DIOCESE OF JOLIET
TECHNOLOGY CURRICULUM
2010

National Educational Technology Standards (NETS) 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 as 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.
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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 a 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.

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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.

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-related tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools, concept mapping software) 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)	1. Investigate and apply systems and simulations in real-world situations. *(3,5,6)
3. 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)	3. Identify and define basic word processing terminology (e.g., cursor, open, save, file, I-beam, window, document, cut, copy, paste)	3. Demonstrate the text editing features of a word processing programs.	3. Use desktop publishing and graphics software to produce 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 partial or complete website for a variety of audiences.
	5. Incorporate graphics, pictures, and sound into a document.	5 Use advanced text formatting and layout styles to produce a document. .	5. Use graphic presentation, digital learning game software to visually communicate ideas or concepts.
	6. Identify and explain basic spreadsheet terms.	6. Construct a simple spreadsheet.	6. Use digital tools to communicate; employing a variety of multimedia.
	7. Use a prepared spreadsheet template to enter and edit data and to produce and interpret a simple graph or chart.	7. Plot and use different types of charts and graphs.	
	8. Describe the purpose and use of security applications.	8. Identify and define basic database terms.	
	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. Incorporate a variety of file types to create and illustrate a document or presentation.	
	11. Use digital-imaging technology to modify or create a graphic.	11. Describe the various applications of productivity software programs.	
	12. Use digital planning tools.		

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 as 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.

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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 tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, document cameras) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside, (3,4)	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)	1. Use technology tools and resources for managing and communicating personal/professional information (e.g., finances, schedules, addresses, purchases, correspondence). *(3,4)
2. Gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners	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).	2. Collaborate with peers, experts and others using telecommunications and collaborative tools (e.g. online learning) to investigate multicultural curriculum related problems, issues and information and to develop solutions or products for audiences inside and outside the classroom. *(4,5)	2. Routinely and efficiently use online information resources to meet needs for collaboration, research, publication, communication, and productivity. *(4,5,6)

	3. Use telecommunications and online resources (e.g., blogs, 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)	3. Demonstrate efficient Internet navigation.	3. Select and apply technology tools for research, information analysis, problem solving, and decision making in content learning. *(4,5)
	4. Identify and use simple search engines and directories.	4. Demonstrate the ability to refine search results.	4. Exhibit efficient techniques using technology to compile, synthesize, produce, and disseminate information, models, and other creative works. *(4,5,6)
			5. Demonstrate the ability to retrieve and download files from a remote 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.

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 o n the appropriateness to specific tasks.
d. process data and report results

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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., blogging, 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 data collection technology, and simulations (e.g., environmental probes, hand held devices, GPS' graphing calculators,) to gather, view, analyze, and report results *(3,5, 6)	1. Evaluate technology-based options, including distance and distributed education, for lifelong learning.
2. Use digital resources including simulations and or graphical organizers to investigate global responsibility.	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 useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. *(5,6)	3. 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)	3. Select and apply technology tools for research, information analysis, problem solving, and decision making in content learning. *(4,5)
		4. Research and evaluate the accuracy, relevance, appropriateness,	4. Investigate and apply expert systems, intelligent agents, and simulations in real-world

		comprehensiveness, and bias of electronic information sources concerning real-world problems.	situations. *(3,5,6)
		5. Use digital tools and resources to gather data, examine patterns, and apply information for decision making.	5. 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. 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.
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	2. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. *(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. Investigate and apply expert 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. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving. *(1,6)	3. Collaborate with peers, experts, and others on a global issue to compile, synthesize, produce, and disseminate information, models, and other creative works. *(4,5,6)
		4. Research and evaluate the accuracy, relevance, appropriateness, timeliness, comprehensiveness, and bias of electronic information sources concerning real-world problems. *(2,5,6)	4. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.
		5.Use digital tools and resources to gather data, examine patterns, and apply information for decision making.	

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 a personal responsibility for lifelong learning.
   d. exhibit leadership for digital citizenship.

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; 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 problems. *(2,5,6)	3. Analyze advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole.
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. Discuss, practice and advocate for legal and ethical behaviors regarding the use of technology and information.

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.

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
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).	1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.	1. Independently develop and apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.	1. Make informed choices among technology systems, resources, and services. *(1,2) *Applies to more than one standard category
2. Use a variety of media and technology resources for directed and independent learning activities. *(1,3) *Applies to more than one standard category.	2. Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. *(1,2) *Applies to more than one standard category.	2. Demonstrate an understanding of concepts underlying hardware, software, and connectivity; also practical applications to learning and problem solving. *(1,6) * Applies to more than one standard category	2. Demonstrate touch keyboarding mechanics and touch type accurately.
3. Communicate about technology using developmentally appropriate and accurate terminology.	3. Develop touch keyboarding techniques using both hands.	3. Demonstrate touch keyboarding skills at acceptable speed and accuracy levels (25-35 wpm)	3. Identify common graphic, video, sound and file formats.

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 Practice injury prevention.	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.			