

Lincoln Public Schools 3-6 Technology Objectives

The concepts and vocabulary from these objectives can be taught and reinforced with AppleWorks, HyperStudio, Kid Pix Studio, All the Right Type, Internet Explorer, Netscape and MicroWorlds software.

3-6 Technology Performance Indicators

LPS students should have opportunities to:

- Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.
- Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society.
- Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of
- Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.
- Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum.
- Design, develop, publish, and present products (e.g, Web pages, videotapes) using technology resources that demonstrate and communicate concepts to audiences inside and outside the classroom.
- Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and develop solutions or products for audiences inside and outside the classroom.
- Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve
- Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.
- Research and evaluate accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic sources concerning real-world problems.

Understanding Computers and Technology

<i>Identify the parts of a computer system</i>	3	4	5	6
circuit board/computer chips	•	•	•	•
peripherals (scanner/digital camera/video camera)	•	•	•	•
ports (serial, modem, printer, USB or ADB, Firewire or AV, microphone, headphone, ethernet)	•	•	•	•

<i>Explain and/or demonstrate appropriate care of a computer system</i>	3	4	5	6
other input and output devices	•	•	•	•

<i>Define terms and concepts related to computer systems</i>	3	4	5	6
(byte, kilobyte, megabyte, gigabyte)	•	•	•	•
(VCR or video camera, digital camera, scanner)	•	•	•	•
(integrated circuit, chips, RAM, ROM)		•	•	•

<i>Identify the components of the operating system</i>	3	4	5	6
(active applications menu, apple menu/chooser)	•	•	•	•

<i>Explain and/or demonstrate appropriate use of the computer system</i>	3	4	5	6
Copy a document, file and/or folder	•	•	•	•
Rename a document, file and/or folder	•	•	•	•
Change the magnification of a document's display	•	•	•	•
Identify and navigate among open applications	•	•	•	•
Open and simultaneously view more than one document		•	•	•

<i>Identify and define terms and concepts related to printing</i>	3	4	5	6
(dot matrix, inkjet, laser, ribbon, ink cartridge, toner cartridge)	•	•	•	•

<i>Explain and/or demonstrate appropriate use of printers</i>	3	4	5	6
Use the Print functions of the application to set print range and quality	•	•	•	•
Use Page Setup feature to select paper size and page orientation		•	•	•

<i>Identify and define terms and concepts related to video camera/VCR</i>	3	4	5	6
AV, videotape, VHS, 8mm, analog, digital, lens, lenscap, viewfinder, AC adapter, battery, battery charger		•	•	•
Audio-Video In and Out ports, AV cable, Firewire ports, firewire cable		•	•	•
Video camera controls (power, record, stop, zoom, focus)		•	•	•
VCR controls (play, fast forward, rewind, pause, stop)		•	•	•
<i>Explain and/or demonstrate appropriate use of video camera/VCR</i>	3	4	5	6
Turn camera/VCR on and off		•	•	•
Connect/disconnect camera or VCR to a television or monitor		•	•	•
Insert, play, rewind, fast forward, pause, stop, and eject a videotape		•	•	•
Use the record functions of a video camera or VCR		•	•	•
Connect/disconnect camera or VCR to computer via firewire or AV cable		•	•	•
Utilize computer software to capture and save digital still images and movies			•	•

<i>Identify and define terms and concepts related to scanning</i>	3	4	5	6
(line art, gray scale, color photo, scan bed, prescan, auto scan, crop)		•	•	•

<i>Explain and/or demonstrate appropriate use of a scanner</i>	3	4	5	6
Use software controls to prescan, crop, and scan an image	•	•	•	•
Adjust image quality using menu commands	•	•	•	•
Choose appropriate file format and save image to computer	•	•	•	•

<i>Identify and define terms and concepts related to digital cameras</i>	3	4	5	6
lens, flash indicator, resolution, battery life, timer, trash, picture counter, shutter control button		•	•	•

<i>Explain and/or demonstrate appropriate use of a digital camera</i>	3	4	5	6
Turn camera on/off	•	•	•	•
Monitor camera control display window and take picture (save image to camera)	•	•	•	•
Connect/disconnect camera to computer via appropriate cable	•	•	•	•
Transfer images from camera to computer	•	•	•	•
Erase images from camera	•	•	•	•

Keyboarding

<i>Use correct position and posture</i>	3	4	5	6
Position body one hand span from the edge of the keyboard	•	•	•	•
Keep back comfortably straight	•	•	•	•
Place feet flat on the floor	•	•	•	•
Relax shoulders	•	•	•	•
Keep elbows close to sides	•	•	•	•
Slope forearms slightly upward from elbows to wrists	•	•	•	•
Place hands slightly off frame of keyboard with wrists flat	•	•	•	•
Keep fingers slightly curved	•	•	•	•

<i>Use correct fingering</i>	3	4	5	6
Maintain home row position	•	•	•	•
Use correct reaches	•	•	•	•
Use proper keystroking technique	•	•	•	•

Writing and Word Processing

<i>Identify and define terms and concepts related to word processing</i>	3	4	5	6
ruler	•	•	•	•

<i>Enter text</i>	3	4	5	6
Insert current date and/or time into document		•	•	•

<i>Format document</i>	3	4	5	6
Set line spacing	•	•	•	•
Choose number of columns	•	•	•	•
Show/hide invisible characters		•	•	•
Set margins and tabs		•	•	•
Insert Page Break		•	•	•
Insert headers and footers		•	•	•

Set ruler			•	•
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Text Editing	3	4	5	6
Use the Spell-check feature of the application	•	•	•	•
Import text from another document		•	•	•
Use the Thesaurus feature of the application		•	•	•
Use Find/Change feature of the application		•	•	•

Understanding a Database

Identify and define terms and concepts related to a database	3	4	5	6
(records, fields, data, layouts, sorting, browse mode, layout mode, find mode)			•	•
Explain what a database is and when it could be useful			•	•

Move through and view records in a database	3	4	5	6
Select a specific record			•	•
Scroll through records in order			•	•
Find records containing specific data			•	•
Sort records by category			•	•
Match records by category			•	•

Enter data into a database	3	4	5	6
Create a new record			•	•
Point and click into the field data area			•	•
Tab to move from field to field			•	•
Change data in a field			•	•
Delete an unwanted record			•	•

Change the layout of a database	3	4	5	6
Use drawing/graphic skills to change a layouts appearance			•	•

Creating Spreadsheets, Graphs, and Charts

Identify and define terms and concepts related to a spreadsheet	3	4	5	6
(data, range, rows, columns, cell, cell address, selected cell, cancel button, accept button, text box)	•	•	•	•
Explain what a spreadsheet is and when it could be useful	•	•	•	•
Create a new spreadsheet	3	4	5	6
Enter data in a cell (click in cell, enter number or equation)	•	•	•	•
Move right/left, up/down in a spreadsheet	•	•	•	•
Select (an entire row, an entire column, a range of cells, the entire spreadsheet)	•	•	•	•
Use a spreadsheet to make charts and graphs	3	4	5	6
Define and explain terms (bar graph, line graph, pie graph, axis, horizontal/vertical, legend, labels)	•	•	•	•
Select and print a range of cells in the spreadsheet	•	•	•	•
Choose the type of chart / graph	•	•	•	•
Analyze chart to see that it represents data correctly	•	•	•	•
Modify a chart / graph	•	•	•	•
Print chart/graph	•	•	•	•
Edit a spreadsheet	3	4	5	6
Change the width of a column and height of a row		•	•	•
Edit data within a cell		•	•	•
Set font, size, style, color, text alignment, number format, date and time formats within a cell		•	•	•
Insert rows or columns and delete rows or columns		•	•	•
Use simple calculations in a spreadsheet	3	4	5	6
Define and explain calculation terms (calculate, cell reference, operators, functions)			•	•
Enter a calculation into a cell			•	•
Use the fill down, fill right, and paste function commands			•	•
Use spreadsheet to ... sum a group of numbers, average a group of numbers			•	•

Creating and Editing Computer Graphics

<i>Identify and define terms and concepts related to graphic design</i>	3	4	5	6
general terms (paint, draw, selection tool, graphic object, fill tool, selection handle, gradient)	•	•	•	•
graphic file types (gif, jpeg, pict, tiff)	•	•	•	•
Explain/demonstrate difference between drawing and painting		•	•	•

<i>Create and edit graphics in paint mode</i>	3	4	5	6
Use tools to draw polygons, curves, and irregular shapes		•	•	•

<i>Create and edit graphics in draw mode</i>	3	4	5	6
Use menu command to rotate and flip an object		•	•	•
Use menu command to wrap text around an object		•	•	•
Use menu commands to change the stacking order of objects		•	•	•

<i>Importing and Exporting Graphics</i>	3	4	5	6
Import/add a graphic (jpeg, gif, pict, etc.) to a document/presentation	•	•	•	•
Export/save a graphic in a variety of file formats (jpeg, gif, pict, etc)	•	•	•	•

Creating Multimedia Presentations

<i>Identify and define terms and concepts related to multimedia presentations</i>	3	4	5	6
(animation, browse mode, edit mode, sound files, text files, graphic files, movie files)	•	•	•	•

<i>Creating and adding multimedia elements</i>	3	4	5	6
Import a movie file (mov, avi, etc) into a multimedia presentation	•	•	•	•
Use menu commands to create and edit path and frame animation	•	•	•	•
Import text from a file into a multimedia presentation		•	•	•
Import video still pictures, scanned images, and digital photos into a multimedia presentation		•	•	•
Import a sound file (aiff, wav, snd) into a multimedia presentation		•	•	•
Use menu commands to record a movie		•	•	•

<i>Add special effects or programming to a multimedia presentation</i>	3	4	5	6
Program button to activate a sound, movie, or animation	•	•	•	•
Program button to convert a text file to speech		•	•	•
Program button to automatically scroll text in a field		•	•	•
Program button to automatically play an audio CD		•	•	•
Program button to launch or quit another application		•	•	•

Creating Computer Programs in Logo (Microworlds)

<i>Identify and define terms and concepts related to programming</i>	3	4	5	6
program, flowchart, procedure, sub-procedure, super-procedure, bug/debug	•	•	•	•

<i>Understand and use programming concepts</i>	3	4	5	6
variables, if/then statements, recursion, coordinates		•	•	•

<i>Create a Logo program</i>	3	4	5	6
Use Logo commands and numeric modifiers (FD30, RT90, etc) to create and re-create designs	•	•	•	•

<i>Plan a programming task and organize it into its various components</i>	3	4	5	6
Write a set of instructions to perform each small task	•	•	•	•
Construct a program to perform all the tasks in the right order	•	•	•	•
Evaluate program to assess whether the task is performed correctly	•	•	•	•
Debug program by locating and correcting any errors that are detected or by restructuring approach	•	•	•	•

Understanding and Using Computer Networks

<i>Identify and define terms and concepts related to a computer network</i>	3	4	5	6
file sharing, email address, URL, modem, bookmark, World Wide Web, download, link	•	•	•	•
network, hub, main wiring closet, ISP (internet service provider), Chooser/AppleShare		•	•	•
<i>Define and explain concepts related to the Internet</i>	3	4	5	6
Explain what is meant by the the statement: "the internet is a global network of connected computers"	•	•	•	•
Describe the difference between modem and direct connection to the internet	•	•	•	•
<i>Understand and utilize the Internet as a tool for learning</i>	3	4	5	6
Analyze web sites for educational value or opinion oriented information	•	•	•	•
<i>Use a World Wide Web Browser (Netscape or Internet Explorer)</i>	3	4	5	6
Use menu commands (go, history, etc..) to visit a site explored earlier in same session	•	•	•	•
Set and use a bookmark/favorite	•	•	•	•
Enter a URL	•	•	•	•
Understand copyrights as they relate to web pages		•	•	•
Document a site for bibliographies		•	•	•
<i>Conduct an Internet Search</i>	3	4	5	6
Identify age appropriate search engines	•	•	•	•
Correctly state search topic	•	•	•	•
Re-state search topics in different ways	•	•	•	•
<i>Download information from a web site</i>	3	4	5	6
Copy information (text, graphic, etc.) from a web page and paste into another application	•	•	•	•
Download various files (ie. graphics, sounds, movies)	•	•	•	•
Recognize different sound and graphic file formats for Mac and Windows operating systems		•	•	•
Check for size of files and time required to receive			•	•