Iron Mountain Public Schools Standards (modified METS) - K-8 Checklist by Grade Levels

O = Teacher Observation	P = Portfolio Evidence	A = Formal Assessment	C = Technology Literacy Class

Grades K through 2 – Technology Standards and Expectations – (by the end of Grade 2)									
1. Basic Operations and Concepts. **a. Students demonstrate a sound understanding of the nature and operation of technology systems.**	**K**	**1**	**2**						
1. Students understand that people use many types of technologies in their daily lives (e.g., computers, cameras, audio/video players, phones, televisions).									
2. Students identify common uses of technology found in daily life.									
3. Students recognize, name, and label the major hardware components in a computer system (e.g., computer, monitor, keyboard, mouse, and printer).									
4. Students identify the functions of the major hardware components in a computer system.									
5. Students discuss the basic care of computer hardware and various media types (e.g., diskettes, CDs, DVDs, videotapes).									
6. Students proofread and edit their writing using appropriate resources including dictionaries and a class developed checklist both individually and as a group.									
b. Students are proficient in the use of technology.	**K**	**1**	**2**						
1. Students use various age-appropriate technologies for gathering information (e.g., dictionaries, encyclopedias, audio/video players, phones, web resources).									
2. Students use a variety of age-appropriate technologies for sharing information (e.g., drawing a picture, writing a story).									
3. Students recognize the functions of basic file menu commands (e.g., new, open, close, save, print).									
2. Social, ethical, and human issues. **a. Students understand the ethical, cultural, and societal issues related to technology.**	**K**	**1**	**2**						
1. Students identify common uses of information and communication technologies.									
2. Students discuss advantages and disadvantages of using technology.									
b. Students practice responsible use of technology systems, information, and software.	**K**	**1**	**2**						
1. Students recognize that using a password helps protect the privacy of information.									
2. Students discuss scenarios describing acceptable and unacceptable uses of age-appropriate technology (e.g., computers, phones, 911, internet, email) at home or at school.									
3. Students discuss the consequences of irresponsible uses of technology resources at home or at school.									
c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.	**K**	**1**	**2**						
1. Students understand that technology is a tool to help them complete a task.									
2. Students understand that technology is a source of information, learning and entertainment.									
3. Students can identify places in the community where one can access technology.									

Iron Mountain Public Schools Standards (modified METS) – K – 2nd Checklist

O = Teacher Observation | **P** = Portfolio Evidence | **A** = Formal Assessment | **C** = Technology Literacy Class

3. Technology productivity tools. **a. Students use technology tools to enhance learning, increase productivity, and promote creativity.**	**K**	**1**	**2**							
1. Students know how to use a variety of productivity software (e.g., word processors, drawing tools, presentation software) to convey ideas and illustrate concepts.										
2. Students will be able to recognize the best type of productivity software to use for a certain age-appropriate tasks (e.g., word-processing, drawing, web browsing).										
b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.	**K**	**1**	**2**							
1. Students are aware of how to work with others when using technology tools (e.g., word processors, drawing tools, presentation software) to convey ideas or illustrate simple concepts relating to a specified project.										
4. Technology communications tools **a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.**	**K**	**1**	**2**							
1. Students will identify procedures for safely using basic telecommunication tools (e.g., e-mail, phones) with assistance from teachers, parents, or student partners.										
b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.	**K**	**1**	**2**							
1. Students know how to use age-appropriate media (e.g., presentation software, newsletters, word processors) to communicate ideas to classmates, families, and others.										
2. Students will know how to select media formats (e.g., text, graphics, photos, video), with assistance from teachers, parents, or student partners, to communicate and share ideas with classmates, families, and others.										
5. Technology research tools **a. Students use technology to locate, evaluate, and collect information from a variety of sources.**	**K**	**1**	**2**							
1. Students know how to recognize the Web browser and associate it with accessing resources on the internet.										
2. Students will use a variety of technology resources (e.g., CD-ROMs, DVDs, search engines, websites) to locate or collect.										
b. Students use technology tools to process data and report results.	**K**	**1**	**2**							
1. Students will interpret simple information from existing age-appropriate electronic databases (e.g., dictionaries, encyclopedias, spreadsheets) with assistance from teachers, parents, or student partners.										
c. Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.	**K**	**1**	**2**							
1. Students can provide a rationale for choosing one type of technology over another for completing a specific task.										
6. Technology problem-solving and decision-making tools **a. Students use technology resources for solving problems and making informed decisions.**	**K**	**1**	**2**							
1. Students discuss how to use technology resources (e.g., dictionaries, encyclopedias, search engines, websites) to solve age-appropriate problems.										
b. Students employ technology in the development of strategies for solving problems in the real world.	**K**	**1**	**2**							
1. Students identify ways that technology has been used to address real-world problems (personal or community).										

Iron Mountain Public Schools Standards (modified METS) - 3rd to 5th Checklist

O = Teacher Observation	P = Portfolio Evidence	A = Formal Assessment	C = Technology Literacy Class

Grades Three through Five – Technology Standards and Expectations – (by the end of Grade 5)									
1. Basic Operations and Concepts. **a. Students demonstrate a sound understanding of the nature and operation of technology systems.**				**3**	**4**	**5**			
1. Students discuss ways technology has changed life at school and at home.									
2. Students discuss ways technology has changed business and government over the years.									
3. Students recognize and discuss the need for security applications (e.g., virus detection, spam defense, popup blockers, firewalls) to help protect information and to keep the system functioning properly.									
b. Students are proficient in the use of technology.				**3**	**4**	**5**			
1. Students know how to use basic input/output devices and other peripherals (e.g., scanners, digital cameras, video projectors).									
2. Students know proper keyboarding positions and touch-typing techniques.									
3. Students manage and maintain files on a hard drive or the network.									
4. Students demonstrate proper care in the use of hardware, software, peripherals, and storage media.									
5. Students identify how to exchange files with other students using technology (e.g., e-mail attachments, network file sharing, diskettes, flash drives).									
6. Students identify which types of software can be used most effectively for different types of data, for different information needs, or for conveying results to different audiences.									
7. Students identify search strategies for locating needed information on the internet.									
8. Students proofread and edit writing using appropriate resources (e.g., dictionary, spell check, grammar check, grammar references, writing references) and grade level appropriate checklists both individually and in groups.									
2. Social, ethical, and human issues. **a. Students understand the ethical, cultural, and societal issues related to technology.**				**3**	**4**	**5**			
1. Students identify cultural and societal issues relating to technology.									
2. Students discuss how information and communication technology supports collaboration, productivity, and lifelong learning.									
3. Students discuss how various assistive technologies can benefit individuals with disabilities.									
4. Students discuss the accuracy, relevance, appropriateness, and bias of electronic information sources.									
b. Students practice responsible use of technology systems, information, and software.				**3**	**4**	**5**			
1. Students discuss scenarios describing acceptable and unacceptable uses of technology (e.g., computers, digital cameras, cell-phones, PDAs, wireless connectivity) and describe consequences of inappropriate use.									
2. Students discuss basic issues regarding appropriate and inappropriate uses of technology (e.g., copyright, privacy, file sharing, spam, viruses, plagiarism) and related laws.									
3. Students use age-appropriate citing of sources for electronic reports.									
4. Students identify appropriate kinds of information that should be shared in public chat rooms.									
5. Students identify safety precautions that should be taken while on-line.									

Iron Mountain Public Schools Standards (modified METS) – 3rd to 5th Checklist

O = Teacher Observation	P = Portfolio Evidence	A = Formal Assessment	C = Technology Literacy Class

Grades Three through Five – Technology Standards and Expectations – (by the end of Grade 5)										
2c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.				**3**	**4**	**5**				
1. Students explore various technology resources that could assist them in pursuing personal goals.										
2. Students identify technology resources and describe how those resources improve the ability to communicate, increase productivity, or help them achieve personal goals.										
3. Technology productivity tools. **a. Students use technology tools to enhance learning, increase productivity, and promote creativity.**				**3**	**4**	**5**				
1. Students know how to use menu options in applications to print, format, add multimedia features; open, save, manage files; and use various grammar tools (e.g., dictionary, thesaurus, spell-checker).										
2. Students know how to insert various objects (e.g., photos, graphics, sound, video) into word processing XX documents, presentations, or web documents.										
3. Students use a variety of technology tools and applications to promote [their] creativity.										
4. Students understand that existing (and future) technologies are the result of human creativity.										
b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.				**3**	**4**	**5**				
1. Students collaborate with classmates using a variety of technology tools to plan, organize, and create a group project.										
4. Technology communications tools **a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.**				**3**	**4**	**5**				
1. Students are exposed to basic telecommunication tools (e.g., e-mail, WebQuests, IM, blogs, chat rooms, web conferencing) for collaborative projects with other students.										
b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.				**3**	**4**	**5**				
1. Students use a variety of media and formats to create and edit products (e.g., presentations, newsletters, brochures, web pages) to communicate information and ideas to various audiences.										
2. Students identify how different forms of media and formats may be used to share similar information, depending on the intended audience (e.g., presentations for classmates, newsletters for parents).										
5. Technology research tools **a. Students use technology to locate, evaluate, and collect information from a variety of sources.**				**3**	**4**	**5**				
1. Students use Web search engines and built-in search functions of other various resources to locate information.										
2. Students describe basic guidelines for determining the validity of information accessed from various sources (e.g., web site, dictionary, on-line newspaper, CD-ROM).										
b. Students use technology tools to process data and report results.				**3**	**4**	**5**				
1. Students know how to independently use existing databases (e.g., library catalogs, electronic dictionaries, encyclopedias) to locate, sort, and interpret information on an assigned topic.										
2. Students perform simple queries on existing databases and report results on an assigned topic.										

Iron Mountain Public Schools Standards (modified METS) – 3rd to 5th Checklist												
O = Teacher Observation		**P** = Portfolio Evidence		**A** = Formal Assessment		**C** = Technology Literacy Class						
Grades Three through Five – Technology Standards and Expectations – (by the end of Grade 5)												
5c. Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.				**3**	**4**	**5**						
1. Students identify appropriate technology tools and resources by evaluating the accuracy, appropriateness, and bias of the resource.												
2. Students compare and contrast the functions and capabilities of the word processor, database, and spreadsheet for gathering data, processing data, performing calculations, and reporting results.												
6. Technology problem-solving and decision-making tools **a. Students use technology resources for solving problems and making informed decisions.**				**3**	**4**	**5**						
1. Students use technology resources to access information that can assist [them] in making informed decisions about everyday matters (e.g., which movie to see, which product to purchase).												
b. Students employ technology in the development of strategies for solving problems in the real world.				**3**	**4**	**5**						
1. Students use information and communication technology tools (e.g., calculators, probes, videos, DVDs, educational software) to collect, organize, and evaluate information to assist with solving real-life problems (personal or community).												

Iron Mountain Public Schools Standards (modified METS) - 6th to 8th Checklist

O = Teacher Observation	P = Portfolio Evidence	A = Formal Assessment	C = Technology Literacy Class

Grades Six through Eight – Technology Standards and Expectations – (by the end of Grade 8)							6	7	8
1. Basic Operations and Concepts. **a. Students demonstrate a sound understanding of the nature and operation of technology systems.**							**6**	**7**	**8**
1. Students understand that new technology tools can be developed to do what could not be done without the use of technology.									
2. Students describe strategies for identifying, and preventing routine hardware and software problems that may occur during everyday technology use.									
3. Students identify changes in hardware and software systems over time and discuss how these changes affected various groups (e.g., individual users, education, government, and businesses).									
4. Students discuss common hardware and software difficulties and identify strategies for trouble-shooting and problem solving.									
5. Students identify characteristics that suggest that the computer system hardware or software might need to be upgraded.									
b. Students are proficient in the use of technology.							**6**	**7**	**8**
1. Students use proper keyboarding posture, finger positions, and touch-typing techniques to improve accuracy, speed, and general efficiency in operating a computer.									
2. Students use accurate technology terminology.									
3. Students use a variety of technology tools (e.g., dictionary, thesaurus, grammar-checker, calculator) to maximize the accuracy of technology-produced products.									
4. Students identify a variety of information storage devices (e.g., floppies, CDs, DVDs, flash drives, tapes) and provide a rationale for using a certain device for a specific purpose.									
5. Students identify technology resources that assist with various consumer related activities (e.g., budgets, purchases, banking transactions, product descriptions).									
6. Students can identify appropriate file formats for a variety of applications.									
7. Students can use basic utility programs or built-in application functions to convert file formats.									
8. Students proofread and edit writing using appropriate resources (e.g., dictionary, spell check, grammar check, grammar references, writing references) and grade level appropriate checklists both individually and in groups.									
2. Social, ethical, and human issues. **a. Students understand the ethical, cultural, and societal issues related to technology.**							**6**	**7**	**8**
1. Students understand the potential risks and dangers associated with on-line communications.									
2. Students identify security issues related to e-commerce.									
3. Students describe possible consequences and costs related to unethical use of information and communication technologies.									
4. Students discuss the societal impact of technology in the future.									
b. Students practice responsible use of technology systems, information, and software.							**6**	**7**	**8**
1. Students provide accurate citations when referencing information from outside sources in electronic reports.									
2. Students discuss issues related to acceptable and responsible use of technology (e.g., privacy, security, copyright, plagiarism, spam, viruses, file-sharing).									

Iron Mountain Public Schools Standards (modified METS) - 6th to 8th Checklist												
O = Teacher Observation	P = Portfolio Evidence	A = Formal Assessment	C = Technology Literacy Class									
2c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.										**6**	**7**	**8**
1. Students use technology to identify and explore various occupations or careers.												
2. Students discuss uses of technology (present and future) to support personal pursuits and lifelong learning.												
3. Students identify uses of technology to support communication with peers, family, or school personnel.												
3. Technology productivity tools. **a. Students use technology tools to enhance learning, increase productivity, and promote creativity.**										**6**	**7**	**8**
1. Students apply common software features (e.g., thesaurus, formulas, charts, graphics, sounds) to enhance communication and to support creativity.												
2. Students use a variety of resources, including the internet, to increase learning and productivity.												
3. Students explore basic applications that promote creativity (e.g., graphics, presentation, photo-editing, programming, video-editing).												
4. Students use available utilities for editing pictures, images, or charts.												
b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.										**6**	**7**	**8**
1. Students use collaborative tools to design, develop, and enhance materials, publications, or presentations.												
4. Technology communications tools **a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.**										**6**	**7**	**8**
1. Students use a variety of telecommunication tools (e.g., e-mail, discussion groups, IM, chat rooms, blogs, video-conferences, web conferences) or other online resources to collaborate interactively with peers, experts, and other audiences.												
b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.										**6**	**7**	**8**
1. Students create a project (e.g., presentation, web page, newsletter, information brochure) using a variety of media and formats (e.g., graphs, charts, audio, graphics, video) to present content information to an audience.												
5. Technology research tools **a. Students use technology to locate, evaluate, and collect information from a variety of sources.**										**6**	**7**	**8**
1. Students use a variety of Web search engines to locate information.												
2. Students evaluate information from various online resources for accuracy, bias, appropriateness, and comprehensiveness.												
3. Students can identify types of internet sites based on their domain names (e.g., edu, com, org, gov, au).												
c. Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.										**6**	**7**	**8**
1. Students evaluate new technology tools and resources and determine the most appropriate tool to use for accomplishing a specific task.												

Iron Mountain Public Schools Standards (modified METS) – 6th to 8th Checklist												
O = Teacher Observation		**P = Portfolio Evidence**		**A = Formal Assessment**		**C = Technology Literacy Class**						
6. Technology problem-solving and decision-making tools **a. Students use technology resources for solving problems and making informed decisions.**										**6**	**7**	**8**
1. Students use database or spreadsheet information to make predictions, develop strategies, and evaluate decisions to assist them with solving a basic problem.												
b. Students employ technology in the development of strategies for solving problems in the real world.										**6**	**7**	**8**
1. Students describe the information and communication technology tools to use for collecting information from different sources, analyze their findings, and draw conclusions for addressing real-world problems.												

Iron Mountain Public Schools Standards (modified METS) - 9th to 12th Checklist						
O = Teacher Observation	**P** = Portfolio Evidence	**A** = Formal Assessment	**C** = Technology Literacy Class			
Grades Nine through Twelve – Technology Standards and Expectations – (by the end of Grade 12)						
1. Basic Operations and Concepts **a. Students demonstrate a sound understanding of the nature and operation of technology systems.**	**9**	**10**	**11**	**12**		
6. Students discuss emerging technology resources (e.g., podcasting, webcasting, compressed video delivery, online file sharing, graphing calculators, global positioning software).						
7. Students identify the capabilities and limitations of emerging communication resources.						
8. Students understand the importance of both the predictable and unpredictable impacts of technology.						
9. Students identify changes in hardware and software systems over time and discuss how these changes might affect them personally in their role as a lifelong learner.						
10. Students understand the purpose, scope, and use of assistive technology.						
11. Students understand that access to online learning increases educational and workplace opportunities.						
b. Students are proficient in the use of technology.	**9**	**10**	**11**	**12**		
9. Students will be provided with the opportunity to learn in a virtual environment as a strategy to build 21st century learning skills.						
10. Students understand the relationship between electronic resources, infrastructure, and connectivity.						
11. Students will routinely apply touch-typing techniques with advanced accuracy, speed, and efficiency.						
12. Students assess and solve hardware and software problems by using online help or other user documentation and support.						
13. Students identify common graphic, audio, and video file formats (e.g., jpeg, gif, bmp, mpeg, wav).						
14. Students demonstrate how to import/export text, graphics, or audio files.						
15. Students proofread and edit a document using an application's spelling and grammar checking functions.						
2. Social, ethical, and human issues **a. Students understand the ethical, cultural, and societal issues related to technology.**	**9**	**10**	**11**	**12**		
5. Students identify legal and ethical issues related to use of information and communication technology.						
6. Students analyze current trends in information and communication technology and assess the potential of emerging technologies for ethical and unethical uses.						
7. Students discuss possible long-range effects of unethical uses of technology (e.g., virus spreading, file pirating, hacking) on cultures and society.						
8. Students discuss the possible consequences and costs of unethical uses of information and computer technology.						

Iron Mountain Public Schools Standards (modified METS) - 9th to 12th Checklist								
O = Teacher Observation	**P** = Portfolio Evidence	**A** = Formal Assessment	**C** = Technology Literacy Class					
2. Social, ethical, and human issues **b. Students practice responsible use of technology systems, information, and software.**				**9**	**10**	**11**	**12**	
3. Students identify ways that individuals can protect their technology systems from unethical or unscrupulous users.								
4. Students demonstrate the ethical use of technology as a digital citizen and lifelong learner.								
5. Students explain the differences between freeware, shareware, and commercial software.								
6. Students adhere to fair use and copyright guidelines.								
7. Students create appropriate citations for resources when presenting research findings.								
8. Students adhere to the district acceptable use policy as well as state and federal laws.								
c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.				**9**	**10**	**11**	**12**	
4. Students explore career opportunities and identify their related technology skill requirements.								
5. Students design and implement a personal learning plan that includes technology to support his/her lifelong learning goals.								
3. Technology productivity tools **a. Students use technology tools to enhance learning, increase productivity, and promote creativity.**				**9**	**10**	**11**	**12**	
5. Students complete at least one online credit, or non-credit, course or online learning experience.								
6. Students use technology tools for managing and communicating personal information (e.g., finances, contact information, schedules, purchases, correspondence).								
7. Students have access to and utilize assistive technology tools.								
8. Students apply advanced software features such as an application's built-in thesaurus, templates, and styles to improve the appearance of word processing documents, spreadsheets, and presentations.								
9. Students use an online tutorial and discuss the benefits and disadvantages of this method of learning.								
10. Students develop a document or file for inclusion into a web site or web page.								
11. Students use a variety of applications to plan, create, and edit a multimedia product (e.g., model, webcast, presentation, publication, or other creative work).								
12. Students have the opportunity to participate in real-life experiences associated with technology-related careers.								
b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.				**9**	**10**	**11**	**12**	
2. Students identify technology tools (e.g., authoring tools or other hardware and software resources) that could be used to create a group project.								

Iron Mountain Public Schools Standards (modified METS) - 9th to 12th Checklist								
O = Teacher Observation	**P** = Portfolio Evidence	**A** = Formal Assessment	**C** = Technology Literacy Class					
4. Technology communications tools **a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.**				**9**	**10**	**11**	**12**	
2. Students identify and describe various telecommunications or online technologies (e.g., desktop conferencing, listservs, blogs, virtual reality).								
3. Students use available technologies (e.g., desktop conferencing, e-mail, groupware, instant-messaging) to communicate with others on a class assignment or project.								
4. Students collaborate in content-related projects that integrate a variety of media (e.g., print, audio, video, graphic, simulations, and models) with presentation, word processing, publishing, database, graphics design, or spreadsheet applications.								
5. Students plan and implement a collaborative project using telecommunications tools (e.g., groupware, interactive web sites, videoconferencing).								
b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.				**9**	**10**	**11**	**12**	
2. Students use a variety of media and formats to design, develop, publish, and present products (e.g., presentations, newsletters, web sites) to communicate original ideas to multiple audiences.								
5. Technology research tools **a. Students use technology to locate, evaluate, and collect information from a variety of sources.**				**9**	**10**	**11**	**12**	
4. Students compare, evaluate, and select appropriate internet search engines to locate information.								
5. Students determine if online sources are authoritative, valid, reliable, relevant, and comprehensive.								
6. Students distinguish between fact, opinion, point of view, and inference.								
7. Students evaluate resources for stereotyping, prejudice, and misrepresentation.								
b. Students use technology tools to process data and report results.				**9**	**10**	**11**	**12**	
1. Students formulate and use evaluation criteria (authority, accuracy, relevancy, timeliness) for information located on the internet to present research findings.								
c. Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.				**9**	**10**	**11**	**12**	
2. Students develop a plan to gather information using various research strategies (e.g., interviews, questionnaires, experiments, online surveys).								
6. Technology problem-solving and decision-making tools **a. Students use technology resources for solving problems and making informed decisions.**				**9**	**10**	**11**	**12**	
2. Students use a variety of technology resources (e.g., educational software, simulations, models) for problem solving and independent learning.								
3. Students describe the possible integration of two or more information and communication technology tools or resources to collaborate with peers, community members, and field experts.								
b. Students employ technology in the development of strategies for solving problems in the real world.				**9**	**10**	**11**	**12**	
2. Students formulate a research question or hypothesis, then use appropriate information and communication technology resources to collect relevant information, analyze the findings, and report the results to multiple audiences.								