

# Technology Foundations

The influence of the computer and its ever-changing technology are a growing part of today's society. Therefore, every student needs to be educated in this field so they can respond productively to tomorrow's world.

At the elementary school level, the computer serves as a tool for remediation, reinforcement, and enrichment. As a result of this computer experience, the students will enhance their thinking and problem solving skills.

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Program Goal: Preparing Students as twenty-first century technology-literate students.

- A. Basic Operations and Concepts
- B. Social, Ethical and Human Issues
- C. Technology Productivity Tools
- D. Technology Communication Tools
- E. Technology Research Tools
- F. Technology as a Tool for Problem Solving and Decision-Making

## TECHNOLOGY FOUNDATIONS

**PROGRAM OBJECTIVES:**

- A. Basic operations and concepts
- B. Social, ethical, and human issues
- C. Technology productivity tools
- D. Technology communications tools
- E. Technology research tools
- F. Technology as a tool for Problem Solving

**SKILL LEVELS:**

- I-Introduce
- D-Develop
- M-Master/Maintain

SUBJECT OBJECTIVES		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	BASIC OPERATIONS AND CONCEPTS									
A1.	ID and communicate about basic technology components using appropriate terminology.	I	D	D	M	M	M	M	M	M
A2.	Use keyboards and other input/output devices to operate computers and other technology.	I	D	D	M	M	M	M	M	M
A3.	ID the components of a computer (e.g. mouse, keyboard, monitor, toolbar, menu).	I	I	D	D	D	D	D	M	M
A4.	Use multimedia resources (e.g. interactive books, software, multimedia encyclopedia).		I	I	D	D	D	D	M	M
A5.	Access information sources.			I	I	D	D	M	M	M
A6.	Retrieve and save information(e.g.text,photo).		I	D	M	M	M	M	M	M
A7.	Locates and identifies the letters, numerals, and special keys for operation and commands on the keyboard.	I	I	D	D	M	M	M	M	M
A8.	Knows the keyboard and uses correct finger positions and body posture.	I	I	I	D	D	M	M	M	M
A9.	Apply basic vocabulary to internal operations of technology (e.g. disks, drives, RAM, etc.).					I	I	D	D	M
A10.	Print documents, text, or image.	I	I	I	D	D	M	M	M	M
A11.	Uses basic vocabulary related to technology (e.g. fire wire, USB, parallel, serial, scan ).	I	I	D	M	M	M	M	M	M
A12.	Understands bits, bytes,kilo-mega-gigabytes.						I	D	M	M
A13.	Demonstrates how to activate a computer and how to run educational software.	I	I	I	D	D	M	M	M	M

A14.	Uses basic vocabulary related to systems (e.g. network, infrastructure, internet,intranet, LAN, WAN, Ehternet, firewall, server).					I	I	D	M	M
A15.	Correlate units of measure with respect to storage devices (floppies,USB flash drives, hard drives, CDs).					I	I	D	M	M
A16.	Distinguish between input, output, storage, and processing hardware.		I	I		D	D	M	M	M
A17.	Attach and detach various peripherals of a computer						I	D	M	M
A18.	Use touch-type strategies to reach a minimum of 20 words per minute with accuracy.					I	D	D	M	M
	Use touch-type strategies to reach a minimum of 40 words per minute with accuracy.									
							I	D	D	M
A19.	Demonstrate functional operation of technology devices (e.g. presentation devices, digital cameras, scanners, document cameras, and scientific probes									
							I	D	D	D
A20.	Use troubleshooting strategies to solve application problems, basic hardware problems, and basic connectivity problems (e.g. online help strategies, documentation, and collaboration with others.									
							I	D	D	D
A21.	Use telecommunications and online resources(e.g. email, online discussions, Web invironments)									
						I	D	D	M	M
A22.	Use techology resources (e.g. calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended activities.									
						I	D	D	M	M
A23.	Demonstrates proper handling and/or storage of computer peripherals.									
						D	D	M	M	

SUBJECT OBJECTIVES		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
B.	SOCIAL, ETHICAL, & HUMAN ISSUES									
B1.	Practices Christian values in working collaboratively with technology.	I	I	D	D	D	D	M	M	M
B2.	Use equipment appropriately.	I	I	D	D	D	D	M	M	M
B3.	Describe uses of technology in daily life.	I	I	D	D	D	D	M	M	M
B4.	Identifies contributors of technology and understands evolution of information technology implications for computer power and personal use (Moore's law).						I	D	D	D
B5.	Understand practices and consequences of legal/ethical behaviors when using technology (e.g. copyright laws, threatening behavior to another student/staff, privacy, password security).			I	I	I	I	D	M	M
B6.	Provide complete citations from electronic media (e.g. use age-level appropriate).				I	D	D	M	M	M
B7.	Demonstrate and practice correct security procedures.					I	D	D	D	D
B8.	Describe three-to-five uses of technology in daily life.							I	D	D
B9.	Describe and practice safe Internet/intranet usage (e.g. do not post inappropriate or harmful material, exchange of personal information, following Acceptable Use Policy).							I	D	D
B10.	Describe and practice "netiquette" when using the Internet and electronic mail.					I	D	D	M	M
B11.	Understand rules for deciding when permission is needed for using the work of others.								I	D
B12.	Copyright laws and "fair use" guidelines (e.g. in relationship to print, video, music computer software, multimedia project).	I	I	D	M	M	M	M	M	M
B13.	Understand criteria for differentiating between primary & secondary sources.				I	I	D	D	M	M

C.	TECHNOLOGY PRODUCTIVITY TOOLS									
C1.	Use word processing editing tools to revise a document (e.g. cut & paste, tabs & margins, font, wrap, cropping, re-sizing, drawing tools).				I	D	D	M	M	M
C2.	Design a word processing document with graphic elements/columns or tables.						I	D	D	M
C3.	Create and use a spreadsheet to analyze data (e.g. formulas, charts, graphs).			I	I	I	D	D	D	M
C4.	Design and create a multimedia presentation (e.g. slide show, video) .			I	I	D	D	D	D	M
C5.	Use technology devices(s) to collect /record data (use formulas, create charts,&graphs).				I	I	I	D	D	D
C6.	Create a database with multiple fields to manipulate data in a variety of ways .						I	D	D	D
C7.	Design and create a multimedia presentation (e.g. camera, scanner, CD-ROM).							I	D	D
C8.	Design a multi-link web page using multiple digital sources (e.g. camera, video, CD-ROM).							i	D	D
C9.	Manipulate variable in a computer simulation to research a desired outcome.							I	D	D
D.	TECHNOLOGY COMMUNICATION TOOLS									
D1.	Communicate information electronically with support from teachers, family (e.g. CD-ROM).	I	I	I	M					
D2.	Communicate information electronically.					I	D	M	M	M
D3.	Use technology tools for individual and collaborative communication activities to share products with audience inside and outside the classroom (e.g. bulletin board/chats, talk to an author).					I	D	D	M	M
D4.	Collaborate electronically with experts, peers, or others to analyze data and/or develop an academic product (e.g. email, approved chat, online discussions, web environments, video conferencing).								I	D

D5.	Plan, design, and present an academic product to classroom or community (e.g. slide show, progressive story, video, digital image).				I	I	D	D	M	M
D6.	Present an academic product to share data and/or solutions (e.g. web site, multimedia presentation, video).						I	D	M	M

SUBJECT OBJECTIVES		GRADE LEVEL								
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E.	TECHNOLOGY RESEARCH TOOLS									
E1.	ID potential source of information about a topic (e.g. video/cassette tapes, web page).			I	I	I	D	D	D	M
E2.	ID and locate electronic research resources (e.g. card catalog, web pages, books).				I	D	D	D	D	M
E3.	Identify the components of a URL to determine the source of the information.				I	I	D	M	M	M
E4.	ID the author, copyright date & publisher of information for primary and secondary source.				I	I	I	D	D	D
E5.	Define searching & devise a search strategy to locate information w/electronic resources.							I	D	D
E6.	Explain the difference between subject and keyword searching.							I	D	D
E7.	Construct keyword searches including basic Boolean logic using electronic resources.							I	D	D
E8.	Obtain permission to use the work of others, when appropriate.							I	D	D
E9.	Create citations for electronic research sources following a prescribed format.							I	D	D
E10.	Prioritize electronic sources for the most appropriate information to answer question.							I	D	D
F.	TECHNOLOGY as a TOOL for PROBLEM SOLVING and DECISION-MAKING									
F1.	Use technology resources for problem solving, self-directed & extended learning.	I	I	I	D	D	D	D	M	M
F2.	Based on a problem selected, ID & use appropriate tools to collect & interpret data.	I	I	I	D	D	D	D	D	D
F3.	Based on a problem selected, ID & use appropriate tools to develop a solution.	I	I	I	D	D	D	D	D	D
F4.	Based on a problem selected, ID & use appropriate tools to present findings.	I	I	I	D	D	D	D	D	D