

PURPOSE

In today’s society, it is critical for students to be able to use the vast amount of technology available to them. Computer literacy will provide students with skills they need to succeed in the technological age. The purpose of this document is to support districts and schools in building students’ digital literacy by authentically incorporating technology into instruction at every grade level.

DEFINING DIGITAL LITERACY

Digital literacy is the ability to use technology to find, evaluate, create, and communicate information. Along with a working knowledge of computer software and hardware, students will benefit from an understanding of wide range of applications (e.g., word processing, presentations, web-based resources). With software applications becoming so mainstream, it is vital to be fluent in their use when entering the work force.

USING THIS GUIDE

This document presents guidelines, not a curriculum, for teachers as they support their students in learning to use technology. This guide should not dictate when students can and cannot experience technology content. However, teachers may find this useful in guiding instructional choices.

Skills are noted as introductory and mastery at each grade level and organized into seven specific categories:

- Basic Computer Operations
- Word Processing
- Spreadsheet (Tables, Charts, and Graphs)
- Mathematical Applications
- Presentation and Multimedia Tools
- Acceptable Use, Copyright, Plagiarism, and Online Safety
- Research and Information Gathering
- Communication and Collaboration

| LEGEND | | | |
|------------------------------|-----------------------|-----------------------|--------------------|
| O | I | R | M |
| Optional at this grade level | Introduce the concept | Reinforce the concept | Master the concept |

| DIGITAL LITERACY CATEGORIES | SKILLS | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|----|----|----|---|
| BASIC COMPUTER OPERATIONS | Identify basic terms and usage for technology systems (e.g., keyboard, mouse, word processing software, spreadsheets, etc.) | I | R | M | M | M | M | M | M | M | M | M | M | M | |
| | Turn on a computer and login | I | R | M | M | M | M | M | M | M | M | M | M | M | |
| | Use a pointing device, such as a mouse, to manipulate shapes and icons; click on URLs, radio buttons, and check boxes; and use scroll bars | I | R | M | M | M | M | M | M | M | M | M | M | M | |
| | Use desktop icons, windows, and menus to open applications and documents | I | R | M | M | M | M | M | M | M | M | M | M | M | |
| | Understand how to manage files and save documents | O | I | R | M | M | M | M | M | M | M | M | M | M | |
| | Explain and use age-appropriate online tools and resources (e.g., tutorials, assessments, and web browsers) | | I | R | M | M | M | M | M | M | M | M | M | M | |
| | Keyboarding <ul style="list-style-type: none"> Use proper posture and ergonomics Locate and use letter and number keys with correct left and right hand placement Locate and use correct finger for space bar, return key, and shift key Gain proficiency and speed in touch typing Demonstrate automatically in keyboarding skills by increasing accuracy and speed. (For students with disabilities, demonstrate alternate input techniques, as appropriate) | O | I | R | R | R | M | M | M | M | M | M | M | M | |
| | Identify successful troubleshooting strategies for minor hardware and software issues or problems (e.g., frozen screen) | | | | | I | R | M | M | M | M | M | M | M | M |
| | Independently operate peripheral equipment (e.g., scanner, digital camera) | | | | | O | I | R | M | M | M | M | M | M | M |
| | Compress and expand large files | | | | | | | | I | R | M | M | M | M | M |
| | Identify and use a variety of storage media and systems (e.g., optical disks, flash drives, networked storage, cloud services, etc.) and provide a rationale for using a certain medium for a specific purpose | | | | | | | | I | R | M | M | M | M | M |
| | Identify and assess the capabilities and limitations of emerging technologies | | | | | | | | I | R | M | M | M | M | M |

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| WORD PROCESSING | Use a word processing application to write, edit, print, and save simple assignments | O | I | R | M | M | M | M | M | M | M | M | M | M |
| | Use menus and toolbar functions (e.g., font, style, line spacing, and margins) to format, edit, and print a document | | I | R | M | M | M | M | M | M | M | M | M | M |
| | Highlight text and copy and paste text | | O | I | R | M | M | M | M | M | M | M | M | M |
| | Copy and paste images within the document and from outside sources | | O | I | R | M | M | M | M | M | M | M | M | M |
| | Insert and size a graphic in a document | | O | I | R | M | M | M | M | M | M | M | M | M |
| | Proofread and edit writing using appropriate resources (e.g., dictionary, spell checker, grammar checker, and thesaurus) | | | I | R | M | M | M | M | M | M | M | M | M |
| | Demonstrate use of intermediate features in word processing applications (e.g., tabs, indents, headers and footers, endnotes, bulleted and numbered lists, and tables) | | | | | | | I | R | M | M | M | M | M |
| | Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials | | | | | | | | I | R | M | M | M | M |
| | Use the comment function in Review for peer editing of documents | | | O | I | R | M | M | M | M | M | M | M | M |
| | Use the Track Changes feature in Review for peer editing of documents | | | O | I | R | M | M | M | M | M | M | M | M |

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| SPREADSHEET (TABLES, CHARTS, AND GRAPHS) | Demonstrate an understanding of the spreadsheet as a tool to record, organize, graph, and analyze information | | | O | I | R | M | M | M | M | M | M | M | M |
| | Identify and explain terms and concepts related to spreadsheets (e.g., cell, column, row, values, labels, chart, graph, etc.) | | | O | I | R | M | M | M | M | M | M | M | M |
| | Use the auto-fill feature in a spreadsheet application | | | O | I | R | M | M | M | M | M | M | M | M |
| | Enter and edit data in spreadsheets | | | O | I | R | M | M | M | M | M | M | M | M |
| | Use mathematical symbols (i.e. +(add), -(subtract), *(multiply), /(divide), and ^(exponents)); perform calculations using formulas | | | | I | R | M | M | M | M | M | M | M | M |
| | Use spreadsheets and other applications to analyze data, make predictions, solve problems, draw conclusions, and propose solutions | | | | I | R | M | M | M | M | M | M | M | M |
| | Use spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings and chose the most appropriate type to represent given data | | | | | | | | I | R | M | M | M | M |
| | Use functions of a spreadsheet application (e.g. sort, filter, and find) | | | | | | | | I | R | M | M | M | M |
| | Use various number formats (e.g. scientific notations, percentages, exponents) as appropriate | | | | | | | | I | R | M | M | M | M |
| | Use advanced formatting features of a spreadsheet application (e.g. reposition columns and rows, add and name worksheets, color coding) | | | | | | | | I | R | M | M | M | M |
| | Differentiate between formulas with absolute and relative cell references (i.e., formulas that remain constant or change when copied from one cell to another) | | | | | | | | | | I | R | M | M |
| | Use multiple sheets within a workbook, and create links among worksheets to solve problems | | | | | | | | | O | I | R | M | M |
| | Import and export data between spreadsheets and other applications | | | | | | | | | O | I | R | M | M |

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TECHNOLOGY READINESS BY GRADE LEVEL

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|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|----|----|----|
| MATHEMATICAL APPLICATIONS | Draw two and three dimensional geometric shapes using a variety of technology tools | | | | | | | I | R | M | M | M | M | M |
| | Use and interpret scientific notations using a variety of technology applications | | | | | | | | I | R | M | M | M | M |
| | Explain and demonstrate how specialized technology tools can be used for problem solving, decision making, and creativity in all subject areas (e.g. simulation software, environmental probes, computer aided design, geographic information systems, dynamic geometric software, and graphing calculators) | | | | | | | | I | R | M | M | M | M |
| PRESENTATION AND MULTIMEDIA TOOLS | Create, edit, and format text on a slide | | | I | R | M | M | M | M | M | M | M | M | M |
| | Create a series of slides and organize them to present research or convey an idea | | | | I | R | M | M | M | M | M | M | M | M |
| | Copy and paste or import graphics, resize them, and position them on a slide | | | | I | R | M | M | M | M | M | M | M | M |
| | Use painting and drawing tools and applications to create and edit work | | | I | R | M | M | M | M | M | M | M | M | M |
| | Watch online videos and use play, pause, rewind, and fast forward buttons while taking notes | O | I | R | M | M | M | M | M | M | M | M | M | M |
| | Create presentations for a variety of audiences and purposes with the use of appropriate transitions and animations to add interest | | | | | R | M | M | M | M | M | M | M | M |
| | Make strategic use of digital media to enhance understanding | | | | | | R | M | M | M | M | M | M | M |

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| ACCEPTABLE USE, COPYRIGHT, PLAGIARISM, AND ONLINE SAFETY | Explain and demonstrate compliance with classroom and school rules (Acceptable Use Policy) regarding responsible use of computers and networks | I | R | M | M | M | M | M | M | M | M | M | M | M |
| | Explain responsible uses of technology and digital information and describe possible consequences of inappropriate use | I | R | M | M | M | M | M | M | M | M | M | M | M |
| | Explain Fair Use guidelines for the use of copyrighted materials (e.g. text, images, audio, and video in student projects) and giving credit to media creators | | | | I | R | M | M | M | M | M | M | M | M |
| | Identify and explain the strategies for the safe and efficient use of computers (e.g., password, virus protection software, spam filters, and pop-up blockers) | | I | R | M | M | M | M | M | M | M | M | M | M |
| | Demonstrate safe email practices, recognition of the potential public exposure of email, and appropriate email etiquette | | | | I | R | M | M | M | M | M | M | M | M |
| | Identify cyber-bullying and describe strategies to deal with such a situation | I | R | M | M | M | M | M | M | M | M | M | M | M |
| | Recognize and describe the potential risks and dangers associated with various forms of online communications | | I | R | M | M | M | M | M | M | M | M | M | M |
| | Comply with the district's Acceptable Use Policy related to ethical use, cyber-bullying, privacy, plagiarism, spam, viruses, hacking, and file sharing | I | R | M | M | M | M | M | M | M | M | M | M | M |
| | Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information | | | | | | | | I | R | M | M | M | M |
| | Give examples of hardware and applications that enable people with disabilities to use technology | | | | | | | | I | R | M | M | M | M |
| | Explain the possible risks associated with the use of networked digital environments (e.g. Internet, mobile phones, wireless, and LANs and WANs) and sharing personal information | | I | R | M | M | M | M | M | M | M | M | M | M |

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| RESEARCH AND INFORMATION GATHERING | Use age-appropriate technologies to locate, collect, and organize content from media collection activities for specific purposes, citing sources | | | O | I | R | R | M | M | M | M | M | M | M |
| | Perform basic searches on databases (e.g. library, card catalog, encyclopedia) to locate information | | | O | I | R | M | M | M | M | M | M | M | M |
| | Evaluate teacher- or self- selected Internet resources in terms of their usefulness for research | | | I | R | M | M | M | M | M | M | M | M | M |
| | Use content specific technology tools (e.g., environmental probes, sensors, measuring devices, and simulations) to gather and analyze data | | | O | I | R | M | M | M | M | M | M | M | M |
| | Use Web 2.0 tools (e.g., online discussions, blogs, and wikis) to gather and share information | | | | O | I | R | M | M | M | M | M | M | M |
| | Identify probable types and locations of websites by examining their domain extensions (e.g. .edu, .com, .org, .gov, .au) | | | | | | | I | R | M | M | M | M | M |
| | Use effective search strategies for locating and retrieving electronic information (e.g. using syntax and Boolean logic operators) | | | | | | | R | M | M | M | M | M | M |
| | Use search engines and online directories and explain the differences among various search engines and how they rank results | | | | | | | I | R | M | M | M | M | M |
| | Use appropriate academic language in online learning environments (e.g., post, thread, intranet, discussion forum, drop box, account, and password) | | | | | | | I | R | M | M | M | M | M |
| | Explain how technology can support communication and collaboration, personal and professional productivity, and lifelong learning | | | | | | | I | R | M | M | M | M | M |
| | Write correct in-text citations and reference lists for text and images gathered from electronic sources | | | | | | | I | R | M | M | M | M | M |
| | Use web browsing to access information (e.g., enter a URL, access links, create bookmarks and favorites, print webpages) | | | O | I | R | M | M | M | M | M | M | M | M |
| | Develop and/or use teacher-developed guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects | | | | | | | I | R | M | M | M | M | M |

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| COMMUNICATION AND COLLABORATION | Work collaboratively online with other students under teacher supervision | | | | | I | R | M | M | M | M | M | M | M | |
| | Use a variety of age-appropriate technologies (e.g., drawing program or presentation software) to communicate and exchange ideas | I | R | M | M | M | M | M | M | M | M | M | M | M | |
| | Create projects that use text and various forms of graphics and audio | | | I | R | M | M | M | M | M | M | M | M | M | |
| | Create projects that use text and various forms of graphics, audio, and video | | | O | I | R | M | M | M | M | M | M | M | M | |
| | Use a variety of district approved Web 2.0 tools (e.g., e-mail discussion groups, blogs, etc.) to collaborate and communicate with peers, experts, and other audiences using grade-appropriate academic language | | | | O | I | R | M | M | M | M | M | M | M | |
| | Use a variety of media to present information for specific purposes (e.g., reports, research papers, presentations, newsletters, Web sites, podcasts, and blogs), citing sources. | | | | | | | R | M | M | M | M | M | M | |
| | Demonstrate how the use of various techniques and effects (e.g. editing, music, color, and rhetorical devices) can be used to convey meaning in media | | | | | | | | I | R | M | M | M | M | M |
| | Plan and implement a collaborative project with students in other classrooms and schools using telecommunications tools (e.g., e-mail, discussion forums, groupware, interactive Web sites, and video conferencing) | | | | | | I | R | M | M | M | M | M | M | M |

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