LEARNING POINT Associates™
North Central Regional Educational Laboratory

NETS for Students: Extended Rubric for Grades PK–2

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Purpose: This draft version of the NETS extended rubric for Grades PK–2 is available online for educational technology professionals to review and provide feedback to the developers.

More information: If you have questions about the rubric, please contact the developers at **netsrubric@learningpt.org**.

NETS for Students:
Extended Rubric for Grades PK–2

NETS for Students	Novice *By the End of Kindergarten*	Basic *By the End of Grade 1*	Proficient *By the End of Grade 2*	Advanced
1. Basic Operations and Concepts				
a. Students demonstrate a sound understanding of the nature and operation of technology systems. ***(nature and operations)***	1) Students **recognize** the major hardware components in a computer system (e.g., computer, monitor, mouse or trackpad, and keyboard), and **identify** the functions and care of them.	1) Students **name or label** the main parts of a computer system (e.g., central processing unit [CPU], monitor, keyboard, disk drive, printer, mouse or trackpad or joystick) and **identify** functions of each.	1) Students **describe** how to use basic input devices (e.g., keyboard fingering and mouse or trackpad manipulation), output devices (e.g., monitor and printer use), and software resources (e.g., diskette, CD-ROM use).	1) Students **identify** characteristics that describe input devices and output devices and **name** some devices that can provide input and output.
	2) Students **know how to use** the mouse (or trackpad) to access an application, indicate a choice, or activate a hyperlink.	2) Students **know how to start up** the computer; **locate** applications; **choose** icons to select, open, save, print, and close files; and **shut down** the computer, monitor, and printer.	2) Students **name** common technology found in homes (e.g., VCRs, tape or digital recorder, CD player, digital still and video cameras, radios, telephones).	2) Students accurately **identify** common uses of technology found in daily life (at home and in the community).
	3) Students **recognize** symbols and icons used to identify common hardware and software functions within prepared materials (e.g., the arrow symbol as the icon for proceeding to the next page of a curriculum-related software, underlined and colored text to represent a link).	3) Students **recognize** symbols and icons commonly used in curriculum-related software to identify options (e.g., icon of printer to represent printing option, diskette to represent save file, music notes icon to represent link to music, movie camera icon to access movie, speaker symbol to indicate sound or audio is available).	3) Students **identify functions** represented by symbols and icons commonly found in application programs (e.g., font, size, bold, underline, alignment, color of type).	3) Students **recognize functions** represented by symbols and icons commonly found in the drawing toolbars of application programs (e.g., arrange, select, rotate, text box, Word Art, insert clip art, insert picture, line, rectangle, shapes, lines, line style, font color, line color, and fill color).
	4) Students **know how to use** the keyboard to type letters and numbers and know how to use special key functions (e.g., delete, shift, arrow keys, space bar).	4) Students **know how to use** correct sitting, hand, and arm positions and fingering to **type** words and phrases.	4) Students **know how to use** correct sitting, hand, arm, and fingering positions to **type** complete sentences (including shift key for capital letters, space bar for spacing, and punctuation keys).	4) Students **know how to use** correct sitting, hand, and arm positions and fingering to **type and edit** a brief story or message employing the full **alphabetic** keyboard.
	5) Students **identify** basic care of the computer, monitor, keyboard, mouse or trackpad.	5) Students **discuss how to** properly care for and use software media (e.g., CD, DVD, diskette, zip disk).	5) Students **discuss how to** properly care for and use software media (e.g., mini-DV tapes, videotapes, audiotapes).	5) Students **describe how to** properly care for and use the computer system hardware, software, peripherals, and storage media.

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b1. Students are proficient in the use of technology. *(information management)*	Students know how to **select** applications and curriculum-related software by associating icons with resources they wish to access (e.g., students **understand** that clicking on icons or hyperlinks may allow them to access applications, or Internet resources).	Students **understand** and **know how to use** basic commands for saving and printing their work, and **understand** that file names and folders are used to identify and organize stored information and programs.	Students **recognize** functions of basic file menu commands (e.g., new, open, close, save, save as, print) and folders to manage and maintain computer files on a hard drive or other storage medium (e.g., diskette, CD-ROM).	Students **identify** software for graphing as a way to gather, organize, and display numerical information; multimedia as a way to organize information and/or illustrate it in a presentation (e.g., draw and label a picture, type and illustrate a story or report, create a simple slide show); and access age-appropriate multimedia dictionaries and encyclopedias as resources for gathering information.
b2. Students are proficient in the use of technology. *(terminology and problem solving)*	Students correctly **identify** technology terminology that labels major technology hardware components (e.g., computer, monitor, keyboard, mouse or trackpad, printer).	Students **identify** technology hardware peripherals (e.g., speakers, earphones, projector) and storage components (e.g., disk drive, hard drive, CD-RW drive), and can **name** software used for typing, drawing, and electronic slide presentations.	Students **recognize** accurate terminology to describe hardware, software, multimedia devices, storage media, and peripherals, and can **identify** the basic functions of technology resources (hardware and software) commonly used in early elementary classrooms.	Students **identify** characteristics of computers that support multimedia (e.g., letters, sound, pictures, video) and the technology through which these are produced and displayed.
2. Social, Ethical, and Human Issues **a. Students understand the ethical, cultural, and societal issues related to technology.**	Students **identify** a computer as a machine that helps people work, learn, communicate, and play.	Students **identify** ways that the computer is used at home and in school.	Students **identify** common uses of information and communication technology in the community and in daily life.	Students **discuss** advantages and disadvantages of use of technology, and know how lack of access to technology can affect a person's access to information, learning opportunities, and future job prospects.
b. Students practice responsible use of technology systems, information, and software.	Students **recognize** that using a password protects privacy of information.	Students **recognize** that passwords protect the security of technology systems.	Students **recognize** that copyright affects how one can use technology systems, information, and software resources.	Students **describe** consequences of irresponsible use of technology resources at home and at school.
c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.	Students **recognize** technology as a source of information, learning, and entertainment.	Students **understand** appropriate uses of computers in the classroom and **identify** a variety of learning and communications opportunities available through use of technology resources.	Students **describe** acceptable and unacceptable computer etiquette and **demonstrate** how to work cooperatively with peers, family members, and others when using technology in the classroom or at home.	Students i**dentify** places in the community where one can access technology.

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3. Technology Productivity Tools **a. Students use technology tools to enhance learning, increase productivity, and promote creativity.**	Students **know how to navigate** developmentally appropriate multimedia resources (e.g., interactive books, educational software, drawing and presentation programs) to support learning, productivity, and creativity.	Students **create, edit, move, and save** using multimedia resources (e.g., word processors, concept-mapping software, writing tools, drawing tools, graphing software) to communicate and illustrate thoughts, ideas, and stories.	Students **know how to use** word processing, drawing tools, presentation software, concept-mapping software, graphing software, and other productivity software to illustrate concepts and convey ideas.	Students **identify** the best type of productivity software to use for a certain task.
b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.	Students, with assistance from teacher, parents, or student partners, **know how to use** developmentally appropriate technology tools to produce creative works.	Students **know how to** collaborate to **develop, print, and present** a document using a word processor, and/or drawing software.	Students **know how to** work together to **collect and create** pictures, images, and charts for development of word-processing reports and electronic presentations.	Students **know how to collaborate** to **plan, organize, develop, and orchestrate** presentation of a multimedia slide show that communicates information and ideas to classmates (and possibly to family members and others).
4. Technology Communications Tools **a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.**	Students, with assistance from teachers, parents, or student partners, **recognize and respond to** a bulletin board (or e-mail) posting projected on a large screen by their teacher.	Students, with assistance from teacher, parents, or student partners, **know how to use** telecommunications resources (e.g., electronic bulletin board, e-mail, teacher-selected Web site) to gather information, share ideas, and respond to questions posed by the teacher and other classmates.	Students, with assistance from teacher, parents, or student partners, **identify** procedures for safely and securely using telecommunications tools (e.g., e-mail, bulletin boards, newsgroups) to read, send, or post electronic messages for peers, experts, and other audiences.	Students **know how to** safely and securely use telecommunications tools to **read, send, or post** electronic messages to peers, experts, and family members.
b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.	Students **identify** media formats (e.g., text, clip art, photos, video, Web pages, newsletters), demonstrated by their teacher, that are used to communicate ideas.	Students, assisted by teachers, parents, or student partners, **know how to select** media formats (e.g., text, clip art, photos, video, Web pages, newsletters) to **communicate and share ideas** with students in other classrooms.	Students **know how to use** a variety of developmentally appropriate media (e.g., presentation software, newsletter templates, and Web pages as resources for clip art, music, and information resources) to **communicate** ideas relevant to the curriculum to their classmates, families, and others.	Students **know how to independently use** a variety of media to **gathe**r information and ideas relevant to the curriculum, accurately **summarize and illustrate** the material, and effectively **present** the final information using a variety of media.
5. Technology Research Tools **a. Students use technology to locate, evaluate, and collect information from a variety of sources.**	Students, with assistance from teacher, parents, or student partners, **know how to access** developmentally appropriate Web resources preidentified (as a hyperlink) by their teacher or parents.	Students **know how to recognize** the Web browser and associate it with accessing linked resources on the Internet.	Students, with assistance from teacher, parents, or student partners, **identify** steps for using technology resources, such as CD-ROMs (reference or educational software) and Web-based search engines to locate information on assigned topics in the curriculum.	Students **know how to apply appropriate steps** independently to access technology resources such as CD-ROMs (reference or educational software) and Web-based search engines to locate information on assigned topics in the curriculum.

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b. Students use technology tools to process data and report results.	*(There are no expectations with regard to using databases or other data-processing and report-generating software for this level.)*	*(There are no expectations with regard to using databases or other data-processing and report-generating software for this level.)*	Students, with assistance from the teacher, **know how to use** existing common databases (e.g., library catalogs, online archives, electronic dictionaries, encyclopedias) to locate, sort, and interpret information on assigned topics in the curriculum.	Students independently **know how to use** existing common databases (e.g., library catalogs, online archives, electronic dictionaries, encyclopedias) to **locate, sort, and interpret** information on assigned topics in the curriculum.
c. Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.	Students **identify** uses of common hardware components (e.g., monitor for viewing, keyboard for typing or selecting, earphones for hearing privately, drives for inserting storage diskette or CD).	Students **choose** software that is appropriate for the task they are completing (e.g., word processor to write a story or paragraph, drawing program to make a picture, developmentally appropriate graphing program to make a graph).	Students **identify** technology resources (e.g., simple conceptual mapping software, drawing software) to show steps in a sequence; to demonstrate likenesses and differences; and to recognize, record, and organize information related to assigned curricular topics.	Students **provide** a logical rationale for choosing one type of hardware or software over another for completing a specific assigned task.
6. Technology Problem-Solving and Decision-Making Tools **a. Students use technology resources for solving problems and making informed decisions.**	Students **know how to use** developmentally appropriate software focused on early learning problem-solving skills (e.g., matching, counting, ordering and sequencing, patterns, sorting by shape or color, classification, hidden items, measurement, directional words, critical thinking, logic and prediction, same or different).	Students **know how to use** developmentally appropriate software to collect classroom data, create a graph, identify the questions that could be answered by the information in the graph, and interpret the results from the graph.	Students **know how to select** information and communication technology tools and resources that can be used to solve particular problems (e.g., concept-mapping software to generate and organize ideas for a report, illustrate same or different, or indicate sequence of a story; a drawing program to make a picture; presentation software to communicate and illustrate ideas; a graph program to organize and display data; a Web browser and search engine to locate needed information).	Students **know how to use** technology resources to access information that can assist them in making informed decisions about everyday matters (e.g., which movie to see, time and location of entertainment, what product to buy, how to build a kite).
b. Students employ technology in the development of strategies for solving problems in the real world.	Students **recognize** how technology is used in their home or at school for learning and entertainment.	Students **identify** how technology is used in their community to support different types of jobs.	Students **identify** ways that technology has been used to address real-world problems.	Students **identify** a strategy for solving a problem or completing a task by applying information generated using technology tools and resources.