

DIOCESE OF JOLIET
TECHNOLOGY CURRICULUM
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National Technology Standards for All Students

The national technology foundation standards for students are divided into six broad categories. Standards within each category are to be introduced, reinforced and mastered by students. The categories provide the framework for linking performance indicators to the standards. Technology based activities are developed from these standards and performance indicators. Activities should be designed in which students achieve success in learning, communication, and life skills.

Technology Foundation Standards for Students

- 1 Basic operations and concepts
 - Students demonstrate a sound understanding of the nature and operation of technology systems.
 - Students are proficient in the use of technology.
- 2 Social, ethical, and human issues
 - Students understand the ethical, cultural, moral, and societal issues related to technology.
 - Students practice responsible use of technology systems, information, and software.
 - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
- 3 Technology productivity tools
 - Students use technology tools to enhance learning, increase productivity, and promote creativity.
 - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
- 4 Technology communications tools
 - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
 - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
- 5 Technology research tools
 - Students use technology to locate, evaluate, and collect information from a variety of sources.
 - Students use technology tools to process data and report results.
 - Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.
- 6 Technology problem-solving and decision-making tools
 - Students use technology resources for solving problems and making informed decisions.
 - Students employ technology in the development of strategies for solving problems in the real world.

FOUNDATION 1 Basic Operations and Concepts

Standard A Students demonstrate a sound understanding of the nature and operation of technology systems

Standard B Students are proficient in the use of technology

Performance Indicators:

All students should have opportunities to demonstrate the following performances before the end of

Pre-K - 2	3-5	6-8	9-12
<p>1. Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer,) to successfully operate computers and multimedia (i.e. DVDs, VCRs, projectors, cameras, and other technologies).</p>	<p>1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.</p>	<p>1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.</p>	<p>1. Make informed choices among technology systems, resources, and services. *(1,2)</p> <p>*Applies to more than one standard category</p>
<p>2. Use a variety of media and technology resources for directed and independent learning activities. *(1,3)</p> <p>*Applies to more than one standard category.</p>	<p>2. Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. (1,2)</p> <p>*Applies to more than one standard category.</p>	<p>2. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving. *(1,6)</p> <p>*Applies to more than one standard category</p>	<p>2. Demonstrate touch keyboarding mechanics and touch type accurately.</p>
<p>3. Communicate about technology using developmentally appropriate and accurate terminology.</p>	<p>3. Develop touch keyboarding techniques using both hands.</p>	<p>3. Demonstrate touch keyboarding skills at acceptable speed and accuracy levels (25-35 wpm)</p>	<p>3. Identify common graphic, video, sound and file formats.</p>

4. Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias) to support learning.	4. Save and backup files on a computer hard drive, storage medium, or server.	4. Organize and backup files on a computer hard drive, storage, medium, or server.	4. Use desktop or video conferencing equipment and systems.
5. Identify and define basic computer terminology (e.g., software, hardware, cursor, startup/shutdown, storage medium, file, memory).	5. Restart computer when frozen, using soft boot.	5. Identify and define computer networking terms.	5. Demonstrate how to import, and export text, graphic, and multimedia files.
6. Identify and explain the functions of the components of a computer system(e.g. monitor, central processing unity, storage devices, keyboard, mouse, printer).		6. Describe the operating and file management software of a computer (e.g., desktop, file, window, folder, directory, pull-down menu, dialog box, etc.)	
7. Demonstrate proper care and correct use of media and equipment.		7. Use a graphics program to create or modify detail to an image or picture.	
8. Demonstrate the correct use of input devices (e.g., mouse, keyboard) and output devices (e.g., monitor, printer, speakers).		8. Know and use maintenance procedures for available equipment.	

9. Demonstrate appropriate posture and mouse manipulations.			
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FOUNDATION 2 Social, ethical, moral and human issues

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

Standard B Students practice responsible uses of technology systems, information and software.

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

Performance Indicators:*indicates that the performance indicator applies to more than one standard category.

All students should have opportunities to demonstrate the following performances before the end of

PreK-2	3-5	6-8	9-12
1. Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom.	1. Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. *(1,2)	1. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society.	1. 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.
2. Demonstrate positive social and ethical behaviors when using technology.	2. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use.	2. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.	2. Make informed choices among technology systems, resources, and services. *(1,2)
3. Practice responsible use of technology systems and software.	3. Discuss security issues and procedures (i.e. passwords, privacy).	3. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world	3. Analyze advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole.

		problems. *(2,5,6)	
4. Explain copyright and what it means to the student.	4. Discuss copyright issues and laws.	4. Exhibit ethical behaviors when using copyright materials.	4. Demonstrate and advocate for legal and ethical behaviors among peers, family, and community regarding the use of technology and information.

FOUNDATION 3 Technology productivity tools

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

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

Performance Indicators: :*indicates that the performance indicator applies to more than one standard category

All students should have opportunities to demonstrate the following performances before the end of

PreK-2	3-5	6-8	9-12
1. Use a variety of media and technology resources for directed and independent learning activities. *(1,3)	1. Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum.	1. Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. *(3,5)	1. Use technology tools and resources for managing and communicating personal/professional information (e.g., finances, schedules, addresses, purchases, correspondence). *(3,4)
2. Create developmentally appropriate multimedia products with support from teachers, family members, or student partners (e.g., use draw, paint or graphics software to create simple signs, posters, banners, charts, visuals, etc.)	2. 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. *(3,4)	2. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. *(3,6)	2. Investigate and apply expert systems, intelligent agents, and simulations in real-world situations. *(3,5,6)
3. Use technology resources (e.g., puzzles, logical thinking	3. Identify and define basic word processing terminology (e.g.,	3. Demonstrate the text editing features of a word	3. Use desktop publishing and graphics software to produce

programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories. *(3,4,5,6)	cursor, open, save, file, I-beam, window, document, cut, copy, paste)	processing programs.	page layouts in different formats (e.g. brochure, tri-fold, newsletter)
	4. Produce and edit a word-processed document.	4. Demonstrate the special formatting features (e.g., borders, shading, centering, justification) of a word processing program).	4. Develop a document or file for inclusion into a website or web page.
	5. Incorporate graphics, pictures, and sound into a document.	5. Identify and define basic database terms.	5. Use graphic or presentation software to visually communicate ideas or concepts.
	6. Identify and explain basic spreadsheet terms.	6. Use a prepared database template to enter and edit data, and to locate records.	6. Generate modifiable flow charts, project time lines, organizational charts, or calendars.
	7. Use a prepared spreadsheet template to enter and edit data and to produce and interpret a simple graph or chart.	7. Describe the various applications of productivity software programs.	
	8. Describe the purpose and use of security applications.	8. Use advanced text formatting and layout styles to produce a document.	
	9. Identify and explain basic power point terms.	9. Classify collected data and construct a simple database.	
	10. Produce a simple presentation (1-5 slides).	10. Construct a simple spreadsheet.	
		11. Plot and use different types of charts and graphs.	
		12. Incorporate database and spreadsheet information in word-processed documents.	

FOUNDATION 4 Technology communication tools

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

STANDARD B Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

Performance Indicators: :*indicates that the performance indicator applies to more than one standard category

All students should have opportunities to demonstrate the following performances before the end of

PreK-2	3-5	6-8	9-12
<p>1. 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. *(3,4,5,6)</p>	<p>1. 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, (3,4)</p>	<p>1. Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. *(4,5,6)</p>	<p>1. Use technology tools and resources for managing and communicating personal/professional information (e.g., finances, schedules, addresses, purchases, correspondence). *(3,4)</p>
<p>2. Gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners</p>	<p>2. Use telecommunications efficiently and effectively to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests(e.g.,use the functions of a web browser to navigate and save www sites).</p>	<p>2. 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. *(4,5)</p>	<p>2. Routinely and efficiently use online information resources to meet needs for collaboration, research, publication, communication, and productivity. *(4,5,6)</p>
<p>3. Use preselected Internet sites.</p>	<p>3. Use telecommunications and online resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom. *(4,5)</p>	<p>3. Demonstrate efficient Internet navigation.</p>	<p>3. Select and apply technology tools for research, information analysis, problem solving, and decision making in content learning. *(4,5)</p>
	<p>4. Identify and use simple search engines and directories.</p>	<p>4. Demonstrate the ability to refine search results.</p>	<p>4. Exhibit efficient techniques using technology to compile, synthesize, produce, and disseminate information, models, and other creative works. *(4,5,6)</p>
			<p>5. Demonstrate the ability to retrieve and download files from a remote</p>

			computer.
			6. Participate in an on-line discussion group or listserv appropriate to a content area.
			7. Gather and organize statistical or survey data using email, or on-line news or discussion groups.

FOUNDATION 5: Technology research tools

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

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

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

Performance Indicators: :*indicates that the performance indicator applies to more than one standard category

All students should have opportunities to demonstrate the following performances before the end of

PreK-2	3-5	6-8	9-12
1. 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. *(3,4,5,6)	1. Use telecommunications and online resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom. *(4,5)	1. Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. *(3,5)	1. Evaluate technology-based options, including distance and distributed education, for lifelong learning.
	2. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities. *(5,6)	2. Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. *(4,5,6)	2. Routinely and efficiently use online information resources to meet needs for collaboration, research, publication, communication, and productivity. *(4,5,6)
	3. Determine when technology is	3. Collaborate with peers, experts,	3. Select and apply technology

	useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. *(5,6)	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. *(4,5)	tools for research, information analysis, problem solving, and decision making in content learning. *(4,5)
		4. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.	4. Investigate and apply expert systems, intelligent agents, and simulations in real-world situations. *(3,5,6)
			4. Collaborate with peers, experts, and others to contribute to a content-related knowledge base by using technology to compile, synthesize, produce, and disseminate information, models, and other creative works. *(4,5,6)

FOUNDATION 6: Technology problem-solving and decision-making tools.

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

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

Performance Indicators: :*indicates that the performance indicator applies to more than one standard category

All students should have opportunities to demonstrate the following performances before the end of

PreK-2	3-5	6-8	9-12
1. 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. *(3,4,5,6)	1. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities. *(5,6)	1. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. *3,6)	1. Routinely and efficiently use online information resources to meet needs for collaboration, research, publication, communication, and productivity. *(4,5,6)
	2. Determine when technology is	2. Design, develop, publish, and	2. Investigate and apply expert

	useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. *(5,6)	present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. *(4,5,6)	systems, intelligent agents, and simulations in real-world situations. *(3,5,6)
	3. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources.	3. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. *(5,6)	3. Collaborate with peers, experts, and others to contribute to a content-related knowledge base by using technology to compile, synthesize, produce, and disseminate information, models, and other creative works. *(4,5,6)
		4. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving. *(1,6)	
		5. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. *(2,5,6)	