

CNMI Technology Standards and Benchmarks

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.

Standard 2: Students demonstrate use of basic applications and tools.

Standard 3: Students demonstrate use of research tools.

Standard 4: Students demonstrate the ability to use telecommunications.

Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	1.K-2.1 Use input devices and output devices (e.g., mouse, keyboard, monitor)		The student: Uses a mouse to select, click, and double click icons on the desktop (e.g., the icon for a word processing program).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use input devices and output devices, in a highly effective manner	Use input devices and output devices, in an effective manner	Use input devices and output devices, in a limited manner	Use input devices and output devices, in an ineffective manner
OPERATIONS	1.K-2.2 Use technology equipment (e.g., tape recorders, VCRs, computers) properly		The student: Shuts-down a computer using the 'Shut Down' option, rather than holding in the power button.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use an extensive variety of types of technology equipment properly	Use a variety of types of technology equipment properly	Use a few types of technology equipment properly	Use a limited number of types of technology equipment properly

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	1.K–2.3 Use developmentally appropriate multimedia resources (e.g., interactive books, educational software) and a variety of media for directed activities to support learning		The student: Reads a story in an interactive book by following along as the story is read aloud and uses the interactive features (e.g., navigating between pages, turning the audio on and off).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use developmentally appropriate multimedia resources and a variety of media for directed activities to support learning, in a highly effective manner	Use developmentally appropriate multimedia resources and a variety of media for directed activities to support learning, in an effective manner	Use developmentally appropriate multimedia resources and a variety of media for directed activities to support learning, in a limited manner	Use developmentally appropriate multimedia resources and a variety of media for directed activities to support learning, in an ineffective manner
TERMINOLOGY	1.K–2.4 Communicate about technology using developmentally appropriate terminology		The student: Uses terminology for computers (e.g., mouse, monitor, toolbar, window, spreadsheet) and other technologies (e.g., CD player, DVD player, video camera) when describing a process or problem to another student.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Communicate about technology using developmentally appropriate terminology, with accuracy	Communicate about technology using developmentally appropriate terminology, with no significant errors	Communicate about technology using developmentally appropriate terminology, with a few significant and/or many minor errors	Communicate about technology using developmentally appropriate terminology, with many significant errors

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 2: Students demonstrate use of basic applications and tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	2.K-2.1 Use basic applications for drawing, painting, and word processing		The student: Uses a drawing program to create a story with a partner using pictures, names, and letters.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use basic applications for drawing, painting, and word processing, in a highly effective manner	Use basic applications for drawing, painting, and word processing, in an effective manner	Use basic applications for drawing, painting, and word processing, in a limited manner	Use basic applications for drawing, painting, and word processing, in an ineffective manner
COMPUTER SOFTWARE	2.K-2.2 Use developmentally appropriate programs and applications and be able to open, close, print, and save within the programs		The student: Creates a word processing document by opening a new file, making changes to the file, printing a copy, saving the changes, and closing out of the file.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use developmentally appropriate programs and applications and be able to open, close, print, and save within the programs, with accuracy	Use developmentally appropriate programs and applications and be able to open, close, print, and save within the programs, with no significant errors	Use developmentally appropriate programs and applications and be able to open, close, print, and save within the programs, with a few significant and/or many minor errors	Use developmentally appropriate programs and applications and be able to open, close, print, and save within the programs, with many significant errors

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 3: Students demonstrate use of research tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	3.K-2.1 Use features (e.g., spell-check, dictionary) of word processing programs as research tools		The student: Locates the definition of a word using the dictionary feature of a word processing document.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use features of word processing programs as research tools, with accuracy	Use features of word processing programs as research tools, with no significant errors	Use features of word processing programs as research tools, with a few significant and/or many minor errors	Use features of word processing programs as research tools, with many significant errors
RESEARCH SKILLS	3.K-2.2 Access information from developmentally appropriate student search engines on the Internet		The student: Uses search engines designed for children or families to locate information on the Internet about current events.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Access information from developmentally appropriate student search engines on the Internet, in a highly effective manner	Access information from developmentally appropriate student search engines on the Internet, in an effective manner	Access information from developmentally appropriate student search engines on the Internet, in a limited manner	Access information from developmentally appropriate student search engines on the Internet, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 4: Students demonstrate the ability to use telecommunications.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
RESEARCH SKILLS	4.K–2.1 Use the Internet according to the guidelines outlined in the CNMI Public School System Internet Policy and the individual school’s policy		The student: Uses the Internet to search for and view appropriate content as defined by the acceptable use policies for the CNMI Public School System.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use the Internet according to all of the guidelines outlined in the CNMI Public School System Internet Policy and the individual school’s policy	Use the Internet according to most of the guidelines outlined in the CNMI Public School System Internet Policy and the individual school’s policy	Use the Internet according to some of the guidelines outlined in the CNMI Public School System Internet Policy and the individual school’s policy	Use the Internet according to very few of the guidelines outlined in the CNMI Public School System Internet Policy and the individual school’s policy
RESEARCH SKILLS	4.K–2.2 Gather information and communicate with others using various forms of telecommunications (e.g., video conference, e-mail, web page)		The student: Uses e-mail to gather information about a given organization (e.g., theme park, store, school) while under the supervision of the teacher.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Gather information and communicate with others using an extensive variety of forms of telecommunications	Gather information and communicate with others using a variety of forms of telecommunications	Gather information and communicate with others using a few forms of telecommunications	Gather information and communicate with others using a limited number of forms of telecommunications

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	5.K–2.1 Use developmentally appropriate software programs (e.g., logical thinking programs, puzzles, writing tools) for problem solving and decision-making		The student: Solves a mathematical puzzle (e.g., arranges the numbers 1-6 into a triangle shape such that the sides have an equal sum) using a software program.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use developmentally appropriate software programs for problem solving and decision-making, in a highly effective manner	Use developmentally appropriate software programs for problem solving and decision-making, in an effective manner	Use developmentally appropriate software programs for problem solving and decision-making, in a limited manner	Use developmentally appropriate software programs for problem solving and decision-making, in an ineffective manner

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COLLABORATION	6.K–2.1 Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom		The student: Makes a picture report with a small group of other students by sharing computer resources (e.g., use of mouse, use of keyboard).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom, in a highly effective manner	Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom, in an effective manner	Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom, in a limited manner	Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
ETHICS AND TECHNOLOGY	6.K–2.2 Use positive social and ethical behaviors when using technology		The student: Follows rules for being respectful towards other students and their work (e.g., duplicates or erases documents only with permission, allows other students to work without interruption).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Always use positive social and ethical behaviors when using technology	Frequently use positive social and ethical behaviors when using technology	Occasionally use positive social and ethical behaviors when using technology	Rarely use positive social and ethical behaviors when using technology
ETHICS AND TECHNOLOGY	6.K–2.3 Use technology systems and software responsibly		The student: Demonstrates correct operation of equipment while using technology (e.g., keeps food and drinks away from equipment, does not bang on keys, handles CDs by the edges).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Always use technology systems and software responsibly	Frequently use technology systems and software responsibly	Occasionally use technology systems and software responsibly	Rarely use technology systems and software responsibly

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades K-2

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK	PERFORMANCE INDICATOR		
ETHICS AND TECHNOLOGY	6.K–2.4 Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use	The student: Explains the importance of protecting passwords and personal information.		
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in great detail	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in detail	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in some detail	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in minimal detail

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATING SYSTEMS	1.3–5.1 Use and manage a computer operating system		The student: Uses a computer operating system to select programs, execute programs, and shut down a computer.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use and manage a computer operating system, in a highly effective manner	Use and manage a computer operating system, in an effective manner	Use and manage a computer operating system, in a limited manner	Use and manage a computer operating system, in an ineffective manner
OPERATIONS	1.3–5.2 Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities		The student: Creates a group multimedia presentation using a variety of media sources (e.g., poster, photos, video, music).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use an extensive variety of developmentally appropriate multimedia resources and media for directed and independent activities	Use a variety of developmentally appropriate multimedia resources and media for directed and independent activities	Use a few developmentally appropriate multimedia resources and media for directed and independent activities	Use a limited number of developmentally appropriate multimedia resources and media for directed and independent activities

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK			PERFORMANCE INDICATOR
TERMINOLOGY	1.3–5.3 Communicate knowledge of technology using developmentally appropriate terminology			The student: Uses terminology for computers (e.g., RAM, ROM, drive, CD-ROM, DVD) when describing a process or problem to another student.
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Communicate knowledge of technology using developmentally appropriate terminology, with accuracy	Communicate knowledge of technology using developmentally appropriate terminology, with no significant errors	Communicate knowledge of technology using developmentally appropriate terminology, with a few significant and/or many minor errors	Communicate knowledge of technology using developmentally appropriate terminology, with many significant errors

Standard 2: Students demonstrate use of basic applications and tools.				
TOPIC	BENCHMARK			PERFORMANCE INDICATOR
COMPUTER SOFTWARE	2.3–5.1 Use word processing software to compose, edit, and incorporate graphics into projects			The student: Writes a story using word processing software, locates a graphic to complement the story, and inserts the graphic into the word processing document.
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use word processing software to compose, edit, and incorporate graphics into projects, in a highly effective manner	Use word processing software to compose, edit, and incorporate graphics into projects, in an effective manner	Use word processing software to compose, edit, and incorporate graphics into projects, in a limited manner	Use word processing software to compose, edit, and incorporate graphics into projects, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 2: Students demonstrate use of basic applications and tools.					
TOPIC	BENCHMARK			PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	2.3–5.2 Use appropriate software to make and interpret graphs			The student: Uses spreadsheet software to make two bar graphs and compares the features of the two graphs.	
	RUBRIC				
	Advanced	Proficient	Developing	Beginning	
	Use appropriate software to make and interpret graphs, with accuracy	Use appropriate software to make and interpret graphs, with no significant errors	Use appropriate software to make and interpret graphs, with a few significant and/or many minor errors	Use appropriate software to make and interpret graphs, with many significant errors	
COMPUTER SOFTWARE	2.3–5.3 Use drawing, painting, and photo-manipulation programs			The student: Creates a document with graphical elements (e.g., clip art, symbols, photographs, cropping, sizing).	
	RUBRIC				
	Advanced	Proficient	Developing	Beginning	
	Use drawing, painting, and photo-manipulation programs, in a highly effective manner	Use drawing, painting, and photo-manipulation programs, in an effective manner	Use drawing, painting, and photo-manipulation programs, in a limited manner	Use drawing, painting, and photo-manipulation programs, in an ineffective manner	
COMPUTER SOFTWARE	2.3–5.4 Use desktop publishing programs			The student: Creates a document (e.g., certificate, greeting card, slide show) using a pre-designed template or stationery.	
	RUBRIC				
	Advanced	Proficient	Developing	Beginning	
	Use desktop publishing programs, in a highly effective manner	Use desktop publishing programs, in an effective manner	Use desktop publishing programs, in a limited manner	Use desktop publishing programs, in an ineffective manner	

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 2: Students demonstrate use of basic applications and tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	2.3–5.5 Use basic CD recording and rewriting software to record information on a CD-ROM		The student: Records information (e.g., data files, music files) onto a CD-R or CD-RW using a software program.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use basic CD recording and rewriting software to record information on a CD-ROM, with accuracy	Use basic CD recording and rewriting software to record information on a CD-ROM, with no significant errors	Use basic CD recording and rewriting software to record information on a CD-ROM, with a few significant and/or many minor errors	Use basic CD recording and rewriting software to record information on a CD-ROM, with many significant errors
COMPUTER SOFTWARE	2.3–5.6 Use graphic organizing software		The student: Uses graphic organizing software to take notes on a mathematical process (e.g., multiplication algorithm).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use graphic organizing software, in a highly effective manner	Use graphic organizing software, in an effective manner	Use graphic organizing software, in a limited manner	Use graphic organizing software, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 3: Students demonstrate use of research tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	3.3–5.1 Use database software to perform tasks including, but not limited to, sorting, searching, and using library online skills		The student: Uses an already existing database to sort information according to a specific characteristic and search for specific records.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use database software to perform an extensive variety of tasks including, but not limited to, sorting, searching, and library online skills	Use database software to perform a variety of tasks including, but not limited to, sorting, searching, and library online skills	Use database software to perform a few tasks including, but not limited to, sorting, searching, and library online skills	Use database software to perform a limited number of tasks including, but not limited to, sorting, searching, and library online skills
RESEARCH SKILLS	3.3–5.2 Describe copyright laws and compliance of copyright laws as they apply to research information		The student: Explains copyright laws and provides an example of how to cite sources using simple bibliographic information (e.g., author, title, copyright date).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Describe copyright laws and compliance of copyright laws as they apply to research information, in great detail	Describe copyright laws and compliance of copyright laws as they apply to research information, in detail	Describe copyright laws and compliance of copyright laws as they apply to research information, in some detail	Describe copyright laws and compliance of copyright laws as they apply to research information, in minimal detail

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 3: Students demonstrate use of research tools.			
TOPIC	BENCHMARK	PERFORMANCE INDICATOR	
RESEARCH SKILLS	3.3–5.3 Use a variety of sources (e.g., videotapes, cable television, satellite systems) to access information	The student: Gathers information about a chosen subject (e.g., sun, solar system) using videotapes and cable television programs.	
	RUBRIC		
	Advanced	Proficient	Developing
	Use an extensive variety of sources to access information	Use a variety of sources to access information	Use a few sources to access information
			Beginning
			Use a limited number of sources to access information

Standard 4: Students demonstrate the ability to use telecommunications.			
TOPIC	BENCHMARK	PERFORMANCE INDICATOR	
RESEARCH SKILLS	4.3–5.1 Use telecommunications to access remote information and communicate with others in support of direct and independent learning	The student: Uses telecommunication methods (e.g., e-mail, Internet, videoconference) to communicate with a person in a remote location.	
	RUBRIC		
	Advanced	Proficient	Developing
	Use telecommunications to access remote information and communicate with others in support of direct and independent learning, in a highly effective manner	Use telecommunications to access remote information and communicate with others in support of direct and independent learning, in an effective manner	Use telecommunications to access remote information and communicate with others in support of direct and independent learning, in a limited manner
			Beginning
			Use telecommunications to access remote information and communicate with others in support of direct and independent learning, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	5.3–5.1 Use technology resources (e.g., calculators, videos, educational software) for problem solving		The student: Writes a question (e.g., “Why does the moon orbit the earth?”) based on content from a videotape (e.g., a video about gravity), gives the question to another student to answer, and answers a question written by another student while watching a videotape.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use technology resources for problem solving, in a highly effective manner	Use technology resources for problem solving, in an effective manner	Use technology resources for problem solving, in a limited manner	Use technology resources for problem solving, in an ineffective manner
OPERATIONS	5.3–5.2 Decide in which situations technology is useful, and select the appropriate tool(s) and technology resources to address a variety of tasks and problems		The student: Selects the appropriate technological tools (e.g., science probe, spreadsheet software) to collect data to answer a posed question (e.g., “What is the average temperature in March?”).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Decide in which situations technology is useful, and select the appropriate tool(s) and technology resources to address an extensive variety of tasks and problems	Decide in which situations technology is useful, and select the appropriate tool(s) and technology resources to address a variety of tasks and problems	Decide in which situations technology is useful, and select the appropriate tool(s) and technology resources to address a few tasks and problems	Decide in which situations technology is useful, and select the appropriate tool(s) and technology resources to address a limited number of tasks and problems

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
RESEARCH SKILLS	5.3–5.3 Evaluate electronic information sources in terms of appropriateness and relevance		The student: Critiques an electronic information source (e.g., online journal article, online encyclopedia, newsgroup) in terms of its relevance to a specified research project.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Evaluate electronic information sources in terms of appropriateness and relevance with strong supporting evidence	Evaluate electronic information sources in terms of appropriateness and relevance	Describe electronic information sources in terms of appropriateness and relevance	Recognize electronic information sources in terms of appropriateness and relevance

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
ETHICS AND TECHNOLOGY	6.3–5.1 Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use		The student: Explains responsible uses of technology (e.g., do not reveal personal information, do not post harmful or inappropriate information, follow school Internet use policy).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in great detail	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in detail	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in some detail	Discuss basic issues related to responsible use of age appropriate technology and information and describe consequences of inappropriate use, in minimal detail

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 3-5

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK	PERFORMANCE INDICATOR		
TECHNOLOGY AND SOCIETY	6.3–5.2 Discuss common uses of technology in daily life and the advantages and disadvantages technology may provide [1]*	The student: Explains the positive (e.g., convenience, access to information) and negative (e.g., negative health impact, “talking” to strangers) impact of technologies (e.g., television, computers) on daily life.		
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Discuss common uses of technology in daily life and the advantages and disadvantages technology may provide, in great detail	Discuss common uses of technology in daily life and the advantages and disadvantages technology may provide, in detail	Discuss common uses of technology in daily life and the advantages and disadvantages technology may provide, in some detail	Discuss common uses of technology in daily life and the advantages and disadvantages technology may provide, in minimal detail

*Bracketed numbers (e.g., [6]) indicate the additional standard to which the benchmark relates

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER LITERACY	1.6–8.1 Apply strategies for identifying and solving routine hardware and software problems		The student: Uses strategies (e.g., checks that hardware is plugged in and turned on; checks if updates, new versions, or patches are available for software) to troubleshoot hardware and software problems.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Apply strategies for identifying and solving routine hardware and software problems, in a highly effective manner	Apply strategies for identifying and solving routine hardware and software problems, in an effective manner	Apply strategies for identifying and solving routine hardware and software problems, in a limited manner	Apply strategies for identifying and solving routine hardware and software problems, in an ineffective manner
OPERATING SYSTEMS	1.6–8.2 Configure and manage an operating system, and use computer operations (e.g., use trash bin, create folders) for desktop management		The student: Follows directions for installing an operating system using a boot disk and cleans up the desktop on a computer by placing unwanted files in the trash bin, arranging icons on the desktop, and putting desktop files into new folders.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Configure and manage an operating system, and use computer operations for desktop management, in a highly effective manner	Configure and manage an operating system, and use computer operations for desktop management, in an effective manner	Configure and manage an operating system, and use computer operations for desktop management, in a limited manner	Configure and manage an operating system, and use computer operations for desktop management, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	1.6–8.3 Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities to support learning		The student: Creates a multimedia presentation using a variety of digital sources (e.g., digital camera, digital video, scanner, CD-ROM, Internet).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities, in a highly effective manner	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities, in an effective manner	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities, in a limited manner	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities, in an ineffective manner
TERMINOLOGY	1.6–8.4 Communicate knowledge of technology using developmentally appropriate terminology		The student: Uses accurate terminology for computers (e.g., FireWire, parallel, serial, USB) and other computer related technologies (e.g., infrastructure, Internet, Intranet, network, LAN, WAN, Ethernet, firewall, server, TCP-IP) when describing a process or problem to another student.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Communicate knowledge of technology using developmentally appropriate terminology, with accuracy	Communicate knowledge of technology using developmentally appropriate terminology, with no significant errors	Communicate knowledge of technology using developmentally appropriate terminology, with a few significant and/or many minor errors	Communicate knowledge of technology using developmentally appropriate terminology, with many significant errors

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 2: Students demonstrate use of basic applications and tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	2.6–8.1 Use word processing, database, and spreadsheet software applications in meaningful ways across the curriculum		The student: Makes a spreadsheet, including setting up formulas, to translate between a table of values, an equation, and a graph.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use word processing, database, and spreadsheet software applications in meaningful ways across the curriculum, in a highly effective manner	Use word processing, database, and spreadsheet software applications in meaningful ways across the curriculum, in an effective manner	Use word processing, database, and spreadsheet software applications in meaningful ways across the curriculum, in a limited manner	Use word processing, database, and spreadsheet software applications in meaningful ways across the curriculum, in an ineffective manner
OPERATIONS	2.6–8.2 Use presentation hardware and software		The student: Presents a slide show or power point on a chosen topic of interest.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use presentation hardware and software, in a highly effective manner	Use presentation hardware and software, in an effective manner	Use presentation hardware and software, in a limited manner	Use presentation hardware and software, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 2: Students demonstrate use of basic applications and tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	2.6–8.3 Use content specific tools, software, and simulation tools (e.g., environmental probes, graphing calculators, web tools) to support learning		The student: Uses content specific software (e.g., geometry software) to aid in problem solving (e.g., theorem proving, performing transformations, drawing three-dimensional objects).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use content specific tools, software, and simulation tools to support learning, in a highly effective manner	Use content specific tools, software, and simulation tools to support learning, in an effective manner	Use content specific tools, software, and simulation tools to support learning, in a limited manner	Use content specific tools, software, and simulation tools to support learning, in an ineffective manner

Standard 3: Students demonstrate use of research tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	3.6–8.1 Use a photocopier independently to reproduce original work, for research, and for communication to others		The student: Makes photocopies of an outline for a presentation, passes out the outline to each student in the class, and follows the presentation outline while giving the presentation.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use a photocopier independently to reproduce original work, for research, and for communication to others, in a sophisticated manner	Use a photocopier independently to reproduce original work, for research, and for communication to others, in an appropriate manner	Use a photocopier independently to reproduce original work, for research, and for communication to others, in a simplistic manner	Use a photocopier independently to reproduce original work, for research, and for communication to others, in an inappropriate manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 3: Students demonstrate use of research tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
RESEARCH SKILLS	3.6–8.2 Access information from the Internet, CDs, and other forms of media		The student: Writes a science report using a variety of sources (e.g., information from the Internet, encyclopedias on CD-ROM, content specific DVDs) to gather information.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Access information from the Internet, CDs, and other forms of media, in a highly effective manner	Access a variety of information from the Internet, CDs, and other forms of media, in an effective manner	Access information from the Internet, CDs, and other forms of media, in a limited manner	Access information from the Internet, CDs, and other forms of media, in an ineffective manner
RESEARCH SKILLS	3.6–8.3 Use search skills to find information in the library or on the Internet		The student: Searches for information in the library using a variety of sources (e.g., newspapers, periodicals, almanacs, Internet).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use search skills to find information in the library or on the Internet, in a highly effective manner	Use search skills to find information in the library or on the Internet, in an effective manner	Use search skills to find information in the library or on the Internet, in a limited manner	Use search skills to find information in the library or on the Internet, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 3: Students demonstrate use of research tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
RESEARCH SKILLS	3.6–8.4 Use proper criteria to cite bibliographic references		The student: Creates a bibliography for a report according to teacher-specified guidelines (e.g., include author, title, copyright date, year of publication, place of publication).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use proper criteria to cite bibliographic references, with accuracy	Use proper criteria to cite bibliographic references, with no significant errors	Use proper criteria to cite bibliographic references, with a few significant and/or many minor errors	Use proper criteria to cite bibliographic references, with many significant errors
RESEARCH SKILLS	3.6–8.5 Evaluate resources to determine if they are appropriate for a given activity		The student: Assesses the usefulness of using a graphing calculator to solve problems involving number patterns.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Evaluate resources to determine if they are appropriate for a given activity, with strong supporting evidence	Evaluate resources to determine if they are appropriate for a given activity	Describe resources that are appropriate for a given activity	Recognize resources that are appropriate for a given activity

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 3: Students demonstrate use of research tools.				
TOPIC	BENCHMARK			PERFORMANCE INDICATOR
RESEARCH SKILLS	3.6–8.6 Select appropriate resources for locating information on the Internet, CDs, videotapes, cable television, and other forms of media			The student: Decides which resources are appropriate to use to locate information from technology sources (e.g., use a computer to locate information on the Internet, use the library to locate information on CDs and videotapes).
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Select appropriate resources for locating information on the Internet, CDs, videotapes, cable television and other forms of media, in a highly effective manner	Select appropriate resources for locating information on the Internet, CDs, videotapes, cable television and other forms of media, in an effective manner	Select appropriate resources for locating information on the Internet, CDs, videotapes, cable television and other forms of media, in a limited manner	Select appropriate resources for locating information on the Internet, CDs, videotapes, cable television and other forms of media, in an ineffective manner

Standard 4: Students demonstrate the ability to use telecommunications.				
TOPIC	BENCHMARK			PERFORMANCE INDICATOR
COLLABORATION	4.6–8.1 Use telecommunications to collaborate with peers, teachers, experts, and others			The student: Uses telecommunications devices (e.g., teleconference, e-mail) to communicate with experts about a chosen curriculum-related science issue (e.g., air pollution).
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use telecommunications to collaborate with peers, teachers, experts, and others, in a highly effective manner	Use telecommunications to collaborate with peers, teachers, experts, and others, in an effective manner	Use telecommunications to collaborate with peers, teachers, experts, and others, in a limited manner	Use telecommunications to collaborate with peers, teachers, experts, and others, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 4: Students demonstrate the ability to use telecommunications.			
TOPIC	BENCHMARK	PERFORMANCE INDICATOR	
OPERATIONS	4.6–8.2 Use telecommunications to develop solutions or products for audiences inside and outside the classroom	The student: Creates an academic product using telecommunications (e.g., e-mail communication, discussion groups) and presents the product using telecommunications (e.g., a video commercial).	
RUBRIC			
	Advanced	Proficient	Developing
	Use telecommunications to develop solutions or products for audiences inside and outside the classroom, in a highly effective manner	Use telecommunications to develop solutions or products for audiences inside and outside the classroom, in an effective manner	Use telecommunications to develop solutions or products for audiences inside and outside the classroom, in a limited manner
			Beginning
			Use telecommunications to develop solutions or products for audiences inside and outside the classroom, in an ineffective manner

Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.			
TOPIC	BENCHMARK	PERFORMANCE INDICATOR	
OPERATIONS	5.6–8.1 Explain concepts underlying hardware, software, connectivity, and practical applications to learning and problem solving	The student: Describes hardware concepts (e.g. computer monitors must be plugged into the wall and into the computer), software concepts (e.g., some software is operating system specific), and connectivity concepts (e.g., to connect to the internet the computer must have a modem, Ethernet, or wireless connection).	
RUBRIC			
	Advanced	Proficient	Developing
	Explain concepts underlying hardware, software, connectivity, and practical applications to learning, and problem solving, in a cogent manner	Explain concepts underlying hardware, software, connectivity, and practical applications to learning, and problem solving, in a logical manner	Explain concepts underlying hardware, software, connectivity, and practical applications to learning, and problem solving, with logic that is hard to follow
			Beginning
			Explain concepts underlying hardware, software, connectivity, and practical applications to learning, and problem solving, with no apparent logic

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	5.6–8.2 Use appropriate tools and technology resources to accomplish a variety of tasks and solve problems		The student: Uses appropriate tools (e.g., photo copier, computer, e-mail, software programs) to complete a variety of tasks (e.g., report, presentation, communication, research).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use appropriate tools and technology resources to accomplish an extensive variety of tasks and solve problems	Use appropriate tools and technology resources to accomplish a variety of tasks and solve problems	Use appropriate tools and technology resources to accomplish a narrow range of tasks or solve problems	Use appropriate tools and technology resources to accomplish a task or solve a problem
RESEARCH SKILLS	5.6–8.3 Research and evaluate electronic information sources in terms of accuracy, relevance, appropriateness, comprehensiveness, and bias concerning real-world problems		The student: Decides if an online news article is accurate and comprehensive, and determines if the news article is biased.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Research and evaluate electronic information sources in terms of accuracy, relevance, appropriateness, comprehensiveness, and bias concerning real-world problems, with thorough support	Research and evaluate electronic information sources in terms of accuracy, relevance, appropriateness, comprehensiveness, and bias concerning real-world problems, with support	Research and evaluate electronic information sources in terms of accuracy, relevance, appropriateness, comprehensiveness, and bias concerning real-world problems, with partial support	Research and evaluate electronic information sources in terms of accuracy, relevance, appropriateness, comprehensiveness, and bias concerning real-world problems, with very little support

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 6-8

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
ETHICS AND TECHNOLOGY	6.6–8.1 Discuss the importance of following legal and ethical guidelines when using information and technology, and the consequences of misuse		The student: Uses “fair use” guidelines and abides by copyright laws (e.g., in relationship to print, computer software, music), and explains the consequences of copyright infringement.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Discuss the importance of following legal and ethical guidelines when using information and technology, and the consequences of misuse, in great detail	Discuss the importance of following legal and ethical guidelines when using information and technology, and the consequences of misuse, in detail	Discuss the importance of following legal and ethical guidelines when using information and technology, and the consequences of misuse, in some detail	Discuss the importance of following legal and ethical guidelines when using information and technology, and the consequences of misuse, in minimal detail
TECHNOLOGY AND SOCIETY	6.6–8.2 Provide examples of current changes in information technologies and the effect those changes has in school, in the workplace, and in society		The student: Describes different examples of the increased dependence on computers and the growing digital divide (e.g., some homes and schools have a lot technology and connectivity, while others have less or none).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Provide an extensive variety of examples of current changes in information technologies and the effect those changes has in school, in the workplace, and in society	Provide a variety of examples of current changes in information technologies and the effect those changes has in school, in the workplace, and in society	Provide a few examples of current changes in information technologies and the effect those changes has in school, in the workplace, and in society	Provide a limited number of examples of current changes in information technologies and the effect those changes has in school, in the workplace, and in society

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 9-12

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
CONCEPTS	1.9–12.1 Describe the basic capabilities and limitations of technology's hardware and software		The student: Provides examples of capabilities (e.g., computer video chat) and limitations (e.g., compatibility issues) of computer software.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Describe the basic capabilities and limitations of technology's hardware and software, in great detail	Describe the basic capabilities and limitations of technology's hardware and software, in detail	Describe the basic capabilities and limitations of technology's hardware and software, in some detail	Describe the basic capabilities and limitations of technology's hardware and software, in minimal detail
OPERATING SYSTEMS	1.9–12.2 Accomplishes similar computer-based tasks across platforms, using both Macintosh and Windows operating systems		The student: Uses both Macintosh and Windows operating systems to set system preferences, adjust start menu or dock contents, locate programs and files, and navigate windows (i.e., minimize, maximize, close).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Accomplishes similar computer-based tasks across platforms, using both Macintosh and Windows operating systems, with accuracy	Accomplishes similar computer-based tasks across platforms, using both Macintosh and Windows operating systems, with no significant errors	Accomplishes similar computer-based tasks across platforms, using both Macintosh and Windows operating systems, with a few significant and/or many minor errors	Accomplishes similar computer-based tasks across platforms, using both Macintosh and Windows operating systems, with many significant errors

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 9-12

Standard 1: Students demonstrate developmentally appropriate technology operations and concepts.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
OPERATIONS	1.9–12.3 Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities to support learning		The student: Creates a web page using multiple digital sources (e.g., digital camera, digital video, scanner, CD-ROM, Internet).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities to support learning, in a highly effective manner	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities to support learning, in an effective manner	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities to support learning, in a limited manner	Use developmentally appropriate multimedia resources and a variety of media for directed and independent activities to support learning, in an ineffective manner
OPERATIONS	1.9–12.4 Make informed choices among technology systems, resources, and services [6]*		The student: Uses criteria to compare technological resources and services (e.g., music provider, Internet service provider, Web browser).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Always make informed choices among technology systems, resources, and services	Frequently make informed choices among technology systems, resources, and services	Occasionally make informed choices among technology systems, resources, and services	Rarely make informed choices among technology systems, resources, and services

*Bracketed numbers (e.g., [6]) indicate the additional standard to which the benchmark relates

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 9-12

Standard 2: Students demonstrate use of basic applications and tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	2.9–12.1 Use spreadsheet software to perform a variety of tasks including, but not limited to, interpreting and creating charts, editing existing data for predictions, forecasting, and problem solving		The student: Makes a spreadsheet using a given data set (e.g., annual company sales for ten years), makes a line graph using the data, inserts a trend line, and uses the trend line for forecasting (e.g., uses the trend line to predict the annual sales for the eleventh year).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use spreadsheet software to perform a variety of tasks including, but not limited to, interpreting and creating charts, editing existing data for predictions, forecasting, and problem solving, in a highly effective manner	Use spreadsheet software to perform a variety of tasks including, but not limited to, interpreting and creating charts, editing existing data for predictions, forecasting, and problem solving, in an effective manner	Use spreadsheet software to perform a variety of tasks including, but not limited to, interpreting and creating charts, editing existing data for predictions, forecasting, and problem solving, in a limited manner	Use spreadsheet software to perform a variety of tasks including, but not limited to, interpreting and creating charts, editing existing data for predictions, forecasting, and problem solving, in an ineffective manner
COMPUTER SOFTWARE	2.9–12.2 Create databases, graphics, and spreadsheets, and integrate them into word processing documents to manage information and create reports		The student: Makes a database report from information (e.g., annual reports, polls, surveys) that has been manipulated in a variety of ways (e.g., sorted by region, gender, or monetary amount).	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Create databases, graphics, and spreadsheets, and integrate them into word processing documents to manage information and create reports, in a highly effective manner	Create databases, graphics, and spreadsheets, and integrate them into word processing documents to manage information and create reports, in an effective manner	Create databases, graphics, and spreadsheets, and integrate them into word processing documents to manage information and create reports, in a limited manner	Create databases, graphics, and spreadsheets, and integrate them into word processing documents to manage information and create reports, in an ineffective manner

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 9-12

Standard 2: Students demonstrate use of basic applications and tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
COMPUTER SOFTWARE	2.9–12.3 Use desktop publishing software and supporting hardware		The student: Makes a variety of print items (e.g., advertisement, brochure, program, newsletter, business card) using desktop publishing software.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use desktop publishing software and supporting hardware, in a highly effective manner	Use desktop publishing software and supporting hardware, in an effective manner	Use desktop publishing software and supporting hardware, in a limited manner	Use desktop publishing software and supporting hardware, in an ineffective manner

Standard 3: Students demonstrate use of research tools.				
TOPIC	BENCHMARK		PERFORMANCE INDICATOR	
RESEARCH SKILLS	3.9–12.1 Use strategies to locate electronic information		The student: Locates information using electronic databases, Internet searches, electronic journals, and e-mail.	
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use an extensive variety of strategies to locate electronic information	Use a variety of strategies to locate electronic information	Use a few strategies to locate electronic information	Use a limited number of strategies to locate electronic information

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 9-12

Standard 3: Students demonstrate use of research tools.			
TOPIC	BENCHMARK	PERFORMANCE INDICATOR	
RESEARCH SKILLS	3.9–12.2 Use advanced Internet search strategies	The student: Searches the Internet using advanced features (e.g., preferences, advanced searching, filtering).	
	RUBRIC		
	Advanced	Proficient	Developing
	Use an extensive variety of advanced Internet search strategies	Use a variety of advanced Internet search strategies	Use a limited number of advanced Internet search strategies

Standard 4: Students demonstrate the ability to use telecommunications.			
TOPIC	BENCHMARK	PERFORMANCE INDICATOR	
OPERATIONS	4.9–12.1 Use online information resources to meet needs for collaboration, research, publications, communications, and productivity [5]*	The student: Uses online information resources (e.g., e-mail, Internet searches, online databases, online encyclopedias) to perform a variety of tasks throughout the school year (e.g., group research project, e-mail correspondence, student productivity).	
	RUBRIC		
	Advanced	Proficient	Developing
	Always use online information resources to meet needs for collaboration, research, publications, communications, and productivity	Frequently use online information resources to meet needs for collaboration, research, publications, communications, and productivity	Occasionally use online information resources to meet needs for collaboration, research, publications, communications, and productivity

*Bracketed numbers (e.g., [6]) indicate the additional standard to which the benchmark relates

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 9-12

Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.				
TOPIC	BENCHMARK	PERFORMANCE INDICATOR		
OPERATIONS	5.9–12.1 Use simulations to understand real-world situations	The student: Researches a real-world concept (e.g., molecular modeling) using a simulation.		
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Use simulations to understand real-world situations, in a highly effective manner	Use simulations to understand real-world situations, in an effective manner	Use simulations to understand real-world situations, in a limited manner	Use simulations to understand real-world situations, in an ineffective manner

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK	PERFORMANCE INDICATOR		
ETHICS AND TECHNOLOGY	6.9–12.1 Use technology and information in a way that provides a model of legal and ethical behavior for peers, family, and the community	The student: Uses ethical behaviors (e.g., no unauthorized intrusions such as deleting or manipulating data, hacking, spamming) when using technology (e.g., computers, the Internet).		
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Always use technology and information in a way that provides a model of legal and ethical behavior for peers, family, and the community	Frequently use technology and information in a way that provides a model of legal and ethical behavior for peers, family, and the community	Occasionally use technology and information in a way that provides a model of legal and ethical behavior for peers, family, and the community	Rarely use technology and information in a way that provides a model of legal and ethical behavior for peers, family, and the community

TECHNOLOGY STANDARDS AND BENCHMARKS

Grades 9-12

Standard 6: Students demonstrate knowledge of social, ethical, and human issues.				
TOPIC	BENCHMARK	PERFORMANCE INDICATOR		
TECHNOLOGY AND SOCIETY	6.9–12.2 Evaluate the advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole	The student: Assess the cost of maintaining technology in terms of manpower and money.		
	RUBRIC			
	Advanced	Proficient	Developing	Beginning
	Evaluate advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole, in great detail	Evaluate advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole, in detail	Evaluate advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole, in some detail	Evaluate advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole, in minimal detail

DRAFT TECHNOLOGY STANDARDS AND BENCHMARKS

Definitions

Benchmark – a translation of a standard into what the student should know and be able to do at developmentally appropriate levels (i.e., grades K-2, 3-5, 6-8, and 9-12)

CD-ROM (Compact Disc-Read-Only Memory) – a storage media that is able to store up to 660MB of information (e.g., text, graphics, audio, and full-motion video)

Configure – to set the details or structure of a system (e.g., operating system)

Content Standard – a description of what students should know and be able to do within a particular discipline or content domain

Curriculum Framework – serves as a bridge between standards and the classroom and provides curriculum content, organization, and presentation

Curriculum Standard – activities used in classroom instruction to teach the benchmarked standard

Desktop Publishing – the use of a computer to produce documents for publication

E-Mail (Electronic Mail) – correspondence across a network by way of an on-line message-handling computer program

Environmental Probe – computer peripheral that senses environmental data and communicates reading directly into the computer for recording and storage (e.g., pH sensor, humidity sensor)

Graphic Applications Software – one of a number of types of computer software that enables the user to create or manipulate illustrations, graphs, drafting products, and a variety of other images

Graphics – the digital version of an image, a photograph, or a picture displayed on a monitor screen

Graphing Calculator – a hand-held calculator that, in addition to performing calculations and functional operations, can graph functions and relations

Internet – the system of thousands of interconnected commercial, academic, and government networks around the world all using common protocols to share information

DRAFT TECHNOLOGY STANDARDS AND BENCHMARKS

Definitions

Multimedia – the combination of audio, video, animation, and graphics used to disseminate information under computer control

Operating System – software that controls a computer and its peripherals

Photo-manipulation – the ability to alter a scanned photo image

Platform – computer hardware and the operating system that runs on it (e.g., a Macintosh computer or Windows-based PC)

Presentation Hardware/Software – computer hardware/software designed to support presentations involving multimedia (e.g., PowerPoint)

Search Engine – software that allows retrieval of information from electronic databases (library catalogs, CD-ROMs, the Web) by locating user-defined characteristics of data such as word patterns, dates, or file formats

Standard – a description of what students should know and be able to do at the highest level of generality (e.g. concept)

Telecommunications – includes all types of electronic communication services, including satellite, fiber-optic, computer-based transmission, telephone, and radio