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Organized by NYS Standard/ Key Idea

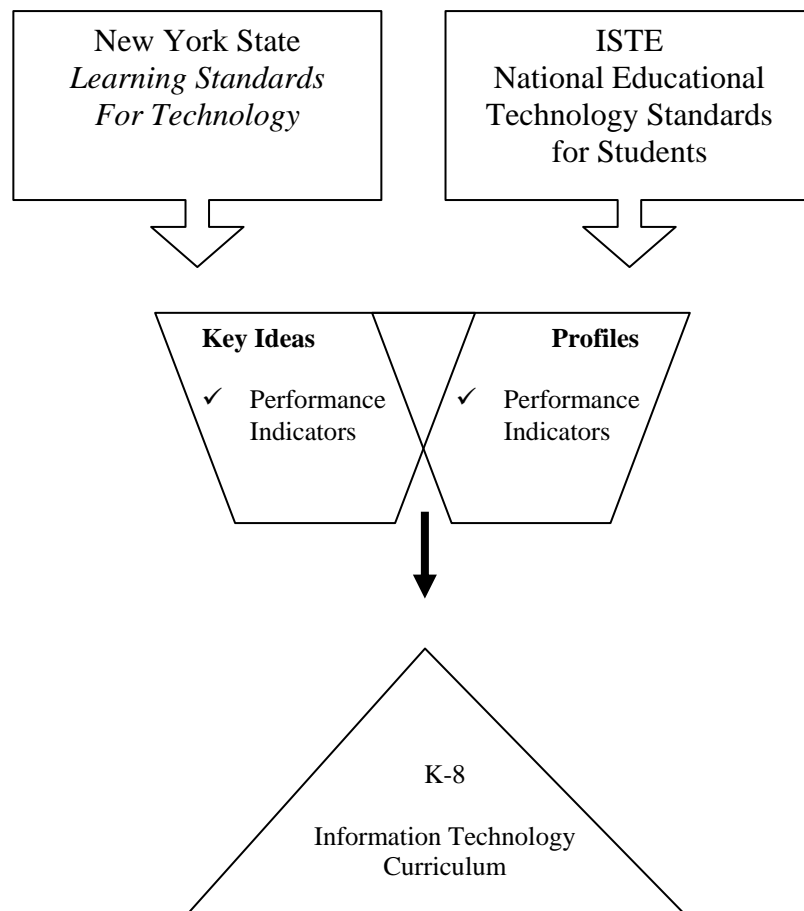
Grade 5	
Grade 6	
Grade 7	
Grade 8	

Information Technology Curriculum:

The curriculum designed for grades K-8 is geared specifically towards information technology including basic operation of computers, student productivity skills, as well as ethical issues. Using the National Educational Technology Standards for Students (NETS) from ISTE, we have aligned the national profiles for technology-literate students with the New York Learning Standards for Technology. These profiles and performance indicators are used as guidelines for planning technology-integrated and technology-based activities within the classrooms.

Each profile and performance indicator spans a minimum of three grade levels as the content or concept is first (*I*ntroduced, (*C*)ontinued, and then (*M*)astered. As the concepts are introduced, teachers identify what students should know and explore. Later as the same concept is continued at the next grade level, students can begin to demonstrate understanding and effective use of the skills. Finally, students can demonstrate mastery at the next level and beyond for life-long learning and effective skill attainment.

The following flowchart provides a graphic representation of the Information Technology Curriculum:



Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Kindergarten

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.

NETS 3-6	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Use a variety of equipment and software packages to enter, process, display and communicate information in different forms using texts, tables, pictures and sound. <i>(I)</i>
NETS 1	<ul style="list-style-type: none"> ✓ Use technology program to communicate a story or idea. <i>(I)</i> ✓ Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate a: <ul style="list-style-type: none"> ○ computer, ○ VCR, ○ audiotape, ○ telephone, ○ other technologies. <i>(I)</i> ✓ Communicate about technology using developmentally appropriate and accurate terminology. <i>(I)</i> ✓ Use developmentally appropriate multimedia resources (e.g., interactive books, on-line encyclopedias, networked software) to support learning. <i>(I)</i>

Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.

NETS 1 NETS 3	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Understand that computers are used to store personal information. <i>(I)</i> ✓ Use a variety of media and technology resources for directed and independent learning activities. <i>(I)</i>
NETS 2	<ul style="list-style-type: none"> ✓ Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. <i>(I)</i> ✓ Demonstrate positive social and ethical behaviors when using technology. <i>(I)</i>

Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.

NETS 4 NETS 2	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Telecommunicate a message to a distant location with teacher help. <i>(I)</i> ✓ Practice responsible use of technology systems and software <i>(I)</i>.
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Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

First Grade

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.	
NETS 3-6 NETS 1	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Use a variety of equipment and software packages to enter, process, display and communicate information in different forms using texts, tables, pictures and sound. (C) ✓ Use technology program to communicate a story or idea. (C) ✓ Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate a: <ul style="list-style-type: none"> ○ computer, ○ VCR, ○ audiotape, ○ telephone, ○ other technologies. (C) ✓ Communicate about technology using developmentally appropriate and accurate terminology. (C) ✓ Use developmentally appropriate multimedia resources (e.g., interactive books, on-line encyclopedias, networked software) to support learning. (C)
Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.	
NETS 1 NETS 3 NETS 2	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Understand that computers are used to store personal information. (C) ✓ Use a variety of media and technology resources for directed and independent learning activities. (C) ✓ Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. (C) ✓ Demonstrate positive social and ethical behaviors when using technology. (C)
Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.	
NETS 4 NETS 2	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Telecommunicate a message to a distant location with teacher help. (C) ✓ Practice responsible use of technology systems and software (C).

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Third Grade

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.	
NETS 3-6	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Use a variety of equipment and software packages to enter, process, display and communicate information in different forms using texts, tables, pictures and sound. <i>(M)</i>
NETS 1	<ul style="list-style-type: none"> ✓ Accesses needed information from printed media, electronic databases, and community resources. <i>(I)</i>
NETS 3	<ul style="list-style-type: none"> ✓ Uses keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. <i>(C)</i>
NETS 3-5	<ul style="list-style-type: none"> ✓ Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum. <i>(I)</i>
NETS 5-6	<ul style="list-style-type: none"> ✓ Use technology tools (e.g., multimedia authoring, presentation, internet tools, digital cameras, scanners) for individual and collaborative writing, communication, publishing products and problem-solving activities for audiences inside and outside the classroom. <i>(C)</i>
Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.	
NETS 1	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Understand that computers are used to store personal information. <i>(M)</i>
NETS 2	<ul style="list-style-type: none"> ✓ Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use. <i>(C)</i>
NETS 3	<ul style="list-style-type: none"> ✓ Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. <i>(M)</i>
NETS 2	<ul style="list-style-type: none"> ✓ Demonstrate positive social and ethical behaviors when using technology. <i>(M)</i>
NETS 5-6	<ul style="list-style-type: none"> ✓ Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. <i>(I)</i>
NETS 6	<ul style="list-style-type: none"> ✓ Demonstrate the ability to evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. <i>(I)</i>
Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.	
NETS 4	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Use telecommunications efficiently and effectively to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests. <i>(C)</i>
NETS 2	<ul style="list-style-type: none"> ✓ Describes the uses of information in homes and schools. <i>(C)</i>
NETS 3	<ul style="list-style-type: none"> ✓ Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. <i>(C)</i>

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Fourth Grade

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.	
NETS 3-6	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Use a variety of equipment and software packages to enter, process, display and communicate information in different forms using texts, tables, pictures and sound. <i>(M)</i>
NETS 1	<ul style="list-style-type: none"> ✓ Accesses needed information from printed media, electronic databases, and community resources. <i>(C)</i>
NETS 3	<ul style="list-style-type: none"> ✓ Uses keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. <i>(M)</i>
NETS 3-5	<ul style="list-style-type: none"> ✓ Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum. <i>(C)</i>
NETS 5-6	<ul style="list-style-type: none"> ✓ Use technology tools (e.g., multimedia authoring, presentation, internet tools, digital cameras, scanners) for individual and collaborative writing, communication, publishing products and problem-solving activities for audiences inside and outside the classroom. <i>(M)</i>
NETS 5-6	<ul style="list-style-type: none"> ✓ Use technology resources (e.g., calculators, data collection probes, videos) for problem-solving, self- directed learning, and extended learning activities. <i>(M)</i>
Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.	
NETS 1	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Understand that computers are used to store personal information. <i>(M)</i>
NETS 2	<ul style="list-style-type: none"> ✓ Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use. <i>(M)</i>
NETS 3	<ul style="list-style-type: none"> ✓ Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. <i>(M)</i>
NETS 2	<ul style="list-style-type: none"> ✓ Demonstrate positive social and ethical behaviors when using technology. <i>(M)</i>
NETS 5-6	<ul style="list-style-type: none"> ✓ Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. <i>(C)</i>
NETS 6	<ul style="list-style-type: none"> ✓ Demonstrate the ability to evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. <i>(C)</i>
Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.	
NETS 4	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Use telecommunications efficiently and effectively to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests. <i>(M)</i>
NETS 2	<ul style="list-style-type: none"> ✓ Describes the uses of information and information systems in homes and schools. <i>(M)</i>
NETS 3	<ul style="list-style-type: none"> ✓ Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. <i>(M)</i>

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Fifth Grade

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.

NETS 3-6	<p><u>Performance Indicator:</u></p> <ul style="list-style-type: none"> ✓ Use a range of equipment and software to integrate several forms of information in order to create good quality audio, video, graphic, and text-based presentations <i>(I)</i> ✓ Use spreadsheets and database software to collect, process, display, and analyze information. Students access needed information from electronic databases and on-line telecommunication services. <i>(I)</i> ✓ Systematically obtain accurate and relevant information pertaining to a particular topic from a range of sources, including local and national media, libraries, museums, governmental agencies, industries, and individuals. <i>(I)</i> ✓ Collect data from probes to measure events and phenomena. <i>(I)</i> ✓ Use simple modeling programs to make predictions. <i>(I)</i> ✓ Uses keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. <i>(M)</i> ✓ Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum. <i>(M)</i> ✓ Use technology tools (e.g., multimedia authoring, presentation, internet tools, digital cameras, scanners) for individual and collaborative writing, communication, publishing products and problem-solving activities for audiences inside and outside the classroom. <i>(M)</i> ✓ Use technology resources (e.g., calculators, data collection probes, videos) for problem-solving, self- directed learning, and extended learning activities. <i>(M)</i>
NETS 4-5	
NETS 6	
NETS 3	
NETS 3-5	
NETS 5-6	

Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.

NETS 2	<p><u>Performance Indicator:</u></p> <ul style="list-style-type: none"> ✓ Understand the need to question the accuracy of information displayed on a computer because the results produced by a computer may be affected by incorrect data entry. <i>(I)</i> ✓ Identify advantages and limitations of data-handling programs and graphics programs. ✓ Understand why electronically stored personal information has greater potential for misuse than records kept in conventional form. <i>(I)</i> ✓ Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use. <i>(M)</i> ✓ Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. <i>(M)</i> ✓ Demonstrate positive social and ethical behaviors when using technology. <i>(M)</i> ✓ Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. <i>(M)</i> ✓ Demonstrate the ability to evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. <i>(M)</i>
NETS 3	
NETS 2	
NETS 5-6	
NETS 6	

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Fifth Grade continued

Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.

NETS 3-4	Performance Indicator: <ul style="list-style-type: none">✓ Use graphical, statistical, and presentation software to present projects to fellow classmates. <i>(I)</i>✓ Describe applications of information technology in mathematics, science, and other technologies that address needs and solve problems in the community. <i>(I)</i>✓ Explain the impact of the use and abuse of electronically generated information on individuals and families. <i>(I)</i>✓ Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. <i>(M)</i>
NETS 2	

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Sixth Grade

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.

Performance Indicator:	
NETS 3-6	✓ Use a range of equipment and software to integrate several forms of information in order to create good quality audio, video, graphic, and text-based presentations (C)
NETS 4-5	✓ Use spreadsheets and database software to collect, process, display, and analyze information. Students access needed information from electronic databases and on-line telecommunication services. (C)
	✓ Systematically obtain accurate and relevant information pertaining to a particular topic from a range of sources, including local and national media, libraries, museums, governmental agencies, industries, and individuals. (C)
	✓ Collect data from probes to measure events and phenomena. (C)
NETS 1	✓ Use simple modeling programs to make predictions. (C)
	✓ Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (I)
NETS 3, 5	✓ Use content specific tools, software, and simulations (e.g., graphing calculators, internet tools, exploratory environments) to support learning and research. (I)
NETS 3, 6	✓ Apply productivity/ multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. (I)
NETS 4-6	✓ 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. (I)
NETS 1, 6	✓ Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem-solving. (I)

Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.

Performance Indicator:	
NETS 2	✓ Understand the need to question the accuracy of information displayed on a computer because the results produced by a computer may be affected by incorrect data entry. (C)
	✓ Identify advantages and limitations of data-handling programs and graphics programs.
	✓ Understand why electronically stored personal information has greater potential for misuse than records kept in conventional form. (C)
NETS 2	✓ Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. (I)
NETS 6	✓ Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. (I)

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Sixth Grade continued

Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.

NETS 3-4	Performance Indicator: ✓ Use graphical, statistical, and presentation software to present projects to fellow classmates. <i>(C)</i>
NETS 2	✓ Describe applications of information technology in mathematics, science, and other technologies that address needs and solve problems in the community. <i>(C)</i> ✓ Explain the impact of the use and abuse of electronically generated information on individuals and families. <i>(C)</i> ✓ Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. <i>(I)</i>

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Seventh Grade

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.

	<p><u>Performance Indicator:</u></p> <ul style="list-style-type: none"> ✓ Use a range of equipment and software to integrate several forms of information in order to create good quality audio, video, graphic, and text-based presentations (C) ✓ Use spreadsheets and database software to collect, process, display, and analyze information. Students access needed information from electronic databases and on-line telecommunication services. (C) ✓ Systematically obtain accurate and relevant information pertaining to a particular topic from a range of sources, including local and national media, libraries, museums, governmental agencies, industries, and individuals. (C) ✓ Collect data from probes to measure events and phenomena. (C) ✓ Use simple modeling programs to make predictions. (C) ✓ Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (C) ✓ Use content specific tools, software, and simulations (e.g., graphing calculators, internet tools, exploratory environments) to support learning and research. (C) ✓ Apply productivity/ multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. (C) ✓ 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. (C) ✓ Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem-solving. (C)
NETS 3-6	
NETS 4-5	
NETS 1	
NETS 3, 5	
NETS 3, 6	
NETS 4-6	
NETS 1, 6	

Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.

	<p><u>Performance Indicator:</u></p> <ul style="list-style-type: none"> ✓ Understand the need to question the accuracy of information displayed on a computer because the results produced by a computer may be affected by incorrect data entry. (C) ✓ Identify advantages and limitations of data-handling programs and graphics programs. ✓ Understand why electronically stored personal information has greater potential for misuse than records kept in conventional form. (C) ✓ Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. (C) ✓ Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. (C)
NETS 2	
NETS 2	
NETS 6	

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Seventh Grade continued

Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.

NETS 3-4	Performance Indicator: ✓ Use graphical, statistical, and presentation software to present projects to fellow classmates. (C)
NETS 2	✓ Describe applications of information technology in mathematics, science, and other technologies that address needs and solve problems in the community. (C) ✓ Explain the impact of the use and abuse of electronically generated information on individuals and families. (C) ✓ Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. (C)

Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Eighth Grade

Key Idea 2.1: Information technology is used to retrieve, process and communicate information and as a tool to enhance learning.

<p>NETS 3-6</p> <p>NETS 4-5</p> <p>NETS 1</p> <p>NETS 3, 5</p> <p>NETS 3, 6</p> <p>NETS 4-6</p> <p>NETS 1, 6</p>	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Use a range of equipment and software to integrate several forms of information in order to create good quality audio, video, graphic, and text-based presentations <i>(M)</i> ✓ Use spreadsheets and database software to collect, process, display, and analyze information. Students access needed information from electronic databases and on-line telecommunication services. <i>(M)</i> ✓ Systematically obtain accurate and relevant information pertaining to a particular topic from a range of sources, including local and national media, libraries, museums, governmental agencies, industries, and individuals. <i>(M)</i> ✓ Collect data from probes to measure events and phenomena. <i>(M)</i> ✓ Use simple modeling programs to make predictions. <i>(M)</i> ✓ Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. <i>(M)</i> ✓ Use content specific tools, software, and simulations (e.g., graphing calculators, internet tools, exploratory environments) to support learning and research. <i>(M)</i> ✓ Apply productivity/ multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. <i>(M)</i> ✓ 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. <i>(M)</i> ✓ Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem-solving. <i>(M)</i>
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Key Idea 2.2: Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.

<p>NETS 2</p> <p>NETS 2</p> <p>NETS 6</p>	<p>Performance Indicator:</p> <ul style="list-style-type: none"> ✓ Understand the need to question the accuracy of information displayed on a computer because the results produced by a computer may be affected by incorrect data entry. <i>(M)</i> ✓ Identify advantages and limitations of data-handling programs and graphics programs. ✓ Understand why electronically stored personal information has greater potential for misuse than records kept in conventional form. <i>(M)</i> ✓ Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. <i>(M)</i> ✓ Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. <i>(M)</i>
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Information Technology Curriculum K-8

NYS MST Standard 2: Students will access, generate, process and transfer information using appropriate technologies.

Eighth Grade continued

Key Idea 2.3: Information technology can have positive and negative impacts on society, depending upon how it is used.

NETS 3-4	Performance Indicator: <ul style="list-style-type: none">✓ Use graphical, statistical, and presentation software to present projects to fellow classmates. <i>(M)</i>✓ Describe applications of information technology in mathematics, science, and other technologies that address needs and solve problems in the community. <i>(M)</i>✓ Explain the impact of the use and abuse of electronically generated information on individuals and families. <i>(M)</i>✓ Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. <i>(M)</i>
NETS 2	