and cite sources appropriately.
- Use digital tools to enhance observation, gathering and sharing of research data.
- Complete an inquiry based research project.

GRADE 6

- Locate, organize, analyze, evaluate, synthesize and use information from a variety of sources and media.
- Follow proper citation guidelines.
- Use the Internet to converse with experts worldwide to research a topic or to collaborate with other students on research.
- Complete an inquiry based research project.

Standard 4:

Critical Thinking, Problem Solving, and Decision Making

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

GRADE K

- Use iPads for basic coding activities.
- Use iPads to explore and demonstrate number sense.
- Use iPads to explore spatial relations and shape recognition.
- Use computers to practice sequencing, patterns, and symmetry.

GRADE 1

- Begin to use technology to gather information, solve problems and complete projects (with assistance).
- Use the iPads for coding with appropriate applications.

GRADE 2

- Use iPads to explore and develop math skills (i.e., counting, addition, subtraction, measurement and length).
- Begin to use strategies for collecting information, solving problems and completing projects.

GRADE 3

- Use the computer to explore math concepts such as grouping, dividing, and understanding of geometry through a combination of shapes.
- Use basic commands to create projects that demonstrate or illustrate an idea.

GRADE 4

- Continue to develop strategies to collect information, solve problems and complete projects.
- Use basic commands and multiple procedures to create projects that demonstrate or illustrate an idea.
- Plan and execute strategies to guide research and complete projects.

GRADE 5

- Gather and analyze data to identify solutions and make informed decisions.
- Create multiple procedures using a programming language to produce an educational application.

GRADE 6

- Use a spreadsheet to analyze, calculate, and store data.
- Continue to plan and execute strategies to effectively guide research and complete projects.
- Use advanced programming techniques.

Standard 5:

Digital Citizenship

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

GRADE K

- Respect each other's work.
- Use resources as directed.

GRADE 1

- Respect others' accounts and work.
- Use resources as directed.

GRADE 2

- Respect others' account privacy and work.
- Practice safe and responsible use of online resources.

GRADE 3

- Respect others' account privacy and work.
- Practice safe and responsible use of online resources.
- Begin to understand the context/etiquette of social networking.

GRADE 4

- Respect others' account privacy and work.
- Practice safe, responsible and appropriate use of local and online resources.
- Understand copyright issues and properly cite sources.
- Engage in technology applications in a manner that is mindful of acceptable student conduct and respectful of the privacy of network users.

GRADE 5

- Use resources in a manner that is safe, mindful of acceptable student conduct and respectful of the privacy of other users.
- Understand copyright issues and properly cite sources.
- Understand the benefits and risks of social media and communication.

GRADE 6

- Use resources in a manner that is safe, mindful of acceptable student conduct and respectful of the privacy of other users.

- Understand copyright issues and properly cite sources.
- Understand the benefits and risks of social media and communication.

Standard 6:

Technology Operations and Concepts

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

GRADE K

- Login to network account using name and password (with assistance).
- Identify basic components of the computer and iPad: monitor, keyboard, mouse, headphones, microphones, and printers.
- Identify and find letters/numbers on the keyboard.
- Be able to use and navigate the iPad home screen.

GRADE 1

- Log into network account with minimal assistance.
- Locate, open, and use applications with assistance.
- Ask for assistance when needed; assist peers when appropriate.

GRADE 2

- Use the iPad and peripherals (i.e., headphones) appropriately.
- Launch and quit applications with minimal assistance.
- Locate, open and close applications on the iPads with minimal assistance.
- Ask for assistance when needed; assist peers when appropriate.
- Transfer knowledge of basic operations to new applications.

GRADE 3

- Login to appropriate accounts and enter password independently.
- Use two hands on the keyboard most of the time.
- Introduce “home row” position.
- Locate, open, print, save and close applications with minimal assistance.

GRADE 4

- Continue to develop consistent “home row” position on the keyboard.
- Continue to locate, open, save and print files independently.

- Understand and effectively use the network Group Shared folder.
- Plug in and use external equipment such as headphones/microphones.

GRADE 5

- Navigate and toggle between multiple programs simultaneously on the computer.
- Organize, rename, and delete files.
- Type with all fingers on the keyboard in proper home row position. Begin to incorporate other keys such as symbols and numbers with all fingers.
- Use a variety of short-cut keystroke commands.
- Independently access network to share files and resources.
- Access online storage to transfer files between home and school

GRADE 6

- Be comfortable with all aspects of file management (saving files, renaming and deleting files, copying files, etc.).
- Type regularly with all fingers.
- Begin using keyboard shortcuts and quick commands and/or programs for productivity, such as accessing and sharing files remotely.
- Understand how to transfer, backup, and archive files between local and network drives.
- Access cloud-based storage to transfer files between home and school.