

East Maine School District 63

Technology Skills Benchmarks

Board of Education Adopted, September 2007

East Maine School District 63 Technology Skills Benchmarks

These technology skills benchmarks reflect the newest revision of the National Educational Standards for Students (NETS) adopted by the International Society of Technology in Education (ISTE) in June 2007. Benchmarks support the Illinois Learning Standards, and District 63 Curriculum Learner Benchmarks. The technology skills benchmarks are organized by NETS goals and reflect the gradual progression in the development of skills and knowledge. They are meant to be viewed cumulatively. Together librarians and classroom teachers work collaboratively to ensure that technology benchmark skills are integrated into the core curricula.

Committee Members

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National Educational Technology Standards for Students: The Next Generation

“What students should know and be able to do to learn effectively and live productively in an increasingly digital world ...”

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 a 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.

4. Critical Thinking, Problem-Solving & 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.

National Educational Technology Standards for Students: The Next Generation

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 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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Technology Skills Benchmarks

Goal 1. Creativity and Innovation – Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Word processing				Construct knowledge to generate new ideas and products	Construct knowledge to generate new ideas and products	Create innovative products either singly or in groups	Create innovative products either singly or in groups	Create original works as a means of personal or group expression	Create original works as a means of personal or group expression
Graphs, charts, and spreadsheets					Create simple charts and graphs to display data	Create a variety of computer generated graphs and charts to demonstrate how data can be represented in different forms	Create spreadsheets, charts, and graphs to display, analyze and communicate data	Create spreadsheets, charts, and graphs to display, analyze and communicate data Create spreadsheets, charts, and graphs to identify trends and forecast events	Create spreadsheets, charts, and graphs to display, analyze and communicate data Create spreadsheets, charts, and graphs to identify trends and forecast events
Graphic organizers					Create graphic organizers to construct knowledge	Use graphic organizers to construct knowledge and generate new ideas	Use graphic organizers to construct knowledge and generate new ideas	Use graphic organizers to construct knowledge and generate new ideas	Use graphic organizers to construct knowledge and generate new ideas
Internet/online resources						Apply information from Internet resources to generate new ideas, create innovative products, or develop processes	Apply information from Internet resources to generate new ideas, create innovative products, or develop processes	Use new online resources such as podcasting, video conferencing, online learning, and interactive websites to communicate knowledge	Use new online resources such as podcasting, video conferencing, online learning, and interactive websites to communicate knowledge

Technology Skills Benchmarks

Goal 1. Creativity and Innovation – Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Multimedia/video production						Create multimedia projects that communicate ideas, products, and processes in creative, innovative ways	Create multimedia projects that communicate ideas, products, and processes in creative, innovative ways	Create multimedia projects that communicate ideas, products, and processes in creative, innovative ways	Create multimedia projects that communicate ideas, products, and processes in creative, innovative ways

Technology Skills Benchmarks

Goal 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.

Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Word processing	Write first name and last name using a developmentally appropriate word processing program	Write one or more sentences using a developmentally appropriate word processing program	Use basic editing skills (font, highlighting, text alignment) to write one or more sentences using a developmentally appropriate word processing program	<p>Compose and edit one or more paragraphs using a developmentally appropriate word processing program</p> <p>Create a simple title page using word processing and graphic skills, move a graphic to a different position on a page and change its size</p>	<p>Create, edit, save, and retrieve at least a one page document with graphics on a developmentally appropriate word processing program</p> <p>Create a one page flyer or desktop publishing document</p>	<p>Publish a word processing document that includes a title page and bibliography as an individual or team project</p> <p>Interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media</p> <p>Communicate information and ideas effectively to multiple audiences using a variety of media and formats</p>	<p>Publish a word processing document that includes a title page and bibliography as an individual or team project</p> <p>Interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media</p> <p>Communicate information and ideas effectively to multiple audiences using a variety of media and formats</p>	<p>Publish a multi-column, multi-page desktop publishing document as an individual or team project</p> <p>Use advanced editing skills, such as text wrapping and hyper linking</p> <p>Interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media</p> <p>Communicate information and ideas effectively to multiple audiences using a variety of media and formats</p>	<p>Publish a multi-column, multi-page desktop publishing document as an individual or team project</p> <p>Create a table using multiple rows and columns</p> <p>Use advanced editing skills, such as text wrapping and hyper linking</p> <p>Interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media</p> <p>Communicate information and ideas effectively to multiple audiences using a variety of media and formats</p>

Technology Skills Benchmarks

Goal 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.

Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Graphs, charts and spreadsheets							Create a spreadsheet to organize, chart, and display data to communicate information to multiple audiences	Use a spreadsheet to analyze data and to create charts/graphs	Use a spreadsheet to analyze data and to create charts/graphs
Graphic organizers							Create a graphic organizer with two sublevels and an outline	Create a table using multiple rows and columns	Create a table using multiple rows and columns
Internet/ Online resources				Use the Internet to complete at least one activity under the direction of the classroom teacher and/or librarian	Use the Internet to complete at least one activity under the direction of the classroom teacher and/or librarian	Use Internet resources to create original products. Use internet to locate and share information from a variety of digital environments and media	Use Internet resources to generate new ideas and products	Use Internet resources to generate new ideas and products	Use Internet resources to generate new ideas and products
Email			Discuss email as a communication tool Address, read, compose, and send email (as a class) assisted by the teacher	Discuss the basics of email etiquette Address, read, compose, and send email (as a class) assisted by the teacher	Address, read, compose, and send email (as a class) assisted by the teacher	Address, read, compose, and send email (as a class) assisted by the teacher	Discuss the basics of email etiquette	Use advanced features of email (attachments, program compatibility)	Use advanced features of email (attachments, program compatibility)
Multimedia					Create a simple	Create a multime-	Create a multime-	Create a multi-	Create a multi-

Technology Skills Benchmarks

Goal 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.

Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
					multimedia presentation with more than one slide	dia presentation using developmentally appropriate software	dia presentation that includes text and graphics	media presentations using video, digital stills, sound, and transitions	media presentations using video, digital stills, sound, and transitions
Video								Create an individual or group video production	Create an individual or group video production

Technology Skills Benchmarks

Goal 3: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Word Processing					Create, edit, save, and retrieve at least a one page document with graphics on a developmentally appropriate word processing program	Create a word processing document that includes a title page and bibliography	Create a word processing document including a title page and a bibliography using a developmentally appropriate software program Create a one page flyer or desktop publishing document	Create a multi-column, multi-page desktop publishing document	Create a multi-column, multi-page desktop publishing document
Graphs, Charts, and Spreadsheets	Create a simple graph as a whole class using a developmentally appropriate graphing program	Create a simple graph using a developmentally appropriate graphing program	Create a chart or graph using a developmentally appropriate graphing program	Create a variety of computer generated graphs and charts to show how data can be represented in different forms	Create a chart or graph using a developmentally appropriate graphing program	Create a chart or graph using a developmentally appropriate graphing program	Create a spreadsheet to organize, chart, and display data	Create a table using multiple rows and columns Use a spreadsheet to analyze data and to create charts/graphs	Create a table using multiple rows and columns Use a spreadsheet to analyze data and to create charts/graphs

Technology Skills Benchmarks

Goal 3: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Graphic Organizers					Create a simple graphic organizer diagram	Create a graphic organizer with a diagram and an outline	Create a graphic organizer with two sublevels and an outline	Use multiple graphic organizers to organize analyze, evaluate, synthesize and ethically use information from a variety of sources and media	Use multiple graphic organizers to organize analyze, evaluate, synthesize and ethically use information from a variety of sources and media
Internet	Explore pre-selected developmentally appropriate sites on the Internet	Explore pre-selected developmentally appropriate sites on the Internet	Explore pre-selected developmentally appropriate sites and visual search engines on the Internet	Use the Internet to complete at least one activity under the direction of the classroom teacher and/or librarian	Use the Internet to complete at least one activity under the direction of the classroom teacher and/or librarian	Use the Internet to locate and access information using appropriate search engines and online resources and subscription services	Use the Internet to locate and access information using appropriate search engines and online resources and subscription services	Use keyword, natural language searching, and Boolean operators to refine Internet search skills	Use keyword, natural language searching, and Boolean operators to refine Internet search skills
Online Resources			Use patron catalog to select library materials	Access both the district and the school web site Introduce basic research skills and a kid-friendly search engine to locate and access information on the Internet	Explore new online applications such as wikis and blogs Locate and use information from a primary source	Explore new applications of new online resources Distinguish between keyword searches and directory searches using kid-friendly search engines	Understand the advantages and disadvantages of using the computer and the Internet for data retrieval and information access Explore new applications of new online resources	Understand the advantages and disadvantages of using computers and Internet for data retrieval and information access Use new online resources such as podcasting, video conferencing, online learning, interactive websites	Understand the advantages and disadvantages of using computers and Internet for data retrieval and information access Use new online resources such as podcasting, video conferencing, online learning, and interactive websites

Technology Skills Benchmarks

Goal 3: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
								Begin to evaluate validity, point of view, and bias when using information from electronic sources	Begin to evaluate validity, point of view, and bias when using information from electronic sources
Multimedia					Create a simple multimedia presentation with more than one slide	Create a multimedia presentation that includes text and graphics	Create a multimedia presentation that includes text and graphics	Create a multimedia presentation using video, digital stills, sound, and transitions	Create a multimedia presentation using video, digital stills, sound, and transitions

Technology Skills Benchmarks

Goal 4. Critical Thinking, Problem-Solving & 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.									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Word Processing					Create, edit, save, and retrieve at least a one page document with graphics on a developmentally appropriate word processing program	Create a word processing document that includes a title page and bibliography	Create a word processing document including a title page and a bibliography using a developmentally appropriate software program Create a one page flyer or desktop publishing document	Create a multi-column, multi-page desktop publishing document	Create a multi-column, multi-page desktop publishing document
Graphs, Charts, and Spreadsheets	Create a simple graph as a whole class using a developmentally appropriate graphing program	Create simple diagrams using a primary graphic organizer program Create a simple graph using a developmentally appropriate graphing program	Create a chart or graph using a developmentally appropriate graphing program	Create a variety of computer generated graphs and charts to show how data can be represented in different forms	Collect and analyze data to create a chart or graph using a developmentally appropriate graphing program	Collect and analyze data to create a chart or graph using a developmentally appropriate graphing program	Collect and analyze data to create a spreadsheet to organize, chart, and display data	Collect and analyze data to create tables using multiple rows and columns Use spreadsheets to analyze data and to create charts/graphs	Collect and analyze data to create tables using multiple rows and columns Use spreadsheets to analyze data and to create charts/graphs
Graphic Organizers		Sort and classify objects with the aid of computer software programs	Label, sort and classify objects with the aid of computer software programs	Create a simple graphic organizer diagram to help solve problems and complete projects	Create a simple graphic organizer diagram to help solve problems and complete projects	Create a graphic organizer with a diagram and an outline to help solve problems and complete projects	Create a graphic organizer with two sublevels and an outline to help solve problems and complete projects	Use graphic organizers to manage information collect data and develop solutions to complete projects	Use graphic organizers to manage information collect data and develop solutions to complete projects

Technology Skills Benchmarks

Goal 4. Critical Thinking, Problem-Solving & 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.									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Internet				Use the Internet to complete at least one activity under the direction of the teacher and/or librarian	Use the Internet to identify and solve problems to complete activities under the direction of the teacher and/or librarian Locate and use information from a primary source	Use the Internet to locate and access information using appropriate search engines and online resources and subscription services Distinguish between keyword searches and directory searches using kid-friendly search engines	Understand the advantages and disadvantages of using the computer and the Internet for data retrieval and information access	Understand the advantages and disadvantages of using the computer and the Internet for data retrieval and information access	Use keyword, natural language searching, and Boolean operators to refine Internet search skills
Multimedia					Create a simple multimedia presentation with more than one slide	Create a simple multimedia presentation with more than one slide	Create a multimedia presentation that includes text and graphics	Create a multimedia presentations using video, digital stills, sound, and transitions	Create a multimedia presentations using video, digital stills, sound, and transitions
Video								Use multiple processes and diverse perspectives to create individual or group video productions	Use multiple processes and diverse perspectives to create individual or group video productions

Technology Skills Benchmarks

Goal 5. Digital Citizenship – Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Responsibility and safety	Demonstrate safe and responsible use of technology; e.g. proper care of computers, such as no drinks nor food near components	Demonstrate safe and responsible use of technology; e.g. proper care of computers, such as no drinks nor food near components	Demonstrate safe and responsible use of technology; e.g. proper care of computers, such as no drinks nor food near components	Know that certain kinds of information are private and not to be shared online Introduce the rules for being a responsible cyber citizen	Know that certain kinds of information are private and not to be shared online Learn how to be safe on the Internet	Know that certain kinds of information are private and not to be shared online Learn how to be safe on the Internet	Discuss and understand the implications of cyberbullying and social networking sites Understand the correct and safe use of social networking sites	Discuss and understand the implications of cyberbullying and social networking sites Understand the correct and safe use of social networking sites	Discuss and understand the implications of cyberbullying and social networking sites Understand the correct and safe use of social networking sites
Community links/Bias	Identify that technology helps people work and play	Identify that technology helps people work and play	Identify that technology helps people work and play	Explain ways that technology influences our lives at home, school, and work	Begin to evaluate accuracy of information of online content	Continue to evaluate accuracy of information of online content	Begin to evaluate validity, point of view, and bias when using information from online content	Evaluate validity, point of view, and bias when using information from online content	Evaluate validity, point of view, and bias when using information from online content
Ethics				Understand the concept of copying material and programs as illegal	Understand and respect “intellectual property rights” (copyright laws) as they apply to electronic information	Discuss privacy policies and copyright regarding print, Internet web sites, and videos	Discuss privacy policies and copyright regarding print, Internet web sites, and videos	Discuss privacy policies and copyright regarding print, Internet web sites, and videos	Discuss privacy policies and copyright regarding print, Internet web sites, and videos
Use of email						Discuss the basics of email etiquette	Use email (as a class) to communicate with experts on a variety of issues (i.e.: Ask-an-expert)	Exhibit positive attitude using email technology that supports productivity, learning, and collaboration	Exhibit positive attitude using email technology that supports productivity, learning, and collaboration

Technology Skills Benchmarks

Goal 5. Digital Citizenship – Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
District Acceptable Use Policies (AUP)						Discuss the District 63 Acceptable Use Policy and its implications for students	Discuss the District 63 Acceptable Use Policy and its implications for students	Discuss the District 63 Acceptable Use Policy and its implications for students	Discuss the District 63 Acceptable Use Policy and its implications for students

Technology Skills Benchmarks

Goal 6. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
Operations/ Troubleshooting	Identify basic parts of a computer (monitor, CPU, keyboard, printer, mouse) Open and exit primary software programs	Identify and use the desktop to open and exit programs	Identify and use basic features of a program window (scroll bars, menu bars, tool bars) Save and print a document	Save, retrieve and print a document to/from a public folder on a network drive	Save, retrieve and print a document to/from a public folder on a network drive	Troubleshoot common technology problems (reboot, replace paper in printer, etc.)	Troubleshoot common technology problems such as the correct use of Ctrl-Alt-Delete and simple printer errors	Troubleshoot common technology hardware problems (reboot, secure cables, access printer troubleshooting online help, etc.)	Troubleshoot common technology hardware problems (reboot, secure cables, access printer troubleshooting online help, etc.)
Word Processing	Identify letters and numbers on a keyboard Use the mouse to click and drag	Know to use two hands on the keyboard Identify and use special keys on the keyboard (enter, space bar, shift, backspace, period, question mark)	Use proper posture and introduce special keys on the keyboard for editing and number operations Use basic editing skills (text formatting, highlighting, text alignment) to write one or more paragraphs using a word processor	Demonstrate proper two-handed keyboarding position and familiarity with the home row Introduce basic editing skills such as cut, copy, paste, and line spacing Compose and edit one or more paragraphs using a developmentally appropriate word processing program Create a simple title page using word processing and graphic skills, move a	Demonstrate proper two-handed keyboarding position and familiarity with home row Create, edit, save, and retrieve at least a one page document with graphics on a developmentally appropriate word processing program Demonstrate how to use the spell checker and thesaurus features of a word processing program	Create Develop and maintain proper keyboarding skills with a rate of 10-12 words per minute Create a word processing document that includes a title page and bibliography	Develop and maintain proper keyboarding skills with a rate of 15-20 words per minute Create a word processing document including a title page and a bibliography using a developmentally appropriate software program Create a one page flyer or desktop publishing document	Develop and maintain proper keyboarding skills with a rate of 15-20 words per minute Use advanced editing skills, such as text wrapping and hyper linking Create a one page flyer or desktop publishing document	Develop and maintain proper keyboarding skills with a rate of 15-20 words per minute Use advanced editing skills, such as text wrapping and hyper linking Create a one page flyer or desktop publishing document

Technology Skills Benchmarks

Goal 6. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations									
Strand	Grade K	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six	Grade Seven	Grade Eight
				graphic to a different position on a page and change its size					
Graphs, charts and spreadsheets							Create a spreadsheet to organize, chart, and display data	Create a table using multiple rows and columns Use a spreadsheet to analyze data and to create charts/graphs	Create a table using multiple rows and columns Use a spreadsheet to analyze data and to create charts/graphs
Graphic organizers		Use pre-selected primary graphic organizers to modify information	Use pre-selected primary graphic organizers to modify information	Create a simple graphic organizer diagram	Create a simple graphic organizer diagram	Create a simple graphic organizer diagram and an outline	Create a graphic organizer diagram with two sublevels	Create a variety of complex graphic organizers	Create a variety of complex graphic organizers
Internet			Introduce basic Internet terms (worldwide web, link, web address) and basic Internet safety	Review basic Internet terms (worldwide web, link, web address) and review basic Internet safety	Review basic Internet terms (worldwide web, link, web address) and review basic Internet safety	Review Internet terms and basic Internet safety	Select and use appropriate internet sites effectively Review basic Internet safety	Select and use appropriate internet sites effectively, productively and independently Review Internet safety	Select and use appropriate internet sites effectively, productively and independently Review Internet safety

