

# **Standard 1.0 – Technology Systems**: Develop foundations in the understanding and uses of technology systems

Pre-kindergarten Kindergarten Grade 1 Grade 2 Grade 3									
Pre-kindergarten	Kindergarten	Grade i	Grade 2	Grade 5					
A. Systems	A. Systems	A. Systems	A. Systems	A. Systems					
Understand the uses of technology systems	Understand the uses of technology systems	Understand the uses of technology systems	Understand the uses of technology systems	Understand the uses of technology systems					
a) Recognize and identify the function of the major hardware components in a computer system  b) Use the mouse (or track pad) to	a) Recognize and identify the function of the major hardware components in a computer system      b) Use the mouse (or track pad) to	a) Recognize and identify the function of the major hardware components in a computer system	a) Recognize and identify the function of the major hardware components in a computer system	a) Recognize and identify the function of the major hardware components in a computer system					
perform computer functions (such as accessing an application, indicating a choice, or activating a hyperlink)	perform computer functions (such as accessing an application, indicating a choice, or activating a hyperlink)	b) Identify and use functions represented by symbols and icons commonly found in applications	b) Understand that there are correct sitting, hand, arm, and fingering positions when keyboarding	b) Identify characteristics that describe input devices and output devices and name some devices that can provide input and output.					
c) Recognize symbols and icons used to identify common functions (such as the arrow, hyperlinks, printer, save)	c) Recognize symbols and icons used to identify common functions (such as the arrow, hyperlinks, printer, save)	c) Use the keyboard to type letters and numbers and know how to use special key functions	c) Identify and use functions represented by symbols and icons commonly found in applications	c) Understand that there are correct sitting, hand, arm, and fingering positions when keyboarding					
d) Use the keyboard to type letters and numbers and know how to use special key functions	d) Use the keyboard to type letters and numbers and know how to use special key functions			d) Identify and use functions represented by symbols and icons commonly found in applications					
			Fundamental software operations sho second grade. All software programs to the program, but the basics for op	s will have features that are unique					
Spec	ific computer skills can be fo	ound in the companion docu	ıment – Computer Literacy	Skills.					



# **Standard 1.0 – Technology Systems**: Develop foundations in the understanding and uses of technology systems

Gra	de 4	Gra	ide 5		Grade 6	1	Grade 7	1	Grade 8
В.		A.		A.	Systems	A.	Systems	A.	. Systems
1.	Demonstrate knowledge of technology concepts and systems	1. a.	Demonstrate knowledge of technology systems  Understand that there are	<b>1</b> .	Demonstrate knowledge of technology systems Use keyboard and mouse	<b>1.</b>	Demonstrate knowledge of technology systems  Explain how network resources	<b>1.</b>	Demonstrate knowledge of technology systems  Explain how network resources
a)	Understand that there are correct sitting, hand, arm, and fingering positions when keyboarding	b.	correct sitting, hand, arm, and fingering positions when keyboarding  Identify types of files by their	b)	effectively and efficiently  Identify types of files by their icons and extensions	a c a p	ire accessed, controlled, connected, and used effectively ind efficiently (e.g., FTP/Web jublishing, wireless networks, JSB, firewire, etc.)		are accessed, controlled, connected, and used effectively and efficiently (e.g., FTP/Web publishing, wireless networks, USB, firewire, etc.)
b)	Identify types of files by their icons and extensions	c.	icons and extensions  Identify strategies for managing everyday hardware and	ĺ	Identify strategies for managing everyday hardware and software problems	,	Jse keyboard and mouse iffectively and efficiently		Use keyboard and mouse effectively and efficiently
c)	Identify strategies for managing everyday hardware and software problems		software problems			for each of the state of the st	Apply utility programs to convert ormats, as necessary, for offective use in Web, video, audio, graphic, presentation, word-processing, database, publication, and spreadsheet applications. Describe strategies for identifying, solving, and preventing routine pardware and software problems that occur during everyday echnology use	d)	Apply utility programs to convert formats, as necessary, for effective use in Web, video, audio, graphic, presentation, word-processing, database, publication, and spreadsheet applications  Describe strategies for identifying, solving, and preventing routine hardware and software problems that occur during everyday technology use
			erations should be mast gram, however the basi		•			ams	will have features
	Specif	ic c	omputer skills can be fo	und	I in the companion doc	ume	ent – Computer Literacy	/ Sk	cills.
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**Standard 2.0 – Digital Citizenship**: Demonstrate an understanding of the history of technology and its impact on society, and practice ethical, legal, and responsible use of technology to assure safety

Pre-kindergarten		Kindergarten	Grade	1	Grade	2	Grade	3	
A. Technology and Society		A. Technology and Society	A. Ted	chnology and Society	A. Te	chnology and Society	A. Te	echnology and Society	
Explain how technology     affects the students in their     daily life		Explain how technology affects people		Explain how technology     affects individuals and     institutions (home and school)		Explain how technology affects individuals and institutions (home, school, and community)		Explain how technology     affects people and society	
a)	Identify examples of technology used in their daily lives (such as telephone, microwave, television, cameras, and computer)	a) Identify and explain that technology is used in their daily lives to do things better or more easily (such as telephone, microwave, television, cameras, and	a)	Recognize that technologies (such as computers, calculators, television, cameras, PDAs, CD-ROM, and DVD) have influenced daily life, past and present	a)	Recognize that technologies (such as computers, calculators, television, cameras, PDAs, CD-ROM, and DVD) have influenced daily life, past and present	a)	Explain how technology (such as computers, calculators, television, cameras, PDAs, CD-ROM, and DVD) influences societies	
b)	Identify examples of how technology affects the environment (including home and school environments)	b) Identify examples of how technology affects the environment (including home and school environments)	b)	Identify examples of how technology has affected the environment, past and present	b)	Identify examples of how technology has affected the environment, past and present	b)	Identify examples of how technology has affected the environment, past and present	
c)	Participate in class or small group lessons on how technology tools are used to meet personal needs	c) Participate in class or small group lessons on how technology tools are used to meet personal needs	c)	Identify how technology tools have been and are used to meet people's needs	c)	Identify how technology tools have been and are used to meet people's needs	c)	Explain how technology tools have or can be used to meet the needs of societies	



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Pre-Kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3		
B. Legal and Ethical Issues	B. Legal and Ethical Issues	B. Legal and Ethical Issues	B. Legal and Ethical Issues	B. Legal and Ethical Issues		
Practice responsible and appropriate use of technology systems, software, and information	Practice responsible and appropriate use of technology systems, software, and information	Practice responsible and appropriate use of technology systems, software, and information	Practice responsible and appropriate use of technology systems, software, and information	Practice responsible and appropriate use of technology systems, software, and information		
Understand and follow the acceptable use policy	Understand and follow the acceptable use policy	a) Understand and follow the acceptable use policy	a) Understand and follow the acceptable use policy	Explain the purpose of and follow the acceptable use policy		
b) Work cooperatively and collaboratively with others when using technology in the classroom	b) Work cooperatively and collaboratively with others when using technology in the classroom	Work cooperatively and collaboratively with others when using technology in the classroom	b) Work cooperatively and collaboratively with others when using technology in the classroom	b) Work cooperatively and collaboratively with others when using technology in the classroom		
c) Recognize responsible use of technology systems and software  d) Demonstrate proper care of equipment (such as following lab	c) Recognize responsible use of technology systems and software (such as following lab rules, handling equipment with care)	c) Recognize responsible use of technology systems and software	c) Practice responsible use of technology systems and software	c) Practice responsible use of technology systems and software		
rules, handling equipment with care)	d) Demonstrate proper care of equipment (such as following lab rules, handling equipment with care)	d) Demonstrate proper care of equipment (such as following lab rules, handling equipment with care)	d) Demonstrate proper care of equipment (such as following lab rules, handling equipment with care)	d) Demonstrate proper care of equipment (such as following lab rules, handling equipment with care)		
	e) Use safe and correct security procedures (such as protecting password and user ID)	e) Recognize the potential harm of intrusive applications (such as viruses, pop-up windows, etc.)  D. Hannerfe and correct acquirity.	e) Recognize the potential harm of intrusive applications (such as viruses, pop-up windows, etc.)  f) Has a few and a great acquaits.	Recognize the potential harm of intrusive applications (such as worms, viruses, spyware, popup windows, etc.)		
		f) Use safe and correct security procedures (such as protecting password and user ID)	f) Use safe and correct security procedures (such as protecting password and user ID)	Use safe and correct security     procedures (such as protecting     password and user ID)		
2. Demonstrate an understanding of current legal standards	Demonstrate an understanding of current legal standards	Demonstrate an understanding of current legal standards	Demonstrate an understanding of current legal standards	Demonstrate an understanding of current legal standards		
Recognize social and ethical behaviors when using technology	Recognize social and ethical behaviors when using technology	Explore and discuss social and ethical behaviors when using technology (such as appropriate copying and pasting, giving credit for ideas, and identifying sources)	a) Demonstrate social and ethical behaviors when using technology (such as appropriate copying and pasting, legal downloading, intellectual property recognition, and obeying copyright laws)	Demonstrate social and ethical behaviors when using technology (such as appropriate copying and pasting, legal downloading, intellectual property recognition, and obeying copyright laws)		



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Pre-Kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3
		b) Discuss the importance of having access to current, accurate information	b) Discuss the importance of having access to current, accurate information	b) Discuss the importance of having access to current, accurate information
			c) Discuss the importance of respecting the rights of others regarding their work	c) Comply with copyright laws and fair use provisions
			d) Practice strategies for avoiding plagiarism	d) Practice strategies for avoiding plagiarism
			e) Cite sources of text and digital information used (such as URL, author, title, date, and publisher when available)	e) Cite sources of text and digital information used properly
3. Understand current online safety guidelines	Understand current online safety guidelines	Understand current online safety guidelines	3. Understand current online safety guidelines	Understand current online safety guidelines
a) Discuss safety issues related to use of the Internet	a) Discuss safety issues related to use of the Internet	a) Discuss safety issues related to use of the Internet     b) Recognize safe practices when	a) Discuss safety and privacy issues related to use of the Internet     b) Use safe and correct security	Understand that the Internet is a global community with guidelines
		working online  c) Recognize and understand the purpose of technology	procedures when working online (such as not disclosing personal information and protecting passwords)	b) Explain safety and privacy issues related to use of the Internet
		protection measures including filtering systems	c) Describe procedures for exiting an inappropriate site (such as clicking the home, turning off monitor, notifying an adult)	c) Use safe and correct security procedures when working online (such as not disclosing personal information and protecting passwords)
			d) Recognize and understand the purpose of technology protection measures including filtering systems	Describe procedures for exiting an inappropriate site (such as clicking the home, turning off monitor, notifying an adult)
				e) Understand the purpose of technology protection measures including filtering systems



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Grade 4		Grade 5	Gra	de 6	Grad	de 7	Grade 8	
A. Te	chnology and Society	A. Technology and Society	A. T	A. Technology and Society		echnology and Society	A.Technology and Society	
Explain how technology affects people and society		Explain how technology affects the individual and society		Explain how technology affects the individual and society		valuate how technology affects ne individual and society	Evaluate how technology affects the individual and society	
a)	Explain how technology (such as computers, cameras, calculators, television, CD-	Explain technology's influence on the individual and society	a)	Explain technology's influence on the individual and society	a)	Evaluate technology's influence on the individual and society	Evaluate technology's influent on the individual and society	
	ROM, and DVD) influences societies	b) Identify examples of technology's impact on the	b)	Identify examples of technology's impact on the environment	b)	Evaluate technology's impact on the environment	b) Evaluate technology's impact the environment	on
b)	Identify examples of how technology has affected the environment, past and	environment  c) Explain how technology tools	c)	Recommend ways technology can be used to meet the needs	c)	Evaluate the use of technology to solve a societal issue	c) Evaluate the use of technolog to solve a societal issue	ЭУ
	present	have been used to meet the needs of societies		of societies	d)	Propose a technological	d) Propose a technological solu to a societal issue	tion
c)	Explain how technology tools have or can be used to meet the needs of societies	Recommend ways     technology can be used to     meet the needs of societies				solution to a societal issue		
d)	Recommend ways technology can be used to meet the needs of societies							



**Standard 2.0 – Digital Citizenship**: Demonstrate an understanding of the history of technology and its impact on society, and practice ethical, legal, and responsible use of technology to assure safety.

Grad	e 4	Grad	de 5	Grad	de 6	Gra	ide 7	Grad	le 8
B. L	egal and Ethical Issues	B. L	egal and Ethical Issues	B. L	egal and Ethical Issues	B. I	Legal and Ethical Issues	B. Le	egal and Ethical Issues
ap sy	actice responsible and propriate use of technology stems, software, and formation	a <sub>l</sub> s	ractice responsible and ppropriate use of technology ystems, software, and formation	ap sy	ractice responsible and opropriate use of technology stems, software, and formation	a <sub>l</sub> s	ractice responsible and ppropriate use of technology ystems, software, and nformation	Practice responsible and appropriate use of technology systems, software, and information	
a)	Explain the purpose of and follow the acceptable use policy	a)	Explain the purpose of and follow the acceptable use policy	a)	Explain the purpose of and follow the acceptable use policy	a)	Explain the purpose of and follow the acceptable use policy	a)	Explain the purpose of and follow the acceptable use policy
b)	Work cooperatively and collaboratively with others when using technology	b)	Work cooperatively and collaboratively with others when using technology	b)	Work cooperatively and collaboratively with others when using technology	b)	Work cooperatively and collaboratively with others when using technology	b)	Work cooperatively and collaboratively with others when using technology
c)	Practice responsible use of technology systems	c)	Practice responsible use of technology systems	c)	Practice responsible use of technology systems	c)	Practice responsible use of technology systems	c)	Practice responsible use of technology systems
d)	Demonstrate proper care of equipment (such as following lab rules, handling equipment with care, appropriate printing of resources)	d)	Demonstrate proper care of equipment (such as following lab rules, handling equipment with care, appropriate printing of resources)	d)	Demonstrate proper care of equipment (such as following lab rules, handling equipment with care, appropriate printing of resources)	d)	Demonstrate proper care of equipment (such as following lab rules, handling equipment with care, appropriate printing of resources)	d)	Demonstrate proper care of equipment (such as following lab rules, handling equipment with care, appropriate printing of resources)
e)	Recognize the potential harm of intrusive applications (such as worms, viruses, spyware, popup windows, etc.)	e)	Recognize the potential harm of intrusive applications (such as worms, viruses, spyware, popup windows, etc.)	e)	Explain the potential harm of intrusive applications (such as worms, viruses, spyware, popup windows, etc.) and safeguards for limiting exposure to these	e)	Explain the potential harm of intrusive applications (such as worms, viruses, spyware, pop-up windows, etc.) and safeguards for limiting exposure to these	e)	Explain the potential harm of intrusive applications (such as worms, viruses, spyware, popup windows, etc.) and safeguards for limiting exposure to these
f)	Use safe and correct security procedures (such as protecting password and user ID)	f)	Use safe and correct security procedures (such as protecting password and user ID)	f)	Use safe and correct security procedures (such as protecting password and user ID)	f)	Use safe and correct security procedures (such as protecting password and user ID)	f)	Use safe and correct security procedures (such as protecting password and user ID)
	emonstrate an understanding current legal standards		emonstrate an understanding f current legal standards		emonstrate an understanding of urrent legal standards	2. Demonstrate an understanding of current legal standards			emonstrate an understanding current legal standards
a)	Demonstrate social and ethical behaviors when using technology (such as appropriate copying and pasting, legal	,	Comply with copyright laws and fair use provisions when using digital content	a)	Comply with copyright laws and fair use provisions when using digital content	a)	Comply with copyright laws and fair use provisions when using digital content	a)	Comply with copyright laws and fair use provisions when using digital content
	downloading, intellectual property recognition, and obeying copyright laws)	,	Use electronic resources appropriately (such as paraphrasing)	b)	Use electronic resources appropriately (such as paraphrasing)	b)	Use electronic resources appropriately (such as paraphrasing)	b)	Use electronic resources appropriately (such as paraphrasing)



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Gra	de 4	Grade 5	Grade 6	Grade 7	Grade 8
b)	Discuss the importance of having access to current, accurate information	c) Cite electronic sources of text and digital information properly (such as MLA, APA, Chicago)	c) Cite electronic sources of text and digital information properly (such as MLA, APA, Chicago)	c) Cite electronic sources of text and digital information properly (such as MLA, APA, Chicago)	c) Cite electronic sources of text and digital information properly (such as MLA, APA, Chicago)
c)	Comply with copyright laws and fair use provisions				
d)	Practice strategies for avoiding plagiarism when using digital content				
e)	Cite electronic sources of text and digital information properly				
	nderstand current Internet afety guidelines	Understand current Internet safety guidelines	Understand current Internet safety guidelines	3. Understand current Internet safety guidelines	Understand current safety standards
6	Understand that the Internet offers access to multiple digital communities with differing guidelines	Understand that the Internet offers access to multiple digital communities with differing guidelines	a) Understand that the Internet offers access to multiple digital communities with differing guidelines	a) Understand that the Internet offers access to multiple digital communities with differing guidelines	a) Understand that the Internet offers access to multiple digital communities with differing guidelines
	Explain safety and privacy issues elated to use of the Internet	b) Explain safety and privacy issues related to use of the Internet	b) Explain safety and privacy issues     related to use of the Internet	b) Explain safety and privacy issues related to use of the Internet	b) Explain safety and privacy issues related to use of the Internet
í (	Use safe and correct security procedures when working online such as not disclosing personal information and protecting passwords)	c) Use safe and correct security procedures when working online (such as not disclosing personal information and protecting passwords)	c) Use safe and correct security procedures when working online (such as not disclosing personal information and protecting passwords)	c) Use safe and correct security procedures when working online (such as not disclosing personal information and protecting passwords)	c) Use safe and correct security procedures when working online (such as not disclosing personal information and protecting passwords)
i	Describe procedures for exiting an nappropriate site (such as clicking he home, turning off monitor, notifying an adult)	<ul> <li>d) Describe procedures for exiting an inappropriate site (such as clicking the home, turning off monitor, notifying an adult)</li> </ul>	d) Describe procedures for exiting an inappropriate site (such as clicking the home, turning off monitor, notifying an adult)	d) Describe procedures for exiting an inappropriate site (such as clicking the home, turning off monitor, notifying an adult)	d) Describe procedures for exiting an inappropriate site (such as clicking the home, turning off monitor, notifying an adult)
ĺ t	Understand the purpose of echnology protection measures including filtering systems	e) Understand the purpose of technology protection measures including filtering systems	e) Practice privacy guidelines     f) Explain the importance of firewalls and filtering systems	e) Practice privacy guidelines     f) Explain the importance of firewalls and filtering systems	e) Practice privacy guidelines     f) Explain the importance of firewalls and filtering systems



Pre-kindergarten		Kindergarten	Grade	1	Grade	2	Grade 3		
	earning	A. Learning	A. Lea	rning	A. Le	arning	A. L	earning	
Explore and use technology tools in an instructional setting for learning		Explore and use technology tools in an instructional setting for learning		e and understand how hnology enhances learning		Jse and understand how echnology enhances learning	Use and explain how the technology enhances learning		
a)	Explore and use teacher- selected technology tools, including software and hardware, to learn new content or reinforce skills	Explore and use teacher- selected technology tools, including software and hardware, to learn new content or reinforce skills	a)	Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills	a)	Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills	a)	Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills	
b)	Explore teacher-selected, technology tools that enhance learning	b) Use teacher- selected, technology tools that enhance learning	b)	Describe ways selected technology tools are being used to support learning	b)	Describe ways selected technology tools are being used to support learning	b)	Explain how selected technology tools are being used to support learning	
c)	Reflect and discuss, as part of a larger group, on the appropriateness of the selected technology for the given task *	c) Reflect and discuss, as part of a larger group, on the appropriateness of the selected technology for the given task *	c)	Reflect and discuss, as part of a larger group, on the appropriateness of the selected technology for the given task *	c)	Reflect, as an individual or as part of a larger group, on appropriateness of selected technology for the given task *	c)	Reflect as an individual on appropriateness of selected technology for the given task *	
	g.vo.r.taok	given desk		given task	d)	Reflect and discuss how technology tools are used to collect information *	d)	Describe how technology tools are used to collect information *	
					e)	Assess the use of the selected technology for individual learning for the specific task *	e)	Assess the use of the selected technology for individual learning for the specific task *	



Pre-Ki	indergarten	Kinder	garten	Grade	: 1	Grade	2	Grade	3
B. Co	llaboration	B. Co	llaboration	B. Co	llaboration	B. Collaboration		B. Col	laboration
Explore and use technology in an instructional setting to encourage collaboration		Explore and use technology in an instructional setting to encourage collaboration		Use and understand how technology encourages collaboration		Use and understand how technology encourages collaboration		Use and explain how technology tools encourage collaboration	
a)	Participate in a class or small group lessons using technology for shared writing or language experience stories	a)	Participate in a class or small group lessons using technology for shared writing or language experience stories	a)	Participate in class lessons using technology for brainstorming and shared writing	a)	Explain how selected technology tools are being used to enhance collaboration	a)	Use technology tools to work collaboratively within the classroom
b)	Participate in a class lesson using technology tools exploring, collecting, and displaying data *	b)	Participate in a class lesson using technology tools exploring, collecting, and displaying data *	b)	Participate in a class lesson using technology tools to collect, display, and interpret data *	b)	Participate in a class lesson using technology tools to collect, display, and interpret data *	b)	Use technology tools to exchange ideas with individuals or groups outside of the classroom
c)	Reflect and discuss the advantages of collaboration supported by technology tools	c)	Reflect and discuss the advantages of collaboration supported by technology tools	c)	Reflect and discuss the advantages of collaboration supported by technology tools	c)	Articulate the advantages of collaboration supported by technology tools	c)	Participate as part of a class in online collaborative projects or information exchanges
								d)	Articulate the advantages of collaboration supported by technology tools



Pre-Kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3
C. Increase Productivity	C. Increase Productivity	C. Increase Productivity	C. Increase Productivity	C. Increase Productivity
Explore and use technology increase productivity		Use and understand how technology increases productivity	Use and understand how technology increases productivity	Use and explain how technology tools increase productivity
a) Use appropriate technology tools to support learning goal	a) Use appropriate technology tools to support learning goals	Describe ways the selected technology tools are being used to support learning goals	Describe ways the selected technology tools are being used to support learning goals and accomplish tasks	Explain how the selected technology tools are being used to accomplish tasks efficiently
b) Identify that a variety of form of digital content (CDs, DVE websites, videos) can be us to learn information about a subject.	of digital content (CDs, DVDs,	b) Use templates provided by the teacher to complete learning assignments	b) Use templates, provided by the teacher, or create new documents to complete learning assignments	b) Use templates or create new documents to complete learning assignments
		c) Edit work created using concept mapping, word processing, or presentation software	c) Collect data using technology such as online surveys and digital technology *	c) Collect, analyze, and display data and information using tools, such as calculators, spreadsheets, and graphing programs *
		d) Collect, analyze, and display data and information using electronic tools (such as calculators, spreadsheets and graphing programs) *	d) Analyze, and display data and information using tools, such as calculators, spreadsheets, and graphing programs *	d) Use suitable electronic resources to edit final copies of texts for correctness in language usage and conventions, such as capitalization, punctuation, and spelling
		e) Identify electronic sources of information on a topic *	e) Use various electronic information retrieval sources to obtain information on a topic *	e) Use various electronic information retrieval sources to obtain information on a topic *
		f) Use teacher-identified resources to collect information using print and non-print resources as a class or in a small group *		.55.5



G	rade 4	Grade 5	Gra	de 6	Gra	de 7	Gra	ade 8
A	. Learning	ning A. Learning A. Learning A. Learning		Learning	A.	Learning		
1	. Use and explain how technology tools enhance learning	Select and use technology tools to enhance learning		Select and use technology tools o enhance learning		elect and use technology tools o enhance learning		Select and use technology tools to enhance learning
а	<ol> <li>Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills.</li> </ol>	a) Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills	a)	Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills	a)	Use technology tools, including software and hardware, to learn new content or reinforce skills	a)	Use technology tools, including software and hardware, to learn new content or reinforce skills
b	Explain how selected technology tools are being used to support learning	b) Explain why specific technology tools were selected to support learning	b)	Explain why specific technology tools were selected to support learning	b)	Defend the selection of a specific technology tool to complete a learning task	b)	Defend the selection of a specific technology tool to complete a learning task
С	Reflect as an individual on appropriateness of selected technology for the given task	c) Assess the use of the selected technology for individual learning of the specific task	c)	Assess the use of the selected technology for individual learning of the specific task				
d	) Describe how technology tools are used to collect information							
е	Assess the use of the selected technology for individual learning of the specific task							



(	Grade	4	Grade 5	Grade	6	Grade	7	Gr	ade 8
E	B.Encourage Collaboration		B. Encourage Collaboration	B. Encourage Collaboration		B.Encourage Collaboration		B. Encourage Collaboration	
1	Use and explain how selected technology tools encourage collaboration		Select and use technology tools to encourage collaboration		. Select and use technology tools to encourage collaboration		Select and use technology tools to encourage collaboration		Select and use technology tools to encourage collaboration
	a)	Use technology tools to work collaboratively within the classroom	Use technology tools to work collaboratively within the school community	a)	Use technology tools to work collaboratively within the school community	a)	Use technology tools to work collaboratively within the school community		Use technology tools to work collaboratively within the school community
	b)	Use technology tools to exchange ideas with individuals or groups outside of the classroom	b) Use technology tools to exchange ideas with individuals or groups outside of the school community	b)	Use technology tools to exchange ideas with individuals or groups outside of the school community	b)	Use technology tools to exchange ideas with individuals or groups outside of the school community		b) Use technology tools to exchange ideas with individuals or groups outside of the school community
	c)	Articulate the advantages of collaboration supported by technology tools	c) Articulate the advantages of collaboration supported by technology tools	c)	Articulate the advantages of collaboration supported by technology tools	c)	Articulate the advantages of collaboration supported by technology tools		c) Articulate the advantages of collaboration supported by technology tools



Grade	4	Grade 5	Grade		Grade		Grade	-
C. In	crease Productivity	C. Increase Productivity	C. Inc	crease Productivity	C. Inc	rease Productivity	C. Inc	crease Productivity
	Use and explain how technology tools increase productivity	Select and use technology tools to increase productivity		Select and use technology tools to increase productivity	1	Select and use technology tools to increase productivity		Select and use technology tools to increase productivity  Defend the selected
a)	Explain how the selected technology tools are being used to accomplish tasks efficiently *	a) Explain why the selected technology tools are being used to accomplish tasks efficiently *	a)	Explain why the selected technology tools are being used to accomplish tasks efficiently *	a)	Defend the selected technology tools to complete tasks efficiently *	a)	technology tools to complete tasks efficiently *
b)	Create new documents to complete learning assignments	b) Create new documents to complete learning assignments and demonstrate new understanding	b)	Create new documents to complete learning assignments and demonstrate new understanding	b)	Create new documents to complete learning assignments and demonstrate new understanding	b)	Create new documents to complete learning assignments and demonstrate new understanding
c)	Collect, analyze, and display data and information using tools, such as calculators, spreadsheets, graphing programs, and databases *	c) Input and analyze information in a spreadsheet or database *	c)	Input and analyze information in a spreadsheet or database *	c)	Input and analyze information in a spreadsheet or database *	c)	Input and analyze information in a spreadsheet or database *
d)	Input and analyze information in a predefined spreadsheet or database *	d) Use suitable electronic resources to refine presentations and edit texts for effective and appropriate use of language conventions, such as capitalization, punctuation, spelling, and pronunciation		Use suitable electronic resources to refine presentations and edit texts for effective and appropriate use of language conventions, such as capitalization, punctuation, spelling, and pronunciation	d)	Use suitable electronic resources to refine presentations and edit texts for effective and appropriate use of language conventions, such as capitalization, punctuation, spelling, and pronunciation	d)	Use suitable electronic resources to refine presentations and edit texts for effective and appropriate use of language conventions, such as capitalization, punctuation, spelling, and pronunciation
e)	Use suitable electronic resources to edit final copies of texts for correctness in language usage and	e) Use word processing technology when appropriate	e)	Use word processing technology when appropriate	e)	Use word processing technology when appropriate	e)	Use word processing technology when appropriate
	conventions, such as capitalization, punctuation, and spelling	f) Collect, manipulate, analyze, and display data and information using tools, such as calculators and computers *	f)	Collect, manipulate, analyze, and display data and information using tools, such as calculators and computers *	f)	Collect, manipulate, analyze, and display data and information using tools, such as calculators and computers *	f)	Collect, manipulate, analyze, and display data and information using tools such as calculators and computers *
f)	Use various electronic information retrieval sources to obtain information on a topic *							



Pre-kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3
A. Communication	A. Communication	A. Communication	A. Communication	A. Communication
Explore how technology is used for communication	Explore how technology is used for communication	Use and explain how technology is used for communication	Use and explain how technology is used for communication	1. Use technology for communication
Recognize that technology helps with communication at home	Recognize that technology helps with communication at home	a) Identify technology tools that help gather information, share ideas, and respond to questions *	a) Identify technology tools that help gather information, share ideas, and respond to questions*	a) Explain how communication tools help gather information, share ideas, and respond to questions when communicating with various audiences, including school, community, parents, and experts *
b) Recognize that technology helps with communication at school	b) Recognize that technology helps with communication at school	b) Use technology tools identified by the teacher to communicate with various audiences	b) Use technology tools identified by the teacher to communicate with various audiences	b) Use technology tools identified by the teacher to communicate with various audiences
		c) Present information, with assistance, to various audiences including school and community	c) Present information, with assistance, to various audiences including school and community	c) Present information, independently or with assistance, to various audiences including school and community
Explore the various media formats used in daily life	Explore the various media formats used in daily life	Use and explain the variety of media formats	Use and explain the variety of media formats	Use and explain the purposes of different media formats
Recognize that various media formats are used to communicate ideas (such as CD, DVD, VHS, digital, and analog)	Recognize that various media formats are used to communicate ideas (such as CD, DVD, VHS, digital, and analog)	a) Identify various media formats to communicate and share ideas (such as CD, DVD, VHS, digital, and analog)	a) Communicate with various audiences, independently or with assistance, using different media formats	a) Communicate independently, with various audiences, using different media formats
		Use various media formats, with assistance, to communicate and share ideas	b) Explain the purpose for a chosen media format	b) Explain the purpose for a chosen media format



Pre-Ki	ndergarten	Kindergarten	Grade	1	Grade	2	Grade	3
	B. Expression B. Expression		B. Expression		B. Expression		B. Expression	
	Explore and use technology in an instructional setting to express ideas	Explore and use technology in an instructional setting to express ideas		Use and understand how technology can be used to express ideas	1	Use and understand how technology can be used to express ideas		Use and explain how the technology can be used to express ideas
a)	Use multimedia tools to express original ideas with print, drawings, digital images, sounds, and/or personal recordings	Use multimedia tools to express original ideas with print, drawings, digital images, sounds, and/or personal recordings	a)	Use multimedia tools to express original ideas with print, drawings, digital images, existing video, sounds, and/or personal recordings	a)	Use multimedia tools to express original ideas with print, drawings, digital images, existing video, sounds, and/or personal recordings	a)	Use multimedia and publishing tools to express original ideas with print, drawings, digital images, existing or original video, sounds, and/or personal recordings
b)	Prepare writing and data for display with tools such as visual organizer, word processing, or multimedia software *	b) Prepare writing and data for display with tools such as visual organizer, word processing, or multimedia software *	b)	Prepare writing and data for display with tools such as visual organizer, word processing, or multimedia software *	b)	Prepare writing and data for display with tools such as visual organizer, word processing, or multimedia software *	b)	Present ideas and information in formats such as electronic presentations, web pages, or graphic organizers that are appropriate to a specific audience *
					c)	Change, edit, and revise graphs, graphics, presentations, and word processing documents *	c)	Change, edit, and revise graphs, graphics, presentations, and word processing documents *



Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
C. Communication	A. Communication	A. Communication	A. Communication	A. Communication
Use technology for communication	Select and use technology for communication	Select and use technology for communication	Select and use technology for communication	Select and use technology for communication
a) Use communication tools identified by the teacher to help gather information, share ideas, and respond to questions when communicating with various audiences, including school, community, parents, and experts*	a) Use communication tools (such as e-mail, discussion boards, online conferences, Learning Management Systems, portfolios) to gather information, share ideas, and respond to questions *	a) Use communication tools (such as e-mail, discussion boards, online conferences, Learning Management Systems, portfolios) to gather information, share ideas, and respond to questions *	Use communication tools     (such as e-mail, discussion     boards, online conferences,     Learning Management     Systems, portfolios) to gather     information, share ideas, and     respond to questions *	a) Use communication tools (such as e-mail, discussion boards, online conferences, Learning Management Systems, portfolios) to gather information, share ideas, and respond to questions *
b) Present information, independently or with assistance, to various audiences including school and community	b) Present information independently to various audiences	Present information independently to various audiences	b) Present information independently to various audiences	Present information independently to various audiences
Community	c) Evaluate the appropriateness of media formats for various purposes *	c) Evaluate the appropriateness of media formats for various purposes *	c) Evaluate the appropriateness of media formats for various purposes *	c) Evaluate the appropriateness of media formats for various purposes*
Use and explain the purposes of different media formats				
a) Communicate independently with various audiences using different media formats				
b) Explain the purpose for a chosen media format				



Grade 4		Grade 5		Grade	6	Grade	7	Grade 8	
В.	Expression	B. Expression		Expression D. Expression		B. Expression		B. Expression	
Use and explain how technology can be used to express ideas			ect and use technology to ress ideas		ect and use technology to ress ideas		lect and use technology to press ideas	Select and use technology to express ideas	
a)	Use multimedia and publishing tools to express original ideas with print, drawings, digital images, existing or original video, sounds, and/or personal recordings	a)	Select and use the appropriate multimedia and publishing tools to express original ideas with print, drawings, digital images, video, sounds, and/or personal recording	a)	Select and use the appropriate multimedia and publishing tools to express original ideas with print, drawings, digital images, video, sounds, and/or personal recordings	a)	Select and use the appropriate multimedia and publishing tools to express original ideas with print, drawings, digital images, video, sounds, and/or personal recordings	a)	Select and use the appropriate multimedia and publishing tools to express original ideas with print, drawings, digital images, video, sounds, and/or personal recordings
b)	Present ideas and information in formats such as electronic presentations, web pages or graphic organizers that are appropriate to a specific audience *	b)	Present ideas and information in formats such as electronic presentations, web pages, graphic organizers, or spreadsheets that are appropriate to a specific audience *	b)	Present ideas and information in formats such as electronic presentations, web pages, graphic organizers, or spreadsheets that are appropriate to a specific audience *	b)	Present ideas and information in formats such as electronic presentations, web pages, graphic organizers, or spreadsheets that are appropriate to a specific audience *	b)	Present ideas and information in formats such as electronic presentations, web pages, graphic organizers, or spreadsheets that are appropriate to a specific audience *
c)	Change, edit, and revise graphs, graphics, presentations, and word processing documents *	c)	Change, edit, and revise graphs, graphics, presentations, and word processing documents *	c)	Change, edit, and revise graphs, graphics, presentations, and word processing documents *	c)	Change, edit, and revise graphs, graphics, presentations, and word processing documents *	c)	Change, edit, and revise graphs, graphics, presentations, and word processing documents
		d)	Evaluate student-created product design based on purpose, audience, and format*	d)	Evaluate student-created product design based on purpose, audience, and format*	d)	Evaluate student-created product design based on purpose, audience, and format*	d)	Evaluate student-created product design based on purpose, audience, and format*



**Standard 5.0 – Technology for Information Use and Management**: Use technology to locate, evaluate, gather, and organize information and data.

Pre-kindergarten		Kinde	ergarten	Gı	rade 1		Grad	de 2	Gra	Grade 3	
A. Locate, Evalu Information/	uate, and Gather /Data		Locate, Evaluate, and Ga Information/Data	ther A.		ate, Evaluate, and Gather ormation/Data	A.	Locate, Evaluate, and Gather Information/Data		Locate, Evaluate, and Gather Information/Data	
Explore and use age- appropriate information resources available through technology with assistance		1.	Explore and use age- appropriate information resources available thro technology with assista	ugh	ap <sub>l</sub> res	plore and use age- propriate information cources available through chnology		Explore and use age- appropriate information resources available through technology	1.	Use and evaluate information resources available through technology independently or with assistance	
from tea technolo as pictu	elevant information acher-selected ogy resources (such re interface ses and bookmarked		a) Select relevant information from tea selected technology resources (such as p interface databases a bookmarked files) *	cture	a)	Select relevant information from appropriate technology resources (such as databases, library catalogs, and electronic reference materials) *		a) Select relevant information from appropriate technology resources (such as databases, library catalogs, and electronic reference materials) *		a) Select relevant information from appropriate technology resources *	
resource using th as print	and that electronic es can be evaluated he same strategies resources (such as fiction, author, ease		b) Understand that electronic resources be evaluated using the same strategies as peresources (such as favs. fiction, author, eause)	e int ct	b)	Explain evaluation strategies when using electronic resources (such as publication date, fact vs. fiction, author, ease of use)		b) Explain evaluation strategies when using electronic resources (such as publication date, fact vs. fiction, author, ease of use)		b) Select and read to gain information from electronic personal interest materials, such as brochures, books, magazines, cookbooks, and web sites *	
c) Collect of technology	data using ogy *		c) Collect data using technology *		c)	Collect data using technology *		c) Collect data using technology *		c) Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source credibility, ease of use)	
										d) Understand library catalog search strategies	
										e) Understand search strategies for age- appropriate Web search engines/directories	
										f) Collect data using technology *	



**Standard 5.0 – Technology for Information Use and Management**: Use technology to locate, evaluate, gather, and organize information and data.

Pr	Pre-Kindergarten		dergarten	Grade 1		Grade	e 2	Grade 3	3
В.	Organize Information/Data	B. Organize Information/Data			ganize Information/Data	B.	Organize Information/Data	B. O	rganize Information/Data
1.	Use technology tools to organize information	J			Use technology tools to organize information		Use technology tools to organize information		and evaluate technology Is to organize information
	a) Describe how technology tools are used to organize and display information/data *	a)	Describe how technology tools are used to organize information/collect data *	a)	Participate, as part of a class, in organizing information using technology tools (such as graphic organizers and slide presentations) *		a) Participate, as part of a class, in organizing information using technology tools (such as graphic organizers and slide presentations) *	a)	Use technology tools, independently or with assistance, to support notetaking*
				b)	Describe how technology tools are used to organize information/collect data *		b) Use teacher-selected technology tools to organize information/collect data *	b)	Use technology tools, independently or with assistance, to support data collection *
				c)	Reflect, as part of a larger group, on the appropriateness of the selected technology tool(s) for organizing information *		c) Describe how technology tools are used to organize information/collect data *	c)	Describe how technology tools are used to organize information/collect data *
							d) Reflect, as part of a larger group, on the appropriateness of the selected technology tool(s) for organizing information *	d)	Evaluate the effectiveness of technology tools for organizing information *



**Standard 5.0 – Technology for Information Use and Management**: Use technology to locate, evaluate, gather, and organize information.

Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	A. Locate, Evaluate, and Gather Information		A. Locate, Evaluate, and Gather Information		A. Locate, Evaluate, and Gather Information		A. Locate, Evaluate, and Gather Information		te, Evaluate, and Gather mation
Use and evaluate information resources available through technology, independently or with assistance		Select and use information resources available through technology		Select and use information resources available through technology		resou	t and use information urces available through nology	Select and use information resources available through technology	
a)	Select relevant information from appropriate technology resources *	,	Select relevant information from appropriate technology resources *	a)	Select relevant information from appropriate technology resources *	a)	Select relevant information from appropriate technology resources *	a)	Select relevant information from appropriate technology resources *
b)	Select and read to gain information from electronic personal interest materials, such as brochures, books, magazines, cookbooks, and web sites	·	Select and read to gain information from electronic personal interest materials, such as brochures, books, magazines, cookbooks, and web sites	b)	Select and read to gain information from electronic personal interest materials, such as brochures, books, magazines, cookbooks, and web sites	b)	Select and read to gain information from electronic personal interest materials, such as brochures, books, magazines, cookbooks, web sites, and other online materials	b)	Select and read to gain information from electronic personal interest materials, such as brochures, books, magazines, cookbooks, web sites, and other online materials
c)	Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source, credibility, ease of use)	,	Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source, credibility, ease of use)	c)	Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source, credibility, ease of use)	c)	Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source, credibility, ease of use)	c)	Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source, credibility, ease of use)
d)	Understand library catalog search strategies	,	Understand library catalog search strategies	d)	Refine library catalog search strategies	d)	Refine library catalog search strategies	d)	Refine library catalog search strategies
e)	Understand search strategies for age- appropriate Web search engines/directories	,	Understand search strategies for age- appropriate Web search engines/directories	e)	Refine search strategies for Web search engines/ directories	e)	Refine search strategies for Web search engines/ directories	e)	Refine search strategies for Web search engines/ directories



#### **Standard 5.0 – Technology for Information Use and Management**: Use technology to locate, evaluate, gather, and organize information.

Grad	e 4	Grade 5	Grade	e 6	Grade	7	Grade 8		
B. C	rganize information	B. Organize information		B. Organize information		B. Organize information		B.Organize information	
Use and evaluate technology tools to organize information		Select and use technology tools to organize information		Select and use technology tools to organize information		ect and use technology Is to organize information	1. Select and use technology too to organize information		
a)	Use technology tools independently to support note-taking *	a) Use technology tools to support note-taking *	a)	Use appropriate technology tools to support information organization *	a)	Use appropriate technology tools to support information organization *	a)	Use appropriate technology tools to support information organization*	
b)	Use technology tools independently to support data collection *	b) Use technology tools to support data collection *	b)	Explain why specific technology tools were selected to organize information *	b)	Defend the selection of the specific technology tool to organize information *	b)	Defend the selection of the specific technology tool to organize information *	
c)	Describe how technology tools are used to organize information *	c) Explain why specific technology tools were selected to organize information *	c)	Evaluate the use of the selected technology for the specific task*					
d)	Evaluate the effectiveness of technology tools for organizing information *	d) Evaluate the use of the selected technology for the specific task *							



**Standard 6.0 – Technology for Problem-Solving and Decision-Making**: Demonstrate ability to use technology and develop strategies to solve problems and make informed decisions

Components of a Problem Solving Process Supported by Technology

A. Investigate Problems and Propose Solutions

- 1. Understand the Problem
- 2. Devise a Plan
- 3. Carry Out the Plan
- 4. Analyze Data
- 5. Communicate Conclusion
- B. Examine the Solution

The components of the problem solving process are the same for all disciplines and across all grade levels. Academic rigor comes from the complexity of the problem and the technology used to solve the problem.

Pre-Kindergarten  A. Investigate Problems and Propose Solutions	Kindergarten  A. Investigate Problems and Propose Solutions	Grade 1  A. Investigate Problems and Propose Solutions	Grade 2  A. Investigate Problems and Propose Solutions	Grade 3  A. Investigate Problems and Propose Solutions		
1. Understand the Problem	1. Understand the Problem	1. Understand the Problem	1. Understand the Problem	1. Understand the Problem		
With the guidance of the teacher, students understand that there are different types of problems and that technology can help identify the type of problem and the data needed to answer that type of problem	With the guidance of the teacher, students understand that there are different types of problems and that technology can help identify the type of problem and the data needed to answer that type of problem	With the guidance of the teacher, students use technology to help identify the type of problem and the data needed to answer that type of problem	With the guidance of the teacher, students use technology to help identify the type of problem and the data needed to answer that type of problem	With the guidance of the teacher, students use technology to help identify the type of problem and the data needed to answer that type of problem		



**Standard 6.0 – Technology for Problem-Solving and Decision-Making**: Demonstrate ability to use technology and develop strategies to solve problems and make informed decisions

Pre-Kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3
2. Devise a Plan	2. Devise a Plan	2. Devise a Plan	2. Devise a Plan	2. Devise a Plan
<ul> <li>With the guidance of the teacher, use technology to record questions</li> <li>Participate in a class lesson to identify sources of information, including technology, to answer questions</li> </ul>	With the guidance of the teacher, use technology to record questions     Participate in a class lesson to identify sources of information, including technology, to answer questions	<ul> <li>With the guidance of the teacher, use technology to record questions</li> <li>Identify which technology tools can be used to gather observations of a subject</li> </ul>	Use technology to record questions  Identify sources of information, including technology resources, to gather information	<ul> <li>Use technology to record questions</li> <li>Identify which technology tools can be used to gather information</li> </ul>
3. Carry Out the Plan	3. Carry Out the Plan	3. Carry Out the Plan	3. Carry Out the Plan	3. Carry Out the Plan
Participate in a class lesson using technology to explore collecting data	Participate in a class lesson using technology tools to explore collecting data	Identify technology tools that help gather information	Identify technology tools that help gather information	Explain how electronic tools help gather information from various audiences
Select relevant information from teacher-selected technology resources	Select relevant information from teacher-selected technology resources	Participate in a class lesson using technology tools to collect data      Use electronic tools to collect data	Participate in a class lesson using technology tools to collect data      Use electronic tools to collect data	Use electronic tools to collect data     Select relevant information from
	Describe how technology tools are used to collect data	Identify electronic sources of information	Select relevant information from appropriate technology resources	appropriate technology resources
		Select relevant information from appropriate technology resources	Use teacher-selected technology tools to collect data	
		Describe how technology tools are used to collect data		



**Standard 6.0 – Technology for Problem-Solving and Decision-Making**: Demonstrate ability to use technology and develop strategies to solve problems and make informed decisions

Pre-Kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3
4. Analyze Data	4. Analyze Data	4. Analyze Data	4. Analyze Data	4. Analyze Data
Describe how technology tools are used to organize data	Describe how technology tools are used to organize data	<ul> <li>Participate in a class lesson using technology tools to interpret data</li> <li>Use electronic tools to analyze data</li> <li>Describe how technology tools are used to organize information</li> </ul>	<ul> <li>Use various electronic information retrieval sources to obtain information on a topic</li> <li>Participate in a class lesson using technology tools to interpret data</li> <li>Use electronic tools to organize and analyze data</li> </ul>	<ul> <li>Use various electronic information retrieval sources to obtain information on a topic</li> <li>Use electronic tools to analyze data</li> </ul>
5. Communicate Conclusion	5. Communicate Conclusion	5. Communicate Conclusion	5. Communicate Conclusion	5. Communicate Conclusion
<ul> <li>Determine how data will be displayed</li> <li>Participate in a class lesson using technology tools to display data</li> <li>Describe how technology tools are used to display data</li> <li>Recognize that various media formats are used to communicate conclusions</li> </ul>	<ul> <li>Participate in a class lesson using technology tools to display data</li> <li>Recognize that various media formats are used to communicate conclusions</li> </ul>	<ul> <li>Participate in a class lesson using technology tools to display data</li> <li>Use electronic tools to display data</li> <li>Identify various media formats to communicate information</li> <li>Use various media formats, with assistance, to communicate conclusions</li> </ul>	<ul> <li>Participate in a class lesson using technology tools to display data</li> <li>Use electronic tools to display data</li> <li>Communicate conclusions with various audiences, independently or with assistance, using different media formats</li> </ul>	Use electronic tools to display data     Communicate conclusions with various audiences using different media formats
B Examine the Solution	B Examine the Solution	B Examine the Solution	B Examine the Solution	B Examine the Solution
Reflect and discuss, as part of a larger group, on the appropriateness of the selected technology for the given task	Reflect and discuss, as part of a larger group, on the appropriateness of the selected technology for the given task	Reflect and discuss, as part of a larger group, on the appropriateness of the selected technology for the given task	Articulate the advantages of using technology tools to gather, analyze, and communicate conclusions	Articulate the advantages of using technology tools to gather, analyze, and communicate conclusions
Reflect and discuss the advantages of using technology tools to gather, analyze, and communicate conclusions	Reflect and discuss the advantages of using technology tools to gather, analyze, and communicate conclusions	Reflect and discuss the advantages of using technology tools to gather, analyze, and communicate conclusions	Assess the use of the selected technology for gathering data, analyzing data, and communicating conclusions	Assess the use of the selected technology for gathering data, analyzing data, and communicating conclusions

Accepted by the Maryland State Board of Education on February 27, 2007 Bulleted items identify possible integration of technology integration in the problems solving and decision making process



**Standard 6.0 – Technology for Problem-Solving and Decision-Making**: Demonstrate ability to use technology and develop strategies to solve problems and make informed decisions

Components of a Problem Solving Process Supported by Technology

#### A. Investigate Problems and Propose Solutions

- 1. Understand the Problem
- 2. Devise a Plan
- 3. Carry Out the Plan
- 4. Analyze Data
- 5. Communicate Conclusion

#### **B.** Examine the Solution

The components of the problem solving process are the same for all disciplines and across all grade levels. Academic rigor comes from the complexity of the problem and the technology used to solve the problem.

Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
A. Investigate Problems and				
Propose Solutions				
1. Understand the Problem				
Use technology to help identify the				
type of problem and the data				
needed to answer that type of				
problem	problem	problem	problem	problem



**Standard 6.0 – Technology for Problem-Solving and Decision-Making**: Demonstrate ability to use technology and develop strategies to solve problems and make informed decisions

Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
2. Devise a Plan	2. Devise a Plan	2. Devise a Plan	2. Devise a Plan	2. Devise a Plan
Describe how technology tools are used to collect information	Identify possible technology tools to gather data	Identify possible technology tools to gather data	Identify possible technology tools to gather data	Identify possible technology tools to gather data
Use technology to help formulate a research question about a problem/situation that requires further study	Use technology to help formulate a research question about a problem/situation that requires further study	Use technology to help formulate a research question about a problem/situation that requires further study	Use technology to help formulate a research question about a problem/situation that requires further study	Use technology to help formulate a research question about a problem/situation that requires further study
Use technology to develop a plan for how to answer questions about a problem/situation that requires further study	Use technology to develop a plan for how to answer questions about a problem/situation that requires further study	<ul> <li>Use technology to develop a plan for how to answer questions about a problem/situation that requires further study</li> </ul>	Use technology to develop a plan for how to answer questions about a problem/situation that requires further study	Use technology to develop a plan for how to answer questions about a problem/situation that requires further study
Identify technology resources to gather information about a problem/situation that requires further study	Identify technology resources to gather information about a problem/situation that requires further study	<ul> <li>Identify technology resources to gather information about a problem/situation that requires further study</li> </ul>	Identify technology resources to gather information about a problem/situation that requires further study	Identify technology resources to gather information about a problem/situation that requires further study
	Select an appropriate technology tool to gather data	Select an appropriate technology tool to gather data	Select an appropriate technology tool to gather data	Select an appropriate technology tool to gather data
3. Carry Out the Plan	3. Carry Out the Plan	3. Carry Out the Plan	3. Carry Out the Plan	3. Carry Out the Plan
Collect data and information using technology tools	Collect data and information using technology tools	Collect data and information using technology tools	Collect data and information using technology tools	Collect data and information using technology tools
Use communication tools identified by the teacher to help gather information	Use communication tools to gather information	Use communication tools to gather information	Use communication tools to gather information	Use communication tools to gather information
Apply evaluation strategies when using electronic resources	Apply evaluation strategies when using electronic resources	Apply evaluation strategies when using electronic resources	Apply evaluation strategies when using electronic resources	Apply evaluation strategies when using electronic resources
Make and record observations using technology	Make and record observations using technology	<ul> <li>Make and record observations using technology</li> </ul>	Make and record observations using technology	Make and record observations using technology



**Standard 6.0 – Technology for Problem-Solving and Decision-Making**: Demonstrate ability to use technology and develop strategies to solve problems and make informed decisions

Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
4. Analyze Data	4. Analyze Data	4. Analyze Data	4. Analyze Data	4. Analyze Data
Analyze information using technology tools	Analyze information using technology tools	Analyze information using technology tools	Analyze information using technology tools	Analyze information using technology tools
<ul> <li>Input and analyze information in a predefined spreadsheet or database</li> </ul>	Input and analyze information in a spreadsheet or database	Input and analyze information in a spreadsheet or database	Input and analyze information in a spreadsheet or database	Input and analyze information in a spreadsheet or database
Describe how technology tools are used to organize information	Explain why specific technology tools were selected to organize information	Explain why specific technology tools were selected to organize information	Defend the selection of the specific technology tool to organize information	Defend the selection of the specific technology tool to organize information
5. Communicate Conclusion	5. Communicate Conclusion	5. Communicate Conclusion	5. Communicate Conclusion	5. Communicate Conclusion
Display data and information using technology tools	Display data and information using technology tools	Display data and information using technology tools	Display data and information using technology tools	Display data and information using technology tools
Use communication tools identified by the teacher to communicate conclusions	Use communication tools to communicate conclusions	Use communication tools to communicate conclusions	Use communication tools to communicate conclusions	Use communication tools to communicate conclusions
<ul> <li>Present information and conclusions in formats that are appropriate to a specific audience</li> </ul>	Present information and conclusions in formats that are appropriate to a specific audience	Present information and conclusions in formats that are appropriate to a specific audience	Present information and conclusions in formats that are appropriate to a specific audience	Present information and conclusions in formats that are appropriate to a specific audience
B Examine the Solution	B Examine the Solution	B Examine the Solution	B Examine the Solution	B Examine the Solution
<ul> <li>Assess the use of the selected technology for individual learning of the specific task</li> </ul>	Assess the use of the selected technology for individual learning of the specific task	Assess the use of the selected technology for individual learning of the specific task	Defend the use of the selected technology for individual learning of the specific task	Defend the use of the selected technology for individual learning of the specific task
Explain the purpose for a chosen media format when communicating data	Evaluate the appropriateness of media formats for communicating data	Evaluate the appropriateness of media formats for communicating data	Evaluate the appropriateness of media formats for communicating data	Evaluate the appropriateness of media formats for communicating data