

Tiers of Technology Literacy for 8th-Grade Students

| | Tier 1: Personal use and communication | Tier 2: Access, collect, manage, integrate and evaluate information | Tier 3: Solve problems and create solutions |
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| | Personal Productivity | Technology for Research and Presentations | Technology for Problem-Solving and Product Creation |
| 1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. | Students know how to connect and use a wide variety of input and output devices and common peripherals and how to access networked resources (<i>e.g., connect a mouse, keyboard, portable storage device, or digital camera to the computer, connect to a shared network drive</i>). | Performance Indicator does not apply. | Students demonstrate understanding of strategies for identifying, solving, and preventing routine hardware and software problems that occur during everyday technology use (<i>e.g., can problem-solve when a web page is non-responsive, force-quit a non-responsive program</i>) |
| 2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. | Performance Indicator does not apply. | Performance Indicator does not apply. | Students recognize, discuss, and analyze changes in information technologies and the effect those changes have on the workplace, society, and/or themselves (<i>e.g., understand the implications of Moore's Law, difference between data and knowledge</i>). |
| 3. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. | Students are acquainted with the legal and ethical issues related to use and misuse of information and communication technology (<i>e.g., follow the school/district's Acceptable Use Policy</i>). | Students demonstrate understanding of issues related to acceptable and responsible use of information and communication technology such as privacy, security, copyright, file sharing, plagiarism, issues of personal safety (<i>e.g., correctly formatted citations for copyrighted materials</i>). | Students identify and develop scenarios or examples that illustrate ethical behaviors for use of copyrighted media and analyze the consequences of unethical use of information and communication technology (<i>e.g., hacking, spamming, consumer fraud, virus setting, intrusion</i>). |
| 4. Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. | Students apply common software features to promote productivity (<i>e.g., use spellchecker, thesaurus, create basic spreadsheet charts, and insert media</i>). | Students select and use information and communication technology tools and resources to collect, evaluate and manage information and report results on an assigned hypothesis or research question (<i>e.g., gather and record data from scientific probes, using content-specific web resources</i>). | Students define problems or essential questions, then use and/or adapt content-specific technological tools to gather data, visualize information, or conduct investigations (<i>e.g., access primary source data to refute or support an original hypothesis, create and conduct surveys and analyze results</i>). |

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| 5. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. | Students use specific tools to support personal productivity and enhance learning in different subjects (<i>e.g., keyboard effectively to a minimum level, use word processing and other productivity software to prepare assignments</i>). | Performance Indicator does not apply. | Students work individually or in teams to use hardware and software tools to support learning and creativity in all subject areas. (<i>e.g., use personal information management (PIM) software, personal digital assistants (PDAs), concept-mapping software, timeline development software, digital still and video cameras, probes, graphing calculators, digital microscopes</i>). |
| 6. Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. | Performance Indicator does not apply. | Students create, publish and/or present products for an assigned project (<i>e.g., create effective PowerPoint or digital video presentations, post webpages of class work</i>). | Students initiate projects, design and develop content, and construct web-based and/or other electronic products (<i>e.g., construct and publish a WebQuest, create a Flash movie</i>). |
| 7. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom. | Performance Indicator does not apply. | Students use telecommunications tools to access or exchange information for an assigned project (<i>e.g., e-mail a subject-matter expert</i>). | Students work collaboratively using technology to develop and share ideas or information (<i>e.g., use web-based collaborative tools such as wikis, discussion boards, weblogs; use interactive whiteboard for classroom brainstorming</i>). |
| 8. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. | Students select from a limited set of technology tools to complete assigned work (<i>e.g., use a spreadsheet to represent data</i>). | Students select from a variety of teacher-defined technology tools to solve specific problems or present results (<i>e.g., choose between PowerPoint and iMovie to present information to the class</i>). | Students identify, evaluate, and select appropriate technology tools to solve problems or create products (<i>e.g., some students select MovieMaker to create a video presentation while others select Publisher to create a brochure</i>). |

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| 9. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving. | Students understand basics of file storage, file formats, and networking (<i>e.g., understand the use of "save as" to change file format; back up files regularly</i>). | Performance Indicator does not apply. | Students explore various ways that information and technology resources can be combined, personalized, or re-purposed to develop and promote understanding (<i>e.g., edit content and change format of audio file to create a podcast</i>). |
| 10. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. | Students apply search strategies to find relevant online information (<i>e.g., conduct a Boolean search to find information for an assignment</i>). | Students search, collect, and evaluate the accuracy and relevance of information from electronic resources (<i>e.g., check the credentials of the online source or look for supporting evidence</i>). | Students evaluate information from a variety of electronic resources for appropriateness, comprehensiveness, and bias (<i>e.g., understand the potential bias of a sponsored link</i>). |