

EDUCATIONAL TECHNOLOGY STANDARDS & EXPECTATIONS



.....

**Grades 3-5**

.....

TECHNOLOGY

## Welcome to Michigan's Educational Technology Standards & Expectations

It is a goal of No Child Left Behind that schools will "Assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability."

The Grade Level Educational Technology Standards & Expectations for 3-5 are aligned with the International Society for Technology in Education's (ISTE) National Educational Technology Standards for Students (NETS-S). They are meant to provide teachers with an outline of learning expectations and will be used to drive educational technology literacy assessments for the next several years.

The goal is that these Standards and Expectations will ultimately be integrated into the various other content areas and that a supplementary document will be produced offering examples and suggestions on how they could be incorporated within those areas.

### Technology Literacy

Technology literacy is the ability to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Standards and Expectations for each grade range are established to designate clearly what students are expected to know by the end of grades two, five, and eight.

## Educational Technology Standards & Expectations

## Grades 3-5



### BASIC OPERATIONS AND CONCEPTS

*By the end of Grade 5 each student will:*

1. discuss ways technology has changed life at school and at home
2. discuss ways technology has changed business and government over the years
3. 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
4. know how to use basic input/output devices and other peripherals (e.g., scanners, digital cameras, video projectors)
5. know proper keyboarding positions and touch-typing techniques
6. manage and maintain files on a hard drive or the network
7. demonstrate proper care in the use of hardware, software, peripherals, and storage media
8. know how to exchange files with other students using technology (e.g., e-mail attachments, network file sharing, diskettes, flash drives)
9. 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
10. identify search strategies for locating needed information on the internet
11. 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

## Educational Technology Standards & Expectations Continued...



### SOCIAL, ETHICAL, AND HUMAN ISSUES

*By the end of Grade 5 each student will:*

1. identify cultural and societal issues relating to technology
2. discuss how information and communication technology supports collaboration, productivity, and lifelong learning
3. discuss how various assistive technologies can benefit individuals with disabilities
4. discuss the accuracy, relevance, appropriateness, and bias of electronic information sources
5. 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
6. discuss basic issues regarding appropriate and inappropriate uses of technology (e.g., copyright, privacy, file sharing, spam, viruses, plagiarism) and related laws
7. use age-appropriate citing of sources for electronic reports
8. identify appropriate kinds of information that should be shared in public chat rooms
9. identify safety precautions that should be taken while on-line
10. explore various technology resources that could assist in pursuing personal goals
11. identify technology resources and describe how those resources improve the ability to communicate, increase productivity, or help achieve personal goals



### TECHNOLOGY PRODUCTIVITY TOOLS

*By the end of Grade 5 each student will:*

1. 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. know how to insert various objects (e.g., photos, graphics, sound, video) into word processing documents, presentations, or web documents
3. use a variety of technology tools and applications to promote creativity
4. understand that existing (and future) technologies are the result of human creativity
5. collaborate with classmates using a variety of technology tools to plan, organize, and create a group project



### TECHNOLOGY COMMUNICATIONS TOOLS

*By the end of Grade 5 each student will:*

1. use basic telecommunication tools (e.g., e-mail, WebQuests, IM, blogs, chat rooms, web conferencing) for collaborative projects with other students
2. 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
3. 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)



### TECHNOLOGY RESEARCH TOOLS

*By the end of Grade 5 each student will:*

1. use Web search engines and built-in search functions of other various resources to locate information
2. describe basic guidelines for determining the validity of information accessed from various sources (e.g., web site, dictionary, on-line newspaper, CD-ROM)
3. know how to independently use existing databases (e.g., library catalogs, electronic dictionaries, encyclopedias) to locate, sort, and interpret information on an assigned topic
4. perform simple queries on existing databases and report results on an assigned topic
5. identify appropriate technology tools and resources by evaluating the accuracy, appropriateness, and bias of the resource
6. compare and contrast the functions and capabilities of the word processor, database, and spreadsheet for gathering data, processing data, performing calculations, and reporting results



### TECHNOLOGY PROBLEM-SOLVING AND DECISION-MAKING TOOLS

*By the end of Grade 5 each student will:*

1. use technology resources to access information that can assist in making informed decisions about everyday matters (e.g., which movie to see, which product to purchase)
2. 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)



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