

Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 1

Londonderry Elementary Schools

Londonderry School District Benchmark	Skills Included	<u>American Association of School Librarians Standard (AASL)**</u>	<u>AASL Dispositions**</u> * With Londonderry Additions	<u>AASL Responsibilities**</u> * With Londonderry Additions	<u>AASL Self Assessment Strategies**</u> * With Londonderry Additions	<u>International Society for Technology in Education (ISTE)**</u>	<u>Partnership for 21st Century Skills (P21)**</u>
Understand the basic organizational structure of a book	<ul style="list-style-type: none"> Identify spine, spine label, and title page Identify author, title, and illustrator With assistance, identify copyright page and symbol 	Standard 1 Inquire, think critically, and gain knowledge Standard 3 Share knowledge and participate ethically and productively as members of our democratic society	LD.1 Value the intellectual property of information creator	1.3.1 Respect copyright/intellectual property rights of creators & producers 1.3.3 Follow ethical & legal guidelines in gathering & using information.	3.4.2 Assess quality and effectiveness of learning product		Information, Media & Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources).
Recognize the two categories of books	<ul style="list-style-type: none"> With assistance, distinguish between fiction and non-fiction Distinguish between fiction and non-fiction call numbers Locate the non-fiction and fiction sections of the library Select fiction and informational books of personal interest 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	4.2.4 Show an appreciation for literature	4.3.2 Recognize purpose of resources 4.3.3 Seek opportunities for personal growth	4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests		Information, Media & Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources).
Frame simple questions related to a topic of interest or assignment	<ul style="list-style-type: none"> With assistance, ask “I wonder” questions about a topic (teacher and/or librarian directed) 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts 1.2.5 Demonstrate adaptability – change inquiry focus when necessary 4.2.2 Demonstrate motivation to go beyond academic requirements	1.3.2 Seek divergent perspectives during information gathering 1.3.4 Contribute to ideas within the learning community	1.4.2 Use feedback from teachers and peers to guide inquiry 4.4.2 Recognize limits of personal knowledge	Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information	Learning & Innovation Skills -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions.
Observe the gathering of information and communicating with others using telecommunications	<ul style="list-style-type: none"> Observe the use of e-mail (or other Web 2.0) tools to communicate with experts (teacher and/or librarian directed) 	Standard 1 Inquire, think critically, and gain knowledge Standard 3 Share knowledge and participate ethically and productively as members of our democratic society	1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts 1.2.7 Display persistence – pursuing information to gain a broad perspective 3.2.3 Demonstrate teamwork by working productively with others	1.3.2 Seek divergent perspectives during information gathering 1.3.4 Contribute to ideas within the learning community 1.3.5 Use information technology responsibly 3.3.1 Solicit and respect diverse perspectives when	1.4.2 Use feedback from teachers and peers to guide inquiry 1.4.4 Seek appropriate help when it is needed	Standard 2 Communication and Collaboration -Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the	Information, Media & Technology Skills -Media Literacy: Understand both how and why media messages are constructed and for what purpose -ICT Literacy: Use technology as a tool to research, organize,

				collaborating with others and participating as member of the community. 3.3.5 Contribute to the exchange of ideas within and beyond the learning community 4.3.4 Practice safe & ethical behavior in electronic communication TR.5 Practice safe and ethical behaviors in personal electronic communication and interaction		learning of others	evaluate and communicate information. <u>Learning and Innovation Skills</u> -Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written, and nonverbal communication skills in a variety of forms and contexts.
Understand how to navigate a variety of resources in order to use them effectively	<ul style="list-style-type: none"> • With assistance, use multimedia resources (interactive books, educational software, multimedia encyclopedias, and websites) 	Standard 1 Inquire, think critically, and gain knowledge	1.2.3 Demonstrate creativity in using multiple resources 1.2.6 Display resilience – persist search despite challenges TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools	1.3.2 Seek divergent perspectives during information gathering TR.1 Use technology responsibly	1.4.2 Use feedback from teachers and peers to guide inquiry 1.4.4 Seek appropriate help when it is needed	Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	<u>Information, Media & Technology Skills</u> -Information Literacy: Access information efficiently (time) and effectively (sources).
Understand how to use classroom technology	<ul style="list-style-type: none"> • Use input devices and output devices (mice, and keyboards) to operate computers, and other technologies • Demonstrate the proper handling of hardware and software 		TD.1 Display initiative and engagement in the use of technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools	TR.1 Use technology responsibly	TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools 1.4.4 Seek appropriate help when it is needed	Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	<u>Information, Media & Technology Skills</u> -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.

Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 2

Londonderry Elementary Schools

Londonderry School District Benchmark	Skills Included	<u>American Association of School Librarians Standard (AASL)**</u>	<u>AASL Dispositions**</u> * With Londonderry Additions	<u>AASL Responsibilities**</u> * With Londonderry Additions	<u>AASL Self Assessment Strategies**</u> * With Londonderry Additions	<u>International Society for Technology in Education (ISTE)**</u>	<u>Partnership for 21st Century Skills (P21)**</u>
Understand the basic organizational structure of a book	<ul style="list-style-type: none"> Identify the index With assistance, demonstrate the use of a table of contents Locate the copyright page and draw the copyright symbol 	Standard 1 Inquire, think critically, and gain knowledge	LD.1 Value the intellectual property of information creator	1.3.1 Respect copyright/intellectual property rights of creators & producers 1.3.3 Follow ethical & legal guidelines in gathering & using information.	3.4.2 Assess quality and effectiveness of learning product		Information, Media & Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources).
Understand the organization of the library	<ul style="list-style-type: none"> Locate fiction and non-fiction sections of the library With assistance, locate and retrieve print materials in the library Select fiction and informational books of personal interest Begin to understand the use of the on-line catalog 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	1.2.6 Display resilience - persist search despite challenges 4.2.4 Show an appreciation for literature	4.3.2 Recognize purpose of resources 4.3.3 Seek opportunities for personal growth	4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests		Information, Media & Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources).
With assistance, identify questions needed to solve and information problem	<ul style="list-style-type: none"> With assistance, develop questions based on background knowledge Ask "I wonder" questions about a topic With assistance, identify keywords about the topic, problem or question 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts 1.2.5 Demonstrate adaptability – change inquiry focus when necessary 4.2.2 Demonstrate motivation to go beyond academic requirements	1.3.2 Seek divergent perspectives during information gathering 1.3.4 Contribute to ideas within the learning community	1.4.2 Use feedback from teachers and peers to guide inquiry 4.4.2 Recognize limits of personal knowledge	Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information	Learning & Innovation Skills -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions.
Demonstrate the ethical use of information	<ul style="list-style-type: none"> Write and/or state a simple citation (author and title) to indicate an information source 	Standard 3 Share knowledge and participate ethically and productively as members of our democratic society Standard 4 Pursue personal and aesthetic Growth	LD.2 Display the understanding of the need to create citations for a bibliography	3.3.7 Respect the principles of intellectual freedom	LS.1 Be able to develop a simple citation	Standard 5 Digital Citizenship -Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior	Information, Media & Technology Skills -ICT Literacy: Apply a fundamental understanding of the ethical/legal issues surrounding the access and the use of information technologies.
With assistance, gather information	<ul style="list-style-type: none"> With assistance, use e-mail (or other web 	Standard 1 Inquire, think critically, and	1.2.1 Display initiative & engagement – pose questions	1.3.2 Seek divergent perspectives during	1.4.2 Use feedback from teachers and	Standard 2 Communication and	Information, Media & Technology Skills

and communicate with others using telecommunications	2.0 tools) to communicate with experts (teacher and/or librarian directed)	gain knowledge Standard 3 Share knowledge and participate ethically and productively as members of our democratic society	& investigate beyond superficial facts 1.2.7 Display persistence – pursuing information to gain a broad perspective 3.2.3 Demonstrate teamwork by working productively with others	information gathering 1.3.4 Contribute to ideas within the learning community 1.3.5 Use information technology responsibly 3.3.1 Solicit and respect diverse perspectives when collaborating 3.3.5 Contribute to the exchange of ideas within and beyond the learning community 4.3.4 Practice safe & ethical behavior in electronic communication TR.5 Practice safe and ethical behaviors in personal electronic communication and interaction	peers to guide inquiry 1.4.4 Seek appropriate help when it is needed	Collaboration -Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others	-Media Literacy: Understand both how and why media messages are constructed and for what purpose. <u>Learning and Innovation Skills</u> -Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written, and nonverbal communication skills in a variety of forms and contexts. <u>Information, Media & Technology Skills</u> -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.
Understand how to navigate a variety of multimedia resources in order to use them effectively	• With assistance, use multimedia resources (interactive books, educational software, multimedia encyclopedias, and websites)	Standard 1 Inquire, think critically, and gain knowledge	1.2.3 Demonstrate creativity in using multiple resources 1.2.6 Display resilience - persist search despite challenges TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools	1.3.2 Seek divergent perspectives during information gathering TR.1 Use technology responsibly	1.4.4 Seek appropriate help when it is needed 1.4.2 Use feedback from teachers and peers to guide inquiry	Standard 6 Technology and Concepts -sound understanding of technology concepts, systems and operations	<u>Information, Media & Technology Skills</u> -Information Literacy: Manage the flow of information from a wide variety of sources
Understand how to use classroom technology	• Use input and output devices (mice and keyboards) to operate computers and other technologies • Demonstrate the proper handling of hardware and software		TD.1 Display initiative and engagement in the use of technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools	TR.1 Use technology responsibly	1.4.4 Seek appropriate help when it is needed TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 6 Technology and Concepts - Sound understanding of technology concepts, systems and operations	<u>Information, Media & Technology Skills</u> -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.
With assistance, create simple multimedia products	• Insert media such as text, pictures, sound and graphics • Edit Multimedia presentations	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge	2.2.4 Display personal productivity by completing products and expressing learning 3.2.1 Demonstrate leadership/confidence by presenting ideas	1.3.1 Respect copyright/intellectual property rights of creators & producers 1.3.4 Contribute to ideas within the learning community	LS.2 Evaluate whether their personal product completes the information task 1.4.2 Use feedback from teachers and peers to guide	Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct knowledge and develop innovative	<u>Information, Media & Technology Skills</u> -Information Literacy: Use information accurately and creatively for the issue or problem at hand.

			<p>4.2.1 Display curiosity by pursuing interests through multiple resources</p> <p>4.2.2 Demonstrate motivation to go beyond academic requirements</p> <p>TD.1 Display initiative and engagement in the use of technology tools</p> <p>TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources.</p> <p>TD.3 Demonstrate creativity by using multiple technology tools</p> <p>TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools</p> <p>TD.5 Demonstrate flexibility in the use of technology tools</p> <p>TD.6 Demonstrate personal productivity by using technology tools to complete products that express learning</p>	<p>1.3.5 Use information technology responsibly</p> <p>TR.1 Use technology responsibly</p> <p>TR.2 Create products that apply to authentic, real world contexts</p> <p>TR.3 Contribute to the exchange of ideas</p>	<p>inquiry</p> <p>1.4.4 Seek appropriate help when it is needed</p> <p>2.4.3 Recognize new knowledge and understanding</p> <p>3.4.2 Assess quality and effectiveness of learning product</p>	<p>products/processes using technology</p> <p>Standard 6</p> <p>Technology and Concepts -Sound understanding of technology concepts, systems and operations</p>	
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Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 3

Londonderry Elementary Schools

Londonderry School District Benchmarks	Skills Included	<u>American Association of School Librarians Standard (AASL)**</u>	<u>AASL Dispositions**</u> * With Londonderry Additions	<u>AASL Responsibilities**</u> * With Londonderry Additions	<u>AASL Self Assessment Strategies**</u> * With Londonderry Additions	<u>International Society for Technology in Education (ISTE)**</u>	<u>Partnership for 21st Century Skills (P21)**</u>
With assistance, identify questions needed to solve an information problem	<ul style="list-style-type: none"> • With assistance develop questions and follow-up questions • With assistance identify key-words about the topic, problem or question 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 4 Pursue personal and aesthetic growth</p>	<p>1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts</p> <p>1.2.5 Demonstrate adaptability – change inquiry focus when necessary</p> <p>4.2.2 Demonstrate motivation to go beyond academic requirements</p>	<p>1.3.2 Seek divergent perspectives during information gathering</p> <p>1.3.4 Contribute to ideas within the learning community</p>	<p>1.4.2 Use feedback from teachers and peers to guide inquiry</p> <p>4.4.2 Recognize limits of personal knowledge</p>	<p>Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information</p>	<p><u>Learning & Innovation Skills</u> -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions.</p>
With assistance locate, evaluate and select appropriate information sources to answer questions	<ul style="list-style-type: none"> • Identify a variety of information sources- books, periodicals, electronic resources, Internet • Demonstrate the use of an atlas, dictionary, and encyclopedia • Determine the appropriate source for the information question • With assistance locate and retrieve print materials in the library 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge</p> <p>Standard 4 Pursue personal and aesthetic growth</p>	<p>1.2.2 Demonstrate confidence and Self-direction in independence choices of resource and information</p> <p>1.2.3 Demonstrate creativity in using multiple resources</p> <p>2.2.1 Demonstrate flexibility to adapt to resources and seek additional resources</p> <p>4.2.1 Display curiosity by pursuing interests through multiple resources</p> <p>TD.1 Display initiative and engagement in the use of technology tools</p> <p>TD.2 Demonstrate confidence</p>	<p>4.3.2 Recognize purpose of resources</p> <p>TR.1 Use technology responsibly</p>	<p>2.4.1 Determining how to act on information</p> <p>4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests</p> <p>TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>	<p>Standard 3 Research Information Fluency -Apply digital tools to gather, evaluate and use information</p>	<p><u>Information, Media & Technology Skills</u> -Information Literacy: Access information efficiently (time) and effectively (sources). -Information Literacy: Manage the flow of information from a wide variety of sources</p>

			and self-direction by making independent choices in the selection of technology tools and resources.				
Understand the basic organizational structure of a book for accessing information	<ul style="list-style-type: none"> • Demonstrate the use of the table of contents • With assistance, use alphabetical indices or menus to access print and electronic resources 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	LD.3 Demonstrate confidence and self-direction in accessing information within a resource	LR.1 Practice the use of search tools to access relevant information	LS.3 Recognize the need to use the appropriate tools to access relevant information from various resources		Information, Media & Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources).
Demonstrate the ethical use of information	<ul style="list-style-type: none"> • With assistance, complete a bibliography citation • With assistance, identify keywords and phrases to record information (note-taking) • Define plagiarism 	Standard 1 Inquire, think critically, and gain knowledge Standard 3 Share knowledge and participate ethically and productively as members of our democratic society Standard 4 Pursue personal and aesthetic growth	LD.4 Demonstrate social responsibility by using information ethically	1.3.5 Use information technology responsibly 3.3.7 Respect the principles of intellectual freedom 4.3.4 Practice safe & ethical behavior in electronic communication	LS.4 Recognize the need to make notes, identify keywords, and cite sources	Standard 5 Digital Citizenship -Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior	Information, Media & Technology Skills -Information Literacy: Manage the flow of information from a wide variety of sources -ICT Literacy: Apply a fundamental understanding of the ethical/legal issues surrounding the access and the use of information technologies.
Use classroom technology effectively	<ul style="list-style-type: none"> • Demonstrate basic knowledge of a computer keyboard • Identify basic components of a computer • Demonstrate proper handling and use of computers and software • Demonstrate use of (word processing, graphic organizers, and multimedia software) • Save documents to the appropriate place 	Standard 1 Inquire, think critically, and gain knowledge	TD.1 Display initiative and engagement in the use of technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools	TR.1 Use technology responsibly	1.4.4 Seek appropriate help when it is needed TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	Information, Media & Technology Skills -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.
Use word processing to create a written product	<ul style="list-style-type: none"> • Create, edit, save, and print a word processing document • Demonstrate appropriate use of 	Standard 1 Inquire, think critically, and gain knowledge	TD.1 Display initiative and engagement in the use of technology tools TD.4 Display emotional resilience by persisting in	TR.1 Use technology responsibly	1.4.4 Seek appropriate help when it is needed TS.1 Use interaction with and feedback	Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct	Information, Media & Technology Skills -ICT Literacy: Use technology as a tool to research, organize,

	formatting tools (Font, size, color, margins)		solving challenges associated with using technology tools		from teachers and peers to guide own use of technology tools	knowledge and develop innovative products/processes using technology Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	evaluate and communicate information.
With assistance, create a multimedia presentation	<ul style="list-style-type: none"> • Insert media such as text, pictures, sound and graphics • Edit Multimedia presentations • Play multimedia presentations 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge	3.2.1 Demonstrate leadership/confidence by presenting ideas 4.2.1 Display curiosity by pursuing interests through multiple resources TD.1 Display initiative and engagement in the use of technology tools TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources. TD.3 Demonstrate creativity by using multiple technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools TD.5 Demonstrate flexibility in the use of technology tools TD.6 Demonstrate personal productivity by using technology tools to complete products that express learning	1.3.1 Respect copyright/intellectual property rights of creators & producers 1.3.4 Contribute to ideas within the learning community 1.3.5 Use information technology responsibly TR.1 Use technology responsibly TR.2 Create products that apply to authentic, real world contexts TR.3 Contribute to the exchange of ideas	LS.5 Evaluation: does their personal product complete the task. 1.4.2 Use feedback from teachers and peers to guide inquiry 1.4.4 Seek appropriate help when it is needed 2.4.3 Recognize new knowledge and understanding 3.4.2 Assess quality and effectiveness of learning product	Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	Information, Media & Technology Skills -Information Literacy: Use information accurately and creatively for the issue or problem at hand. -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information

Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 4

Londonderry Elementary Schools

Londonderry School District Benchmark	Skills Included	<u>American Association of School Librarians Standard</u> (AASL)**	<u>AASL Dispositions</u> ** * With Londonderry Additions	<u>AASL Responsibilities</u> ** * With Londonderry Additions	<u>AASL Self Assessment Strategies</u> ** * With Londonderry Additions	<u>International Society for Technology in Education</u> (ISTE)**	<u>Partnership for 21st Century Skills</u> (P21) **
With assistance, identify questions needed to solve an information problem	• Brainstorm to develop a set of questions, which are carefully aligned and focused on a main idea or essential question	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts 1.2.5 Demonstrate adaptability – change inquiry focus when necessary 4.2.2 Demonstrate motivation to go beyond academic requirements	1.3.2 Seek divergent perspectives during information gathering 1.3.4 Contribute to ideas within the learning community	1.4.2 Use feedback from teachers and peers to guide inquiry 4.4.2 Recognize limits of personal knowledge	Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information Standard 4	Learning & Innovation Skills -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and

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						Critical Thinking, Problem Solving, and Decision Making -Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	lead to better solutions.
Identify and locate the appropriate sources of information	<ul style="list-style-type: none"> • Search an on-line catalog to locate materials • Understand how to use call numbers to locate materials • With assistance use search engines and data bases to locate appropriate web sites 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 4 Pursue personal and aesthetic growth</p>	<p>1.2.2 Demonstrate confidence and self direction in independence choices of resource and information</p> <p>4.2.1 Display curiosity by pursuing interests through multiple resources</p> <p>1.2.3 Demonstrate creativity in using multiple resources</p> <p>2.2.1 Demonstrate flexibility to adapt to resources and seek additional resources</p> <p>TD.1 Display initiative and engagement in the use of technology tools</p> <p>TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources.</p>	4.3.2 Recognize purpose of resources TR.1 Use technology responsibly	<p>1.4.1 Monitor own information seeking process</p> <p>4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests</p> <p>TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>	<p>Standard 3 Research and Information Fluency</p> <p>-Apply digital tools to gather, evaluate and use information</p>	<p>Information, Media & Technology Skills</p> <p>-Information Literacy: Access information efficiently (time) and effectively (sources).</p> <p>-Information Literacy: Manage the flow of information from a wide variety of sources.</p>
Demonstrate the ability to access specific information from within a variety of resources	<ul style="list-style-type: none"> • With assistance identify keywords for locating information • With assistance demonstrate the use of an index and the table of contents within print resources • With assistance navigate within a web site to locate specific information 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 4 Pursue personal and aesthetic growth</p>	<p>1.2.5 Demonstrate adaptability – change inquiry focus when necessary</p> <p>1.2.6 Display resilience - persist search despite challenges</p> <p>4.2.1 Display curiosity by pursuing interests through multiple resources</p> <p>TD.1 Display initiative and engagement in the use of technology tools</p> <p>TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources.</p>	<p>LR.1 Practice the use of search tools to access relevant information</p> <p>TR.1 Use technology responsibly</p>	<p>LS.3 Recognize the need to use the appropriate tools to access relevant information from various resources</p> <p>TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>	<p>Standard 3 Research and Information Fluency</p> <p>-Apply digital tools to gather, evaluate and use information</p>	<p>Information, Media & Technology Skills</p> <p>-Information Literacy: Access information efficiently (time) and effectively (sources).</p> <p>-Information Literacy: Manage the flow of information from a wide variety of sources.</p>
Extract and organize appropriate information about a problem, topic or question	<ul style="list-style-type: none"> • With assistance, identify keywords and phrases to record information (note-taking) • Organize notes and ideas to support the topic or question 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create</p>	<p>1.2.2 Demonstrate confidence and self direction in independence choices of resource and information</p> <p>1.2.7 Display persistence – pursuing information to gain a broad perspective</p> <p>4.2.2 Demonstrate motivation to go beyond academic requirements</p> <p>4.2.3 Maintain openness to new ideas</p>	<p>1.3.5 Use information technology responsibly</p> <p>4.3.4 Practice safe & ethical behavior in electronic communication</p>	<p>LS.6 Recognize the need to make notes and identify keywords</p>	<p>Standard 3 Research and Information Fluency</p> <p>-Apply digital tools to gather, evaluate and use information</p>	<p>Information, Media & Technology Skills</p> <p>-Information Literacy: Manage the flow of information from a wide variety of sources</p>

		new knowledge Standard 4 Pursue personal and aesthetic growth					
Demonstrate the ethical use of information	<ul style="list-style-type: none"> • With assistance, complete a bibliography citation • With assistance, identify keywords and phrases to record information (note-taking) • Define plagiarism 	Standard 1 Inquire, think critically, and gain knowledge Standard 3 Share knowledge and participate ethically and productively as members of our democratic society Standard 4 Pursue personal and aesthetic growth	LD.4 Demonstrate social responsibility by using information ethically	1.3.1 Respect copyright/intellectual property rights of creators & producers 1.3.3 Follow ethical & legal guidelines in gathering & using information. 1.3.5 Use information technology responsibly 3.3.7 Respect the principles of intellectual freedom 4.3.4 Practice safe & ethical behavior in electronic communication TR.1 Use technology responsibly	LS.4 Recognize the need to make notes, identify keywords, and cite sources	Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information Standard 5 Digital Citizenship -Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior	Information, Media & Technology Skills -Information Literacy: Manage the flow of information from a wide variety of sources. -ICT Literacy: Apply a fundamental understanding of the ethical/legal issues surrounding the access and the use of information technologies.
Present information from multiple sources to answer an information problem (synthesis)	<ul style="list-style-type: none"> • Identify facts which support main idea • Draw conclusions based on facts • Create new knowledge and understandings to complete the information task 	Standard 1 Inquire, think critically, and gain knowledge Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge Standard 3 Share knowledge and participate ethically and productively as members of our democratic society Standard 4 Pursue personal and	1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts 1.2.2 Demonstrate confidence and self direction in independence choices of resource and information 1.2.3 Demonstrate creativity in using multiple resources 1.2.4 Maintain critical stance by questioning validity & accuracy of information 1.2.5 Demonstrate adaptability – change inquiry focus when necessary 1.2.6 Display resilience - persist search despite challenges 1.2.7 Display persistence – pursuing information to gain a broad perspective 2.2.1 Demonstrate flexibility to adapt to resources and seek additional resources	1.3.2 Seek divergent perspectives during information gathering 1.3.4 Contribute to ideas within the learning community 2.3.1 Connect understanding to the real world 2.3.2 Consider diverse and global perspectives in drawing conclusions 4.3.2 Recognize purpose of resources TR.1 Use technology responsibly	1.4.1 Monitor own information seeking process 1.4.2 Use feedback from teachers and peers to guide inquiry 1.4.3 Monitor gathered information , and assess for gaps or weaknesses 1.4.4 Seek appropriate help when it is needed 2.4.1 Determining how to act on information 2.4.2 Assess for completeness of investigation 2.4.3 Recognize new knowledge and	Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology Standard 4 Critical Thinking, Problem Solving, and Decision Making -Use critical thinking to plan/conduct research, manage projects, solve problems, and make informed decisions using appropriate	Learning & Innovation Skills -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions.

		aesthetic growth	<p>2.2.2 Use divergent and convergent thinking to formulate conclusions</p> <p>2.2.3 Employ critical stance demonstrating evidence leads to conclusion</p> <p>2.2.4 Demonstrate personal productivity by completing products and expressing learning</p> <p>3.2.3 Demonstrate teamwork by working productively with others</p> <p>4.2.1 Display curiosity by pursuing interests through multiple resources</p>		<p>understanding</p> <p>3.4.2 Assess quality and effectiveness of learning product</p> <p>4.4.2 Recognize limits of personal knowledge</p> <p>4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests</p>	digital tools/resources	
Demonstrate proper keyboarding techniques	<ul style="list-style-type: none"> • Use both hands when keyboarding • Hands are in the home row position 		TD.1 Display initiative and engagement in the use of technology tools	TR.1 Use technology responsibly	TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	Information, Media & Technology Skills -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.
Electronically edit and revise word-processing	<ul style="list-style-type: none"> • Demonstrate appropriate use of formatting tools (Font, size, color, margins) • Appropriately use the on-line dictionary and thesaurus • Uses the edit functions appropriately (copy, paste, cut) 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge	TD.1 Display initiative and engagement in the use of technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools	TR.1 Use technology responsibly	TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 1 Creativity and innovation -Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	Information, Media & Technology Skills -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.
Demonstrate and understanding of technology systems, concepts and operations	<ul style="list-style-type: none"> • Save and locate files • Name files appropriately • Use “end task” or “forced quit” when appropriate 		TD.1 Display initiative and engagement in the use of technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools	TR.1 Use technology responsibly	TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	Information, Media & Technology Skills -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.
Use spreadsheets to organize data and to produce charts/graphs	<ul style="list-style-type: none"> • Enter data • Format charts/graphs 	Standard 2 Draw conclusions, make informed decisions, apply	TD.1 Display initiative and engagement in the use of technology tools TD.4 Display emotional resilience by persisting in solving challenges	TR.1 Use technology responsibly TR.2 Create products that apply to authentic,	1.4.1 Monitor own information seeking process TS.1 Use interaction	Standard 1 Creativity and Innovation -Demonstrate creative	Information, Media & Technology Skills -ICT Literacy: Use digital technologies,

		knowledge to new situations, and create new knowledge	associated with using technology tools	real world contexts TR.3 Contribute to the exchange of ideas TR.4 Seek opportunities for pursuing personal and aesthetic growth TR.5 Practice safe and ethical behaviors in personal electronic communication and interaction	with and feedback from teachers and peers to guide own use of technology tools	thinking; construct knowledge and develop innovative products/processes using technology Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	communication/networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy.
Create a simple multimedia presentation that includes text, graphics, and sound	<ul style="list-style-type: none"> ▪ Insert media such as text, pictures, sound, and graphics ▪ Edit multimedia presentations ▪ Present multimedia presentations 	Standard2 Draw Conclusions, make informed decisions and create new knowledge	TD.1 Display initiative and engagement in the use of technology tools TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources. TD.3 Demonstrate creativity by using multiple technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools TD.5 Demonstrate flexibility in the use of technology tools TD.6 Demonstrate personal productivity by using technology tools to complete products that express learning TD.7 Demonstrate teamwork by working productively with others	TR.1 Use technology responsibly TR.2 Create products that apply to authentic, real world contexts TR.3 Contribute to the exchange of ideas TR.4 Seek opportunities for pursuing personal and aesthetic growth TR.5 Practice safe and ethical behaviors in personal electronic communication and interaction	1.4.4 Seek appropriate help when it is needed TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools		

Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 5

Londonderry Elementary Schools

Londonderry School District Benchmark	Skills Included	<u>American Association of School Librarians Standard (AASL)**</u>	<u>AASL Dispositions**</u> * With Londonderry Additions	<u>AASL Responsibilities**</u> * With Londonderry Additions	<u>AASL Self-Assessment Strategies**</u> * With Londonderry Additions	<u>International Society for Technology in Education (ISTE)**</u>	<u>Partnership for 21st Century Skills (P21) **</u>
Identify questions needed to solve an information problem	<ul style="list-style-type: none"> Brainstorm to develop a set of questions, which are carefully aligned and focused on a main idea or essential question 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts 1.2.5 Demonstrate adaptability – change inquiry focus when necessary 4.2.2 Demonstrate motivation to go beyond academic requirements	1.3.2 Seek divergent perspectives during information gathering 1.3.4 Contribute to ideas within the learning community	1.4.2 Use feedback from teachers and peers to guide inquiry 4.4.2 Recognize limits of personal knowledge	Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making -Use critical thinking to plan/conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools/resources	Learning & Innovation Skills -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions.
Identify and locate the appropriate sources of information	<ul style="list-style-type: none"> Search an on-line catalog to locate materials Understand how to use call numbers to locate materials Use search engines and data bases to locate appropriate web sites 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and aesthetic growth	1.2.2 Confidence and Self-direction in independence choices of resource and information 4.2.1 Display curiosity by pursuing interests through multiple resources	4.3.2 Recognize purpose of resources	1.4.1 Monitor own information seeking process 4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests	Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information	Information, Media & Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources). -Information Literacy: Manage the flow of information from a wide variety of sources.
Demonstrate the ability to access specific information from within a variety of resources	<ul style="list-style-type: none"> Identify keywords for locating information Demonstrate the use of an index, table of contents, and glossary 	Standard 1 Inquire, think critically, and gain knowledge Standard 4 Pursue personal and	1.2.5 Demonstrate adaptability – change inquiry focus when necessary 1.2.6 Display resilience - persist search despite challenges 4.2.1 Display curiosity by pursuing	LR.1 Practice the use of search tools to access relevant information	LS.3 Recognize the need to use the appropriate tools to access relevant information from various resources	Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and	Information, Media & Technology Skills -Information Literacy: Access information efficiently (time) and

	within print resources • Navigate within a web site to locate specific information	aesthetic growth	interests through multiple resources			use information	effectively (sources). -Information Literacy: Manage the flow of information from a wide variety of sources.
Extract and organize appropriate information about a problem, topic, or question	<ul style="list-style-type: none"> Identify keywords and phrases to record information (note-taking) Organize notes and ideas to support the topic or question 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge</p> <p>Standard 4 Pursue personal and aesthetic growth</p>	<p>1.2.2 Demonstrate Confidence and Self-direction in independence choices of resource and information</p> <p>1.2.7 Display persistence – pursuing information to gain a broad perspective</p> <p>4.2.2 Demonstrate motivation to go beyond academic requirements</p> <p>4.2.3 Maintain openness to new ideas</p>	<p>1.3.5 Use information technology responsibly</p> <p>4.3.4 Practice safe & ethical behavior in electronic communication</p>	<p>LS.6 Recognize the need to make notes and identify keywords</p>	<p>Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information</p>	<p>Information, Media & Technology Skills -Information Literacy: Manage the flow of information from a wide variety of sources.</p>
Demonstrate the ethical use of information	<ul style="list-style-type: none"> Independently complete bibliography citations Identify keywords and phrases to record information (note-taking) Be able to define plagiarism 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 3 Share knowledge and participate ethically and productively as members of our democratic society</p> <p>Standard 4 Pursue personal and aesthetic growth</p>	<p>LD.4 Demonstrate social responsibility by using information ethically</p>	<p>1.3.1 Respect copyright/intellectual property rights of creators & producers</p> <p>1.3.3 Follow ethical & legal guidelines in gathering & using information.</p> <p>1.3.5 Use information technology responsibly</p> <p>3.3.7 Respect the principles of intellectual freedom</p> <p>4.3.4 Practice safe & ethical behavior in electronic communication</p>	<p>LS.4 Recognize the need to make notes, identify keywords, and cite sources</p>	<p>Standard 3 Research and Information Fluency -Apply digital tools to gather, evaluate and use information</p> <p>Standard 5 Digital Citizenship -Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior</p>	<p>Information, Media & Technology Skills -ICT Literacy: Apply a fundamental understanding of the ethical/legal issues surrounding the access and the use of information technologies.</p>
Present information from multiple sources to answer an information problem (synthesis)	<ul style="list-style-type: none"> Identify facts which support main idea Draw conclusions based on facts Create new knowledge and understandings to complete the information task 	<p>Standard 1 Inquire, think critically, and gain knowledge</p> <p>Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge</p> <p>Standard 3</p>	<p>1.2.1 Display initiative & engagement – pose questions & investigate beyond superficial facts</p> <p>1.2.2 Demonstrate confidence and self-direction in independence choices of resource and information</p> <p>1.2.3 Demonstrate creativity in using multiple resources</p> <p>1.2.4 Maintain critical stance by questioning validity & accuracy of information</p>	<p>1.3.2 Seek divergent perspectives during information gathering</p> <p>1.3.4 Contribute to ideas within the learning community</p> <p>2.3.1 Connect understanding to the real world</p> <p>2.3.2 Consider diverse and global</p>	<p>1.4.1 Monitor own information seeking process</p> <p>1.4.2 Use feedback from teachers and peers to guide inquiry</p> <p>1.4.3 Monitor gathered information, and assess for gaps or weaknesses</p> <p>1.4.4 Seek appropriate help when it is needed</p>	<p>Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology</p> <p>Standard 4 Critical Thinking,</p>	<p>Learning & Innovation Skills -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions. -Critical Thinking and Problem Solving: Synthesize and make connections</p>

		Share knowledge and participate ethically and productively as members of our democratic society Standard 4 Pursue personal and aesthetic growth	1.2.5 Demonstrate adaptability – change inquiry focus when necessary 1.2.6 Display resilience - persist search despite challenges 1.2.7 Display persistence – pursuing information to gain a broad perspective 2.2.1 Demonstrate flexibility to adapt to resources and seek additional resources 2.2.2 Use divergent and convergent thinking to formulate conclusions 2.2.3 Employ critical stance demonstrating evidence leads to conclusion 2.2.4 Demonstrate personal productivity by completing products and expressing learning 3.2.3 Demonstrate teamwork by working productively with others 4.2.1 Display curiosity by pursuing interests through multiple resources	perspectives in drawing conclusions 4.3.2 Recognize purpose of resources	2.4.1 Determining how to act on information 2.4.2 Assess for completeness of investigation 2.4.3 Recognize new knowledge and understanding 3.4.2 Assess quality and effectiveness of learning product 4.4.2 Recognize limits of personal knowledge 4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests	Problem Solving, and Decision Making -Use critical thinking to plan/conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools/resources	between information and arguments.
Demonstrate proper keyboarding techniques	<ul style="list-style-type: none"> Use both hands when keyboarding Hands are in the home row position 		TD.1 Display initiative and engagement in the use of technology tools	TR.1 Use technology responsibly	TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	Information, Media & Technology Skills -ICT Literacy: Use technology as a tool to research, organize, evaluate and communicate information.
Use spreadsheets to organize data and to produce charts/graphs	<ul style="list-style-type: none"> Enter data Format chart/graph 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge	TD.1 Display initiative and engagement in the use of technology tools TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources. TD.3 Demonstrate creativity by using multiple technology tools TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools TD.5 Demonstrate flexibility in the use of technology tools TD.6 Demonstrate personal productivity by using technology tools to complete products that express learning TD.7 Demonstrate teamwork by working productively with others	TR.1 Use technology responsibly TR.2 Create products that apply to authentic, real world contexts TR.3 Contribute to the exchange of ideas TR.4 Seek opportunities for pursuing personal and aesthetic growth TR.5 Practice safe and ethical behaviors in personal electronic communication and interaction	1.4.4 Seek appropriate help when it is needed TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 6 Technology and Concepts -Sound understanding of technology concepts, systems and operations	Information, Media & Technology Skills - ICT Literacy: Use digital technologies, communication/networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy.
Use a database to access and organize	<ul style="list-style-type: none"> Explain what a “field” is Enter data 	Standard 2 Draw conclusions,	TD.1 Display initiative and engagement in the use of technology	TR.1 Use technology responsibly	1.4.4 Seek appropriate help when it is needed	Standard 6 Technology and	Information, Media & Technology Skills

information	<ul style="list-style-type: none"> Sort data 	make informed decisions, apply knowledge to new situations, and create new knowledge	<p>tools</p> <p>TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources.</p> <p>TD.3 Demonstrate creativity by using multiple technology tools</p> <p>TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools</p> <p>TD.5 Demonstrate flexibility in the use of technology tools</p> <p>TD.6 Demonstrate personal productivity by using technology tools to complete products that express learning</p> <p>TD.7 Demonstrate teamwork by working productively with others</p>	<p>TR.2 Create products that apply to authentic, real world contexts</p> <p>TR.3 Contribute to the exchange of ideas</p> <p>TR.4 Seek opportunities for pursuing personal and aesthetic growth</p> <p>TR.5 Practice safe and ethical behaviors in personal electronic communication and interaction</p>	<p>TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>	<p>Concepts</p> <p>-Sound understanding of technology concepts, systems and operations</p>	<p>-ICT Literacy: Use digital technologies, communication/networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy.</p>
Identify peripheral devices and demonstrate their uses (including but not limited to printer, scanners, and digital cameras)	<ul style="list-style-type: none"> Use appropriate settings Transfer image to computer 		<p>TD.1 Display initiative and engagement in the use of technology tools</p>	<p>TR.1 Use technology responsibly</p>	<p>TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>	<p>Standard 6</p> <p>Technology and Concepts</p> <p>-Sound understanding of technology concepts, systems and operations</p>	<p>Information, Media & Technology Skills</p> <p>-ICT Literacy: Use digital technologies, communication/networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy.</p>
Demonstrate an understanding of technology systems, concepts, and operations	<ul style="list-style-type: none"> Create, organize, store, and back-up data Name files appropriately Use "end task" or "forced quit" when appropriate 		<p>TD.1 Display initiative and engagement in the use of technology tools</p>	<p>TR.1 Use technology responsibly</p>	<p>TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>	<p>Standard 6</p> <p>Technology and Concepts</p> <p>-Sound understanding of technology concepts, systems and operations</p>	
Create a multimedia presentation that includes text, graphics, and sound	<ul style="list-style-type: none"> Insert media such as text, pictures, sound and graphics Edit multimedia presentations Present multimedia presentations 	<p>Standard 2</p> <p>Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge</p>	<p>TD.1 Display initiative and engagement in the use of technology tools</p> <p>TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources.</p> <p>TD.3 Demonstrate creativity by using multiple technology tools</p> <p>TD.4 Display by persisting in solving challenges associated with using technology tools</p> <p>TD.5 Demonstrate flexibility in the use of technology tools</p> <p>TD.6 Demonstrate personal</p>	<p>TR.1 Use technology responsibly</p> <p>TR.2 Create products that apply to authentic, real world contexts</p> <p>TR.3 Contribute to the exchange of ideas</p> <p>TR.4 Seek opportunities for pursuing personal and aesthetic growth</p> <p>TR.5 Practice safe and ethical behaviors in</p>	<p>1.4.4 Seek appropriate help when it is needed</p> <p>TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>		

			productivity by using technology tools to complete products that express learning TD.7 Demonstrate teamwork by working productively with others	personal electronic communication and interaction			
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Computer Benchmarks: Reference Sheet

Dispositions

- TD.1 Display initiative and engagement in the use of technology tools.
- TD.2 Demonstrate confidence and self-direction by making independent choices in the selection of technology tools and resources.
- TD.3 Demonstrate creativity by using multiple technology tools.
- TD.4 Display emotional resilience by persisting in solving challenges associated with using technology tools.
- TD.5 Demonstrate flexibility in the use of technology tools.
- TD.6 Demonstrate personal productivity by using technology tools to complete products that express learning.
- TD.7 Demonstrate teamwork by working productively with others.

Responsibilities

- TR.1 Use technology responsibly.
- TR.2 Create products that apply to authentic, real world contexts.
- TR.3 Contribute to the exchange of ideas
- TR.4 Seek opportunities for pursuing personal and aesthetic growth.
- TR.5 Practice safe and ethical behaviors in personal electronic communication and interaction.

Self-assessment

- TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools.

Londonderry Dispositions

- LD.1 Value the intellectual property of information creator

- LD.2 Display the understanding of the need to create citations for a bibliography
- LD.3 Demonstrate confidence and self-direction in accessing information within a resource
- LD.4 Demonstrate social responsibility by using information ethically

Londonderry Responsibilities

LR.1 Practice the use of search tools to access relevant information

Londonderry Self Assessment Strategies

- LS.1 Be able to develop a simple citation
- LS.2 Evaluate whether their personal product completes the information task
- LS.3 Recognize the need to use the appropriate tools to access relevant information from various resources
- LS.4 Recognize the need to make notes, identify keywords, and cite sources
- LS.5 Evaluation: does their personal product complete the task.
- LS.6 Recognize the need to make notes and identify keywords

These additional dispositions, responsibilities and self-assessment strategies were developed by the Londonderry School District Library Media Specialists and Technology Trainer Integrationist in order to better address local benchmarks/grade level expectations.

**** In the interest of space ISTE/P21 have been modified. Please check for the web link for the complete document.**

AASL – <http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/standards.cfm>

ISTE - <http://www.iste.org/standards/nets-for-students.aspx>

P21 – http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=120

Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 6

Londonderry Middle School

Londonderry School District Benchmark	Skills Included	American Association of School Librarians Standard (AASL)**	AASL Dispositions** * With Londonderry Additions	AASL Responsibilities** * With Londonderry Additions	AASL Self Assessment Strategies** * With Londonderry Additions	International Society for Technology in Education (ISTE)**	Partnership for 21st Century Skills (P21)**
Locate and use a variety of information resources to fulfill the research task.	<ul style="list-style-type: none"> Find, evaluate and select appropriate print and /or digital resources to complete the research task. Evaluate information for accuracy and validity. Search the online library catalog to locate resources in the Library Media Center. 	Standard 1 Inquire, think critically, and gain knowledge.	1.2.2 Confidence and Self-direction in independent choices of resource and information 1.2.3 Creativity in using multiple resources 1.2.4 Critical stance by questioning validity & accuracy of information 4.2.1 Display curiosity by pursuing interests through multiple resources	1.3.2 Seek divergent perspectives during information gathering	1.4.1 Monitor own information-seeking processes 1.4.2 Use feedback from teachers and peers to guide inquiry 1.4.3 Monitor gathered information, and assess for gaps or weaknesses	Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	<u>Learning and Innovation Skills</u> -Critical Thinking and Problem Solving: Interpret information and draw conclusions based on the best analysis. Information, Media and Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources).
With guidance, develop essential and open ended questions pertaining to topic.	<ul style="list-style-type: none"> Develop and refine questions which are relevant to the topic. Develop questions which promote deeper understanding of topic. 	Standard 1 Inquire, think critically, and gain knowledge.	1.2.1 Initiative & engagement – pose questions & investigate beyond superficial facts 1.2.5 Adaptability - change inquiry focus when necessary		1.4.1 Monitor own information-seeking processes	Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	<u>Learning and Innovation Skills</u> -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions.
Identify key words to locate relevant information from a variety of information resources.	<ul style="list-style-type: none"> Use background knowledge as a context for new learning Extract information which is relevant to the specific question or topic. 	Standard 1 Inquire, think critically, and gain knowledge.	1.2.6 Resilience – persist search despite challenges 1.2.7 Persistence – pursuing information to gain broad perspective 1.2.2 Confidence and Self-direction in independent choices of resource and information	1.3.2 Seek divergent perspectives during information gathering and assessment	1.4.1 Monitor own information-seeking processes 2.4.1 Determine how to act on information (accept, reject , modify)	Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information	<u>Learning and Innovation Skills</u> -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions. Information, Media and Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources); Manage the flow of information from a variety of sources.
Record information using keywords and phrases (note taking).	<ul style="list-style-type: none"> Organize knowledge so it is useful to the research task. Demonstrate knowledge of graphic 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new	2.2.1 Flexibility to adapt to resources and seek additional resources 2.2.4 Personal productivity by completing products and	1.3.1 Respect copyright/intellectual property rights of creators and producers	1.4.1 Monitor own information-seeking processes 1.4.3 Monitor gathered information, and	Standard 1 Creativity and Innovation- Demonstrate creative thinking; construct knowledge and develop innovative products/processes	<u>Information, Media and Technology Skills</u> -Information Literacy: Manage the flow of information from a variety of sources.

	organizer.	situations, and create new knowledge.	expressing learning		assess for gaps or weaknesses	using technology Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information	
Use the appropriate bibliography format for all resources used including quotations, images, and sound.	<ul style="list-style-type: none"> • Create a complete works cited page which acknowledges the use of a variety of resources. 	Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.		1.3.3 Follow ethical and legal guidelines in gathering and using information 3.3.7 Respect the principles of intellectual freedom 1.3.5 Use information technology responsibly		Standard 5 Digital Citizenship - Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior	Information, Media and Technology Skills -Information Literacy: Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information.
Utilize the basic features of a word processing program in order to communicate new knowledge in a related content area.	<ul style="list-style-type: none"> • Use the writing process to express thoughts and ideas effectively. 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.	2.2.4 Personal productivity by completing products and expressing learning	2.3.1 Connect understanding to the real world 3.3.4 Create products that apply to real world contexts * Using technology tools	2.4.3 Recognize new knowledge and understanding *LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others	Learning and Innovation Skills -Critical Thinking and Problem Solving: Create new and worthwhile ideas (both incremental and radical concepts) -Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts.
Create and present a multimedia product to convey new knowledge in a related content area.	<ul style="list-style-type: none"> • Use technology as a tool to research, organize and communicate information. • Use technology to create products which express thoughts and ideas effectively. 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge. Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.	2.2.4 Personal productivity by completing products and expressing learning	3.3.4 Create products that apply to real world contexts * Using technology tools	2.4.3 Recognize new knowledge and understanding *LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	Learning and Innovation Skills - Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts. Information, Media and Technology Skills -Media Literacy: Understand and utilize the most appropriate media creation tools, characteristics and conventions.
Use a spreadsheet to create and	<ul style="list-style-type: none"> • Use technology as a tool to research, 	Standard 2 Draw conclusions,	2.2.4 Personal productivity by completing products and	3.3.4 Create products that apply to	2.4.3 Recognize new knowledge and	Standard 1 Creativity and Innovation	Information, Media and Technology Skills

manipulate data to convey new knowledge in a related content area.	organize and communicate information. <ul style="list-style-type: none"> Use technology to create products which express thoughts and ideas effectively. 	make informed decisions, apply knowledge to new situations, and create new knowledge.	expressing learning	real world contexts * Using technology tools	understanding * LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	-Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology	-Information Literacy: Access information efficiently (time) and effectively (sources); <u>Life and Career Skills</u> -Productivity and Accountability: Prioritize, plan and manage work to achieve the intended result.
Use digital tools to communicate and work collaboratively to support content area learning.	<ul style="list-style-type: none"> Use technology and other information tools to analyze and organize information. Use technology, writing or speaking skills to express thoughts and ideas effectively. 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge. Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.	2.2.4 Personal productivity by completing products and expressing learning 1.2.2 Confidence and Self-direction in independent choices of resources and information	3.3.4 Create products that apply to real world contexts * Using technology tools responsibly and when appropriate	2.4.3 Recognize new knowledge and understanding * LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others	<u>Learning and Innovation Skills</u> -Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts. <u>Information, Media and Technology Skills</u> -Information Literacy: Access information efficiently (time) and effectively (sources). <u>Life and Career Skills</u> -Productivity and Accountability: Demonstrate additional attributes associated with producing high quality products including the abilities to collaborate and cooperate effectively with teams.
Demonstrate ethical use of creative works and information when creating new products or communicating new knowledge	<ul style="list-style-type: none"> Use information and technology ethically and responsibly. Demonstrate knowledge of intellectual property and copyright restrictions for a variety of resources. 	Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.		1.3.3 Follow ethical and legal guidelines in gathering and using information 3.3.7 Respect the principles of intellectual freedom 1.3.5 Use information technology responsibly		Standard 5 Digital Citizenship - Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior	<u>Life and Career Skills</u> - Leadership and Responsibility: Act responsibly with the interests of the larger community in mind.
Read, views and listens for aesthetic and personal growth.	<ul style="list-style-type: none"> Read a variety of genres Make connections 	Standard 4 Pursue personal and aesthetic	4.2.4 Show appreciation for literature	4.3.2 Recognize purpose of resources	4.4.1 Identify own areas of interest 4.4.3 Recognize how to		<u>Life and Career Skills</u> -Social & Cross-Cultural Skills: Know when it is appropriate to

	between self, text and world.	growth.		4.3.3 Seek opportunities for personal growth	focus efforts in personal learning 4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests		listen and when to speak Core Subjects -Global Awareness: Understanding other nations and cultures , including the use of non-English languages
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Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 7

Londonderry Middle School

Londonderry School District Benchmark	Skills Included	<u>American Association of School Librarians Standard (AASL)**</u>	<u>AASL Dispositions**</u> * With Londonderry Additions	<u>AASL Responsibilities**</u> * With Londonderry Additions	<u>AASL Self Assessment Strategies**</u> * With Londonderry Additions	<u>International Society for Technology in Education (ISTE)**</u>	<u>Partnership for 21st Century Skills (P21)**</u>
Develop essential and open ended questions pertaining to topic.	<ul style="list-style-type: none"> Develop a range of questions which are relevant to the topic. 	Standard 1 Inquire, think critically, and gain knowledge.	1.2.2 Confidence and Self-direction in independent choices of resource and information 1.2.3 Creativity in using multiple resources 1.2.4 Critical stance by questioning validity & accuracy of information 4.2.1 Display curiosity by pursuing interests through multiple resources		1.4.1 Monitor own information-seeking processes	Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	<u>Learning and Innovation Skills</u> -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions.
Develop and refine research questions in response to information gathered.	Refine questions so they are aligned with the main focus of the research topic.	Standard 1 Inquire, think critically, and gain knowledge.	1.2.1 Initiative & engagement – pose questions & investigate beyond superficial facts 1.2.5 Adaptability – change inquiry focus when necessary		1.4.1 Monitor own information-seeking processes	Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	<u>Learning and Innovation Skills</u> -Critical Thinking and Problem Solving: Identify and ask significant questions that clarify various points of view and lead to better solutions. <u>Information, Media and Technology Skills</u> -Information Literacy: Access information efficiently (time) and effectively (sources)
Use advanced search	<ul style="list-style-type: none"> Determine useful 	Standard 1	1.2.1 Initiative & engagement	1.3.2 Seek divergent	1.4.1 Monitor own	Standard 3	<u>Information, Media and</u>

tools in digital information resources.	<p>keywords.</p> <ul style="list-style-type: none"> Determine specific information needs of research task, e.g. currency of information or source. 	Inquire, think critically, and gain knowledge.	– pose questions & investigate beyond superficial facts 1.2.2 Confidence and Self-direction in independent choices of resource and information	perspectives during information gathering	information-seeking processes 1.4.3 Monitor gathered information, and assess for gaps or weaknesses	Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources) Learning and Innovation Skills -Critical Thinking and Problem Solving: Effectively analyze and evaluate evidence, arguments, claims and beliefs.
Evaluate digital information resources on the basis of accuracy and validity.	<ul style="list-style-type: none"> Select resources which are appropriate and meaningful to topic. Evaluate information for misconceptions or bias. 	Standard 1 Inquire, think critically, and gain knowledge.		1.3.2 Seek divergent perspectives during information gathering	2.4.1 Determining how to act on information	Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information	Learning and Innovation Skills -Critical Thinking and Problem Solving: Effectively analyze and evaluate evidence, arguments, claims and beliefs. Information, Media and Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources)
Create and present a multimedia product to convey new knowledge in a related content area.	<ul style="list-style-type: none"> Use technology as a tool to research, organize and communicate information. Use technology to create products which express thoughts and ideas effectively. 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge. Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.	2.2.4 Personal productivity by completing products and expressing learning	3.3.4 Create products that apply to real world contexts * Using technology tools	2.4.3 Recognize new knowledge and understanding *LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	Learning and Innovation Skills - Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts. Information, Media and Technology Skills -Media Literacy: Understand and utilize the most appropriate media creation tools, characteristics and conventions.
Use a spread sheet to create and manipulate data to convey new knowledge in a related content area.	<ul style="list-style-type: none"> Use technology as a tool to research, organize and communicate information. Use technology to create products which express thoughts and ideas effectively. 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.	1.2.4 Critical stance by questioning validity & accuracy of information	3.3.4 Create products that apply to real world contexts * Using technology tools	2.4.3 Recognize new knowledge and understanding *LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology	Information, Media and Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources); Life and Career Skills -Productivity and Accountability: Prioritize, plan and manage work to achieve the intended result.
Use digital tools to	<ul style="list-style-type: none"> Use technology and 	Standard 2	2.2.4 Personal productivity by	3.3.4 Create	2.4.3 Recognize new	Standard 2	Learning and Innovation Skills

communicate and work collaboratively to support content area learning.	<p>other information tools to analyze and organize information.</p> <ul style="list-style-type: none"> Use technology, writing or speaking skills to express thoughts and ideas effectively. 	<p>Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.</p> <p>Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.</p>	<p>completing products and expressing learning</p> <p>1.2.2 Confidence and Self-direction in independent choices of resource and information</p>	<p>products that apply to real world contexts</p> <p>* Using technology tools responsibly and when appropriate</p>	<p>knowledge and understanding</p> <p>*LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools</p>	<p>Communication and Collaboration</p> <p>- Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others</p>	<p>-Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts.</p> <p><u>Information, Media and Technology Skills</u></p> <p>-Information Literacy: Access information efficiently (time) and effectively (sources);</p> <p><u>Life and Career Skills</u></p> <p>-Productivity and Accountability: Demonstrate additional attributes associated with producing high quality products including the abilities to collaborate and cooperate effectively with teams</p>
Demonstrate ethical use of creative works and information when creating new products or communicating new knowledge.	<ul style="list-style-type: none"> Use information and technology ethically and responsibly. Demonstrate knowledge of intellectual property and copyright restrictions in a variety of resources. 	<p>Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.</p>	<p>*LD.1 Demonstrate social responsibilities by using information ethically</p>	<p>1.3.3 Follow ethical and legal guidelines in gathering and using information</p> <p>3.3.7 Respect the principles of intellectual freedom</p>	<p>*LT.2 Recognize the contribution of other resources used in the research process</p>	<p>Standard 5 Digital Citizenship</p> <p>- Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior</p>	<p><u>Life and Career Skills</u></p> <p>- Leadership and Responsibility: Act responsibly with the interests if the larger community in mind.</p>
Reads, views and listens for aesthetic and personal growth.	<ul style="list-style-type: none"> Read a variety of genres Make connections between self, text, and world. 	<p>Standard 4 Pursue personal and aesthetic growth.</p>	<p>4.2.4 Show appreciation for literature</p>	<p>4.3.2 Recognize purpose of resources</p> <p>4.3.3 Seek opportunities for personal growth</p>	<p>4.4.1 Identify own areas of interest</p> <p>4.4.3 Recognize how to focus efforts in personal learning</p> <p>4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests</p>		<p><u>Life and Career Skills</u></p> <p>-Social & Cross-Cultural Skills: Know when it is appropriate to listen and when to speak</p> <p><u>Core Subjects</u></p> <p>-Global Awareness: Understanding other nations and cultures, including the use of non-English languages</p>

Information and Communications Technology (ICT) BENCHMARKS FOR GRADE 8

Londonderry Middle School

Londonderry School District Benchmarks	Skills Included	American Association of School Librarians Standard (AASL)**	AASL Dispositions** * With Londonderry Additions	AASL Responsibilities** * With Londonderry Additions	AASL Self Assessment Strategies** * With Londonderry Additions	International Society for Technology in Education (ISTE)**	Partnership for 21st Century Skills (P21)**
Identify misconceptions, conflicting information, and point of view or bias from information resources.	<ul style="list-style-type: none"> Engage in inquiry based research by applying critical thinking skills. 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.	1.2.4 Critical stance by questioning validity & accuracy of information 2.2.1 Flexibility to adapt to resources and seek additional resources	1.3.2 Seek divergent perspectives during information gathering 2.3.3 Use valid information and reasoned conclusions to make ethical decisions	1.4.3 Monitor gathered information, and assess for gaps or weaknesses 2.4.1 Determining how to act on information	Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information	<u>Learning and Innovation Skills</u> -Critical thinking and problem solving: Effectively analyze and evaluate evidence, arguments, claims and beliefs. <u>Information, Media and Technology Skills</u> -Information Literacy: Access information efficiently (time) and effectively (sources). -Media Literacy: Understand both how and why media messages are constructed, and for what purposes.
Select the most useful information resources to fulfill	<ul style="list-style-type: none"> Find, evaluate and select appropriate resources to fulfill 	Standard 1 Inquire, think critically, and gain	1.2.2 Confidence and Self-direction in independent choices of resource and	1.3.2 Seek divergent perspectives during information gathering	1.4.1 Monitor own information-seeking processes	Standard 3 Research and Information Fluency - Apply digital tools to gather,	<u>Learning and Innovation Skills</u> -Critical Thinking and Problem Solving: Effectively analyze and

specific research needs.	research task. • Evaluate information for accuracy and validity.	knowledge.	information 1.2.3 Creativity in using multiple resources			evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	evaluate evidence, arguments, claims and beliefs. Information, Media and Technology Skills -Information Literacy: Evaluate information critically and competently
Use a variety of note taking strategies.	• Utilize appropriate format to organize knowledge so that it is useful to the completion of the research task. • Draw conclusions and develop solutions based on information.	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.				Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information	Learning and Innovation Skills -Critical Thinking and Problem Solving: Interpret information and draw conclusions based on the best analysis
Create and present a multimedia product to convey new knowledge in a related content area.	• Use technology as a tool to research, organize and communicate information. • Use technology to create products which express thoughts and ideas effectively.	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge. Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.	2.2.4 Personal productivity by completing products and expressing learning	3.3.4 Create products that apply to real world contexts * Using technology tools	2.4.3 Recognize new knowledge and understanding. LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	Learning and Innovation Skills - Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts. Information, Media and Technology Skills -Media Literacy: Understand and utilize the most appropriate media creation tools, characteristics and conventions.
Use a spread sheet to create and manipulate data to convey new knowledge in a related content area.	• Use technology as a tool to research, organize and communicate information. • Use technology to create products which express thoughts and ideas effectively.	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.	2.2.4 Personal productivity by completing products and expressing learning	3.3.4 Create products that apply to real world contexts * Using technology tools	2.4.3 Recognize new knowledge and understanding. *LT.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 1 Creativity and Innovation -Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology	Information, Media and Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources); Life and Career Skills -Productivity and Accountability: Prioritize, plan and manage work to achieve the intended result.
Use digital tools to communicate and work collaboratively to support content area learning.	• Use technology and other information tools to analyze and organize information. • Use technology, writing	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new	2.2.4 Personal productivity by completing products and expressing learning 3.2.1 Demonstrate Leadership and confidence	3.3.4 Create products that apply to real world contexts * Using technology tools responsibly and	2.4.3 Recognize new knowledge and understanding. *LT.1 Use interaction with and feedback	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a	Learning and Innovation Skills -Communication and Collaboration: Articulate thoughts and ideas effectively using oral, written and nonverbal

	or speaking skills to express thoughts and ideas effectively	situations, and create new knowledge. Standard 3 Share knowledge and participate ethically and productively as members of our democratic society.	by presenting ideas	when appropriate	from teachers and peers to guide own use of technology tools	distance, to support learning and contribute in the learning of others Standard 6 Technology Operations and Concepts - Sound understanding of technology concepts, systems and operations	communication skills in a variety of forms and contexts. Information, Media and Technology Skills -Information Literacy: Access information efficiently (time) and effectively (sources); Life and Career Skills -Productivity and Accountability: Demonstrate additional attributes associated with producing high quality products including the abilities to –collaborate and cooperate effectively with teams
Read, views and listens for aesthetic and personal growth.	<ul style="list-style-type: none"> • Read a variety of genres • Make connections between self, text and world. 	Standard 4 Pursue personal and aesthetic growth.	4.2.4 Show appreciation for literature	4.3.2 Recognize purpose of resources 4.3.3 Seek opportunities for personal growth	4.4.1 Identify own areas of interest 4.4.3 Recognize how to focus efforts in personal learning 4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests		Life and Career Skills -Social & Cross-Cultural Skills: Know when it is appropriate to listen and when to speak Core Subjects -Global Awareness: Understanding other nations and cultures, including the use of non-English languages

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These additional dispositions, responsibilities and self-assessment strategies were developed by the Londonderry School District Library Media Specialists and Technology Trainer Integrationist in order to better address local benchmarks/grade level expectations.

**** In the interest of space ISTE/P21 have been modified. Please check for the web link for the complete document.**

AASL – <http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/standards.cfm>

ISTE - <http://www.iste.org/standards/nets-for-students.aspx>

P21 – http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=120

Information and Communications Technology (ICT) BENCHMARKS FOR GRADES 9 – 12

Londonderry High School

Londonderry School District Benchmark	Skills Included	American Association of School Librarians Standard (AASL)**	AASL Dispositions ** *With Londonderry Additions	AASL Responsibilities** *With Londonderry Additions	AASL Self Assessment Strategies** *With Londonderry Additions	International Society for Technology in Education (ISTE)**	Partnership for 21st Century Skills (P21)**
Independently formulates topic, question or problem to be researched, incorporating existing knowledge and revising topic according to information gathered.	<ul style="list-style-type: none"> Developing questions Determining topics/subtopics Determining keywords Revising questions when needed 	Standard 1 Inquire, think critically and gain knowledge	1.2.1 Display initiative & engagement - pose questions & investigate beyond superficial facts 1.2.5 Demonstrate adaptability - change inquiry focus when necessary 1.2.6 Display resilience - persist search despite challenges 1.2.7 Display persistence - pursuing information to gain broad perspective	1.3.2 Seek divergent perspectives during information gathering	1.4.1 Monitor own information seeking process 1.4.2 Use feedback from teachers and peers to guide inquiry 4.4.3 Recognize how to focus efforts in personal learning	Standard 1 Creativity and Innovation - Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	<u>Learning & Innovation Skills</u> -Creativity & Innovation: Use a wide range of idea creation techniques -Critical Thinking & Problem Solving: Identify and ask significant questions <u>Life & Career Skills</u> -Initiative & Self Direction: Go beyond basic mastery of skills
Develops appropriate search strategies to efficiently locate information in digital or other formats and evaluates and selects information appropriate to the topic.	<ul style="list-style-type: none"> Recognizing type of information needed Identifying a variety of sources of information Understanding the organization of digital and print information sources Determining relevancy of information Determining authority/credibility Determining bias Determining currency 	Standard 1 Inquire, think critically and gain knowledge	1.2.3 Demonstrate creativity in using multiple resources 1.2.4 Maintain critical stance by questioning validity & accuracy of information 2.2.1 Demonstrate flexibility to adapt to resources and seek additional resources	1.3.2 Seek divergent perspectives during information gathering 3.3.2 Respect differing interests and experiences/seek variety of viewpoints 4.3.2 Recognize purpose of resources	2.4.1 Determining how to act on information 2.4.2 Assess for completeness of investigation	Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources Standard 6 Technology Operations and Concepts - Sound understanding of technology concepts, systems and operations	<u>Information, Media & Technology Skills</u> -Information Literacy: Access information efficiently and effectively -Information Literacy: Evaluate information critically and competently <u>Learning & Innovation Skills</u> -Critical Thinking & Problem Solving: Analyze and evaluate evidence, arguments, or claims.
Uses appropriate digital tools to collect, organize and analyze information and/or data related to question or problem to be researched	<ul style="list-style-type: none"> Selecting appropriate digital tool or application for task Selecting and using method for recording information and data Keeping accurate records for data and resources used. Using digital tools to share information and work collaboratively with others 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.	1.2.2 Demonstrate confidence and self-direction in independent choices in the selection of resource and information *including technology tools 1.2.3 Demonstrate creativity in using multiple resources 3.2.2 Show Social Responsibility by participating actively with others	1.3.5 Use information technology responsibly 3.3.5 Contribute to exchange of ideas within and beyond learning community 4.3.1 Participate in social exchange of ideas	4.4.4 Interpret new information based on cultural/social context	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	<u>Information, Media & Technology Skills</u> -ICT Literacy: Use technology to research, organize, evaluate information <u>Information, Media & Technology Skills</u> -Information Literacy: Manage the flow of information from a wide variety of sources <u>Life and Career Skills</u>

			3.2.3 Demonstrate teamwork by working productively with others			Standard 6 Technology Operations and Concepts - Sound understanding of technology concepts, systems and operations	-Productivity and Accountability: Collaborate and cooperate with teams
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Londonderry School District Benchmark	Skills Included	<u>American Association of School Librarians Standard (AASL)**</u>	<u>AASL Dispositions**</u> *With Londonderry Additions	<u>AASL Responsibilities**</u> *With Londonderry Additions	<u>AASL Self Assessment Strategies**</u> *With Londonderry Additions	<u>International Society for Technology in Education (ISTE)**</u>	<u>Partnership for 21st Century Skills (P21)**</u>
Synthesizes facts, opinions,-and/or data appropriate to the question or problem and develops new understanding	<ul style="list-style-type: none"> • Drawing conclusions based on information • Developing solutions based on information • Collaborating with others to exchange ideas • Creating products that express ideas effectively 	Standard 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.	2.2.2 Use divergent and convergent thinking to formulate conclusions 2.2.3 Employ critical stance demonstrating evidence leads to conclusion 2.2.4 Demonstrate personal productivity by completing products and expressing learning	2.3.3 Use valid information and reasoned conclusions to make decisions 3.3.1 Solicit and respect diverse perspectives when collaborating with others and participating as member of community 4.3.1 Participate in social exchange of ideas	2.4.3 Recognize new knowledge and understanding 2.4.4 Develop directions for future investigations 3.4.1 Assess process and revise strategies for future 3.4.3 Assess ability to work with others	Standard 1 Creativity and Innovation - Demonstrate creative thinking; construct knowledge and develop innovative products/processes using technology Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others Standard 3 Research and Information Fluency - Apply digital tools to gather, evaluate and use information Standard 4 Critical Thinking, Problem Solving, and Decision Making - Use critical thinking to plan/conduct research, manage projects, and make informed decisions using appropriate digital tools/resources	Learning & Innovation Skills -Critical Thinking & Problem Solving: Use various types of reasoning -Critical Thinking & Problem Solving: Synthesize and make connections between information and arguments -Creativity and Innovation: Develop, implement and communicate ideas
Uses information and technology responsibly and ethically	<ul style="list-style-type: none"> • Using complete bibliographic citations to acknowledge intellectual property of others • Adhering to copyright restrictions for print and digital sources • Using technology in a safe, legal and responsible manner 	Standard 3 Share knowledge and participate ethically and productively as members of our democratic society		1.3.1 Respect copyright/intellectual property rights of others 1.3.3 Following ethical & legal guidelines in gathering & using information 1.3.5 Use information technology responsibly 3.3.7 Respect principals of intellectual freedom 4.3.4 Practice safe & ethical behavior in		Standard 5 Digital Citizenship - Understanding of human cultural and societal issues related to technology and practice legal and ethical behavior	Information, Media & Technology Skills -ICT Literacy: Apply fundamental understanding of ethical/legal issues using technologies. Life and Career Skills -Leadership & Responsibility: Act responsibly with interest of larger community in mind

				electronic communication			
Londonderry School District Benchmark	Skills Included	<u>American Association of School Librarians Standard (AASL)**</u>	<u>AASL Dispositions**</u> *With Londonderry Additions	<u>AASL Responsibilities**</u> *With Londonderry Additions	<u>AASL Self Assessment Strategies**</u> *With Londonderry Additions	<u>International Society for Technology in Education (ISTE)**</u>	<u>Partnership for 21st Century Skills (P21)**</u>
Communicates and/or demonstrates the knowledge gained	<ul style="list-style-type: none"> Utilizing appropriate format/organization Adapting to needs or characteristics of audience Using appropriate digital tool to display or communicate new knowledge Conveying the knowledge in ways others can use and assess. 	Standard 3 Share knowledge and participate ethically and productively as members of our democratic society	2.2.4 Demonstrate personal productivity by completing products and expressing learning * using technology tools when appropriate 3.2.1 Demonstrate leadership/confidence by presenting ideas	1.3.4 Contribute to ideas within learning community 3.3.3 Engage in public conversation around common issues 3.3.4 Create products that apply to real world contexts 3.3.5 Contribute to exchange of ideas within and beyond learning community	3.4.2 Assess quality and effectiveness of learning product 4.4.5 Develop personal criteria for effectiveness of expressed ideas TS.1 Use interaction with and feedback from teachers and peers to guide own use of technology tools	Standard 2 Communication and Collaboration - Use digital media/environments to communicate and work collaboratively, including at a distance, to support learning and contribute in the learning of others Standard 6 Technology Operations and Concepts - Sound understanding of technology concepts, systems and operations	<u>Learning and Innovation Skills</u> -Communication and Collaboration: Articulate thoughts and ideas effectively <u>Information, Media & Technology Skills</u> -Media Literacy: Understand and use appropriate media creation tools
Reads, views and listens for aesthetic and personal growth	<ul style="list-style-type: none"> Reading widely in various formats and genres Making connections to self and the larger community Using creative and artistic formats to develop knowledge and understanding of new areas of interest 	Standard 4 Pursue personal and aesthetic growth	4.2.1 Display curiosity by pursuing interests through multiple resources 4.2.2. Demonstrate motivation to go beyond academic requirements 4.2.3 Maintain openness to new ideas 4.2.4 Show appreciation for literature	2.3.1 Connects understanding to real world 3.3.3 Engage in public conversation around common issues 4.3.3 Seek opportunities for personal growth	4.4.1 Identify own areas of interest 4.4.2 Recognize limits of personal knowledge 4.4.6 Evaluate ability to select engaging and appropriate resources for personal interests		<u>Life and Career Skills</u> -Social & Cross-Cultural Skills: Respond open-mindedly to different ideas and values -Initiative and Self-Direction: Demonstrate commitment to learning as a life-long process <u>Learning & Innovation Skills</u> -Creativity and Innovation: Act on creative ideas to make contribution to field

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These additional dispositions, responsibilities and self-assessment strategies were developed by the Londonderry School District Library Media Specialists and Technology Trainer Integrationist in order to better address local benchmarks/grade level expectations.

**** In the interest of space ISTE/P21 have been modified. Please check for the web link for the complete document.**

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AASL – <http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/standards.cfm>

ISTE - <http://www.iste.org/standards/nets-for-students.aspx>

P21 – http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=120