

# Bismarck Public Schools

## Elementary Technology Scope & Sequence



Created 2002

# **Bismarck Public Schools Elementary Technology Guidelines**

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Student Technology Guidelines - Elementary

These guidelines were developed to aid teachers implement both the ISSTE National Technology Standards and the North Dakota Library/Technology Standards.

Presently, these Guidelines include only a Technology Scope and Sequence. Additional components are being developed for later release. These components are expected to include a Content Area Curriculum Integration Matrix and a Grade Level Specific Activity Guide. It is the intent to make the various components interactive and available via the web.

Although the document refers to specific technology skills, these skills are not intended to be taught in isolation. All items should be integrated into existing curriculum areas. For example, “tabs”, would be worked on in the context of a regular curriculum writing assignment, not during an additional “computer” class.

These “guidelines” do not prohibit teachers from working with technology ahead of the indicated grades; however, the expectation is that the timelines in the document refer to when ALL students will be affected.

The following persons have made a substantial contribution to the development of these guidelines: Kirsten Baesler, Junella Feickert, Lisa Feldner, Mary Miller, David Sherwin\*, Konnie Wightman\*, Tracy Wolf and Jerry Zimprich\* .

\* Members of the ND DPI Library/Technology Standards Design Team

The design team for the Scope and Sequence Guidelines referred to the information available from several websites, including the following:

International Society for Technology in Education (ISTE) - <http://www.iste.org/>

North Dakota Department of Public Instruction -  
<http://www.dpi.state.nd.us/standard/content.shtm>

My eCoach - <http://www.my-ecoach.com>

Saskatchewan Education Elementary Keyboarding Guide  
<http://www.sasked.gov.sk.ca/docs/elemkey/competencies.html>

CyberKeys, A P-8 Guide to Keyboarding-  
<http://www.kde.state.ky.us/oet/customer/cyberkeys/default.asp>

# **Bismarck Public Schools Elementary Technology Guidelines**

## **National Educational Technology Standards for Students**

- 1. Basic operations and concepts**
  - Students demonstrate a sound understanding of the nature and operation of technology systems.
  - Students are proficient in the use of technology.
- 2. Social, ethical, and human issues**
  - Students understand the ethical, cultural, and societal issues related to technology.
  - Students practice responsible use of technology systems, information, and software.
  - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
- 3. Technology productivity tools**
  - Students use technology tools to enhance learning, increase productivity, and promote creativity.
  - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
- 4. Technology communications tools**
  - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
  - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
- 5. Technology research tools**
  - Students use technology to locate, evaluate, and collect information from a variety of sources.
  - Students use technology tools to process data and report results.
  - Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.
- 6. Technology problem-solving and decision-making tools**
  - Students use technology resources for solving problems and making informed decisions.
  - Students employ technology in the development of strategies for solving problems in the real world.

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### **ND LIBRARY/TECHNOLOGY LITERACY STANDARDS**

<http://www.dpi.state.nd.us/standard/content.shtm>

#### **Standard 1: RESEARCH**

Students conduct research that is linked to both content standards and a problem-solving process to access, evaluate, and organize information useful and beneficial to themselves and/or others.

#### **Standard 2: DEVELOPING PRODUCTS USING MEDIA/TECHNOLOGY**

Students develop quality products that communicate information and ideas to a variety of audiences by using media and technology.

#### **Standard 3: TECHNOLOGICAL SYSTEMS**

Students demonstrate an understanding of the scope, functions, and operations of current technology.

#### **Standard 4: COLLABORATIVE SKILLS/INDEPENDENT LEARNING/ PERSONAL ENJOYMENT**

Students develop collaborative skills, demonstrate independent learning skills, and use resources for personal enjoyment, including the appreciation of literature and other creative expressions.

#### **Standard 5: ETHICAL, LEGAL, AND SOCIAL USAGE**

Students demonstrate ethical, legal, and social uses of information resources and technology.

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*	If computers are used, focus on this skill					
<b>IS</b>	<b>Introduce Skill</b>	<b>DS</b>	<b>Develop Skill</b>	<b>IU</b>	<b>Independent User</b>	

<b>Basic Computer/Technology Use</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Starts and shuts down computer including storing and recharging laptops	*	IS	DS	IU	IU	IU	IU
Practices responsible use of technology	*	IS	DS	DS	DS	DS	DS
Opens and quits applications	*	IS	DS	DS	IU	IU	IU
Works with windows, icons, and menus		IS	DS	DS	IU	IU	IU
Communicates about technology using developmentally appropriate and accurate terminology	*	IS	DS	DS	DS	DS	DS
Uses keyboard, mouse and other common input and output devices	*	IS	DS	DS	DS	DS	DS
Discusses advantages and disadvantages of using technology in daily life			IS	DS	DS	DS	IU
Applies strategies for identifying and solving routine hardware and software problems				IS	DS	DS	DS
Makes informed decisions in choosing the most appropriate technology systems, resources, and services					IS	DS	DS

<b>File and Resource Management</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Logs into network	*	IS	DS	DS	IU	IU	IU
Saves and finds files and folders	*	IS	DS	DS	DS	IU	IU
Keeps documents separate from applications			IS	DS	DS	DS	DS
Creates folders to store work and saves work in correct folder				IS	DS	DS	DS
Describes hardware and software problems				IS	DS	DS	DS
Organizes folders for work in progress and final drafts in an organized system					IS	DS	DS
Shares files over network and email						IS	DS
Saves work in various formats and adds correct extensions to file names						IS	DS

<b>Social and Ethical Use</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Follows rules and procedures for technology use	*	IS	DS	DS	IU	IU	IU
Works cooperatively and collaboratively with others when using technology	*	IS	DS	DS	IU	IU	IU
Demonstrates positive social and ethical behaviors when using technology systems and software	*	IS	DS	DS	IU	IU	IU
Demonstrates knowledge of current changes in information technologies and the effect those changes have on the workplace and society				IS	DS	DS	DS
Exhibits legal and ethical behaviors when using information and technology, and discusses consequences of misuse				IS	DS	DS	DS
Follows proper use of copyrighted material and cites resources properly				IS	DS	DS	DS
Demonstrates and advocates for legal and ethical behaviors among peers, family, and community regarding the use of technology and information						IS	DS

<b>Keyboarding</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Uses proper posture and ergonomics	*	IS	DS	IU	IU	IU	IU
Locates and uses letter and number keys with correct left and right <b>hand</b> placement (i.e. use left hand on left side of keyboard, right hand on right side)	*	IS	DS	IU			
Uses the correct <b>finger</b> of the correct <b>hand</b> for space bar, return or enter key and shift keys (both left and right)			IS	DS	IU	IU	IU
Key the entire alphabetic keyboard by touch using the correct <b>finger</b> of the correct hand					IS	DS	IU
"Touch-types" 20 words per minute					IS	DS	IU

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<b>Word Processing</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Inserts, edits and formats text			IS	DS	DS	DS	DS
Formats a basic document (e.g. title, paragraphs, alignment)				IS	DS	DS	IU
Creates bullet and number lists					IS	DS	DS
Uses spell checker and thesaurus					IS	DS	DS
Wraps text around a graphic					IS	DS	DS
Uses word processor from first to final draft					IS	DS	DS
Uses ruler, margins, and tabs						IS	DS
Uses outlining features						IS	DS
Inserts headers and footers							IS
Creates and formats tables							IS
Inserts sections, columns, and page breaks							IS
Transfers and merges files into documents							IS

<b>Graphics and Publishing</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Creates pictures with paint program	*	IS	DS	DS	IU	IU	IU
Uses draw tools to create objects	*	IS	DS	DS	DS	IU	IU
Inserts graphics within an application		IS	DS	DS	DS	IU	IU
Imports and modifies images			IS	DS	DS	DS	DS
Captures images from the Internet and follows copyright laws for use of images				IS	DS	DS	DS
Uses digital camera					IS	DS	DS
Knows difference between draw and paint					IS	DS	DS
Rotates, duplicates, groups, aligns, and resizes objects					IS	DS	DS
Saves images in different formats					IS	DS	DS
Uses text objects in draw mode					IS	DS	DS
Applies good design principles					IS	DS	DS

<b>Presentation Tools</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Determines target audience, goal, and purpose of presentation				IS	DS	DS	DS
Uses outlines, storyboards, and mind-mapping software to brainstorm and plan presentation				IS	DS	DS	DS
Adds transitions and sounds to presentations					IS	DS	DS
Imports animations and video						IS	DS
Applies good design principles						IS	DS
Includes graphs and charts in presentation						IS	DS

<b>Spreadsheets</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Explains what the data represents in an existing spreadsheet					IS	DS	DS
Uses existing spreadsheet to sort and find data					IS	DS	DS
Collects data and creates new spreadsheet						IS	DS
Uses simple formulas						IS	DS
Collects, inputs, analyzes, organizes and displays data graphically						IS	DS
Uses the appropriate chart for activity and data						IS	DS
Adds and formats appropriate labels and legends						IS	DS
Formats and changes axis scale, chart area, data series or appearance of charts						IS	DS

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<b>Databases</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Knows of educational uses of databases			IS	DS	DS	DS	DS
Uses existing databases (e.g. card catalog)			IS	DS	DS	DS	IU
Knows terms such as records and fields				IS	DS	DS	IU
Finds and sorts information in a database				IS	DS	DS	DS

<b>Email</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Explains the parts of an email address					IS	DS	IU
Creates username and password					IS	DS	IU
Receives and replies to messages					IS	DS	IU
Composes, edits, and sends messages					IS	DS	IU
Follows proper email etiquette					IS	DS	DS
Uses cc / bcc and subject fields appropriately						IS	DS
Forwards mail with leading message						IS	DS
Creates/edits address book						IS	DS
Attaches, receives, and opens attachments using appropriate format and extension						IS	DS

<b>Internet</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Uses teacher-selected web sites	*	IS	DS	DS	IU	IU	IU
Launches a browser and uses the tool bar	*	IS	DS	DS	IU	IU	IU
Navigates by clicking on links on web pages		IS	DS	DS	IU	IU	IU
Returns to site using back button or bookmark/favorite		IS	DS	DS	IU	IU	IU
Adds bookmarks/favorites			IS	DS	IU	IU	IU
Knows the parts of a URL				IS	DS	DS	IU
Uses keyword and natural language searches				IS	DS	DS	DS
Evaluates site and information for validity and accuracy				IS	DS	DS	DS
Copies and pastes text or images and cites source correctly				IS	DS	DS	DS
Knows difference between search engines and subject directories.						IS	DS