LEARNING POINT Associates™
North Central Regional Educational Laboratory

NETS for Students: Extended Rubric for Grades 3–5

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Purpose: This draft version of the NETS extended rubric for Grades 3–5 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 3–5

NETS for Students	Novice *By the End of Grade 3*	Basic *By the End of Grade 4*	Proficient *By the End of Grade 5*	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 **identify** characteristics that describe input devices and output devices and **name** some devices that can provide input and output.	1) Students **describe** purposes of specific input and output devices (e.g., digital cameras, scanners, video projectors, printers, file servers) and **know how to use** keyboarding and mousepad manipulation efficiently and effectively.	1) Students **know how to use** basic input and output devices (including adaptive devices as needed); **access** network resources (e.g., printers, file servers); and **use** common peripherals (e.g., scanners, digital probes, digital cameras, and video projectors).	1) Students **know how to connect and use** a wide variety of input and output devices and common peripherals (e.g., scanners, digital probes, digital cameras, and video projectors), and **how to access** networked resources.
	2) Students accurately **identify** common uses of technology found in daily life (at home and in the community).	2) Students **describe** common purposes of technology use in daily life at home, school, and in the community (e.g., for learning, for finding information, for work, for entertainment).	2) Students **recognize, discuss, and visually represent** ways technology has changed life and work at school and in the home, community, business, industry, and government over the past three decades.	2) Students know how to **explore, identify, and develop presentations** describing types of occupations or careers that rely on computer-based technology.
	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).	3) Students **associate** words, symbols, and icons commonly found in the menus and 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) with their functions.	3) Students **identify and know how to use** menu options in application programs to develop text, graphic, spreadsheet, and Web documents; to save, print, format, add multimedia features; to store, access, and manage files; and to use dictionary, thesaurus, and spelling and grammar tools.	3) Students **know how to** insert photos, graphics, graphs, spreadsheets, sound, and video into word-processing, presentation, and Web documents.
	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.	4) Students **know how to** use both alphabetic and numeric keys (located above the alphabetic keys) by touch, using the correct finger of the correct hand to compose and edit a letter or brief report.	4) Students **know** proper keyboarding position and technique to touch-type using the correct hands for alphabetic, numeric, and special-purpose keys (e.g., arrow keys, escape key, backspace key, delete key, caps lock key, control key); and how to use these keys and the edit menu items to correct errors in a document.	4) Students **know functions** of all alphabetic, numeric, special purpose and symbol keys; **can touch-type** with correct fingers of correct hands using the full keyboard; and **know how to** use a word processor to compose, type, proofread, and edit a document.
	5) Students **describe how to** properly care for and use the computer system hardware, software, peripherals, and storage media.	5) Students **demonstrate** proper care in use of the computer system hardware, software, peripherals, and storage media.	5) Students i**dentify characteristics** suggesting that the computer needs upgraded system or application software, virus detection software, or spam defense software to protect the information and functioning of the technology system.	5) Students **know how to locate and use** system and application upgrade, virus protection, and spam defense software to keep a technology system working properly.

NETS for Students	Novice *By the End of Grade 3*	Basic *By the End of Grade 4*	Proficient *By the End of Grade 5*	Advanced
b1. Students are proficient in the use of technology. *(information management)*	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.	Students **know how to identify** types of files by their icons and extensions; **understand** that particular file types are accessed through specific applications; and **know** how to use system menus to access particular files located in different folders and on a variety of internal and external media.	Students i**dentify** basic software commands used to manage and maintain computer files on a hard drive, diskette, or CD-ROM; **manage and maintain** their files on a network; and **know how to** exchange files with other students and the teacher via network file sharing and e-mail attachments.	Students i**dentify** software used for information management and **know which** types of software can be used most effectively for different types of data, for different information needs, and for conveying results to different audiences.
b2. Students are proficient in the use of technology. *(terminology and problem solving)*	Students **identify** characteristics of computers that support multimedia (e.g., letters, sound, pictures, video) and the technology through which these are produced and displayed.	Students i**dentify** correct terminology for describing functions of technology application software (e.g., word processor, spreadsheet, database, graphing program, drawing program, concept-mapping software).	Students **identify** correct terminology used to **describe** basic hardware, software and networking functions, and to **discuss** the functions, processes, and/or procedures applied in common use of these technology resources.	Students i**dentify** search strategies for locating information needed, **identify** resources that contribute to solving a particular problem, **organize** information, and **communicate solution strategies and conclusions** using appropriate terminology.
2. Social, Ethical, and Human Issues **a. Students understand the ethical, cultural, and societal issues related to technology.**	Students **discuss** advantages and disadvantages of use of technology, and **understand** how lack of access to technology can affect a person's access to information, learning opportunities, and future job prospects.	Students **identify** cultural, and societal issues related to technology.	Students **identify issues** related to how information and communication technology supports collaboration, personal productivity, lifelong learning, and assistance for students with disabilities.	Students **evaluate** the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources.
b. Students practice responsible use of technology systems, information, and software.	Students **describe** consequences of irresponsible use of technology resources at home and at school.	Students **identify** uses for information and communication technology in daily life and **discuss** implications of ethical and unethical use of current technologies at school and in society.	Students **discuss** basic issues related to responsible use of technology and information, **identify** scenarios describing acceptable and unacceptable computer use, and **describe** personal consequences of inappropriate use.	Students **identify** a broad range of issues related to use and misuse of information and communication technology resources (e.g., privacy, security, copyright, file sharing, plagiarism) and **discuss** laws relating to each.
c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.	Students i**dentify** places in the community where one can access technology.	Students **discuss** types of **skills** that can be developed, i**nformation** that can be located, and **collaborations** that can be initiated through use of technology.	Students i**dentify** software or technology-delivered access that is valuable to them, and **describe** how it improves their ability to communicate, be productive, or achieve personal goals.	Students **identify** their personal goals or pursuits and **explore** technology resources that may assist them in identifying paths leading to their goals or pursuits.

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3. Technology Productivity Tools **a. Students use technology tools to enhance learning, increase productivity, and promote creativity.**	Students **identify** the best type of productivity software to use for a certain task.	Students **name** general productivity tools and **identify how** the tools are most frequently used in their schoolwork and at home.	Students **identify and apply** common productivity software features such as menus and toolbars to plan, create, and edit word-processing documents, spreadsheets, and presentations.	Students **describe how** specific productivity tools support personal productivity, remediation of skill deficits, and their capacities for learning in different subjects.
b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.	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).	Students i**dentify** technology resources (e.g., multimedia authoring, presentation software, Web tools, digital cameras, scanners) used in developing individual and collaborative writing and published knowledge products for audiences inside and outside the classroom.	Students **know** procedures for importing and manipulating pictures, images, and charts in word-processing documents and spreadsheets, presentations, and other creative works.	Students **understand** basic principles for collaborative product development and **identify** common roles for group members, typical rules governing individual group member responsibilities, and cooperative attitudes that facilitate successful teamwork.
4. Technology Communications Tools **a. Students use telecommunications to collaborate, publish, and interact with 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.	Students **know how to use** telecommunications to access remote information, to communicate with others in support of direct and independent learning, and to pursue personal interests.	Students **identify** telecommunications tools (e.g., e-mail, online discussions, Web environments) and online resources for collaborative projects with other students inside and outside the classroom who are studying similar curriculum-related content.	Students **know how to** develop Web-based telecommunications projects (e.g., WebQuest) that identify content, challenge other students who access the site to answer questions or give opinions adding to the content, and provide opportunities to evaluate responses or submissions for currency and accuracy.
b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.	Students independently **know how to use** a variety of media **to gathe**r information and ideas relevant to curriculum, accurately **summarize and illustrate** the material, and effectively **present** the final information using a variety of media.	Students **identify, discuss, and use** multimedia terms, software tools, and design strategies (e.g., multimedia authoring, Web tools) to develop and communicate curriculum content.	Students **identify** a variety of media and formats to create and edit products (e.g. presentations, newsletters, Web pages, portable document format) that communicate syntheses of information and ideas from the curriculum to multiple audiences.	Students i**dentify how** different forms of media can be used within one presentation to communicate effectively with a wide variety of audience participants.

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5. Technology Research Tools **a. Students use technology to locate, evaluate, and collect information from a variety of sources.**	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.	Students **use or identify correct terminology to describe** technology resources and search strategies for locating information in prepared content area databases.	Students **describe** steps for using common Web search engines and basic search functions of other technology resources to locate information, and guidelines for evaluating information from a variety of sources for its relevance to the curriculum.	Students **know how to apply** Boolean strategies to narrow the focus of the search for online information.
b. Students use technology tools to process data and report results.	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.	Students **identify, discuss, and visually represent** how and why databases are widely used to collect and organize information in schools, government, business, and science.	Students **describe how to** perform basic queries designed to process data and report results on assigned topics in the curriculum.	Students **know how to** plan and develop database reports to organize, explain, and display findings in content areas.
c. Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.	Students **provide** a logical rationale for choosing one type of hardware or software over another for completing a specific assigned task.	Students **know how to select** appropriate technology tools and resources evaluating the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information resources.	Students **identify, record, and organize** information on assigned topics in the curriculum by **selecting and using** appropriate information and communication technology tools and resources (e.g., slide show, timeline software, database, conceptual mapping).	Students **compare and contrast** the functions and capabilities of the database, spreadsheet, and word processor for processing data, calculating, and reporting results.
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** 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).	Students **know how to use** spreadsheet software to examine, sort, and graph data and to apply functions and formulas to calculate.	Students **know how to apply** their knowledge of problem-solving tools to **select** appropriate technology tools and resources to solve a specific problem or make a decision.	Students **know how to use** spreadsheet data and simulations to make predictions, strategize solutions, and evaluate decisions regarding steps to take in solving problems.
b. Students employ technology in the development of strategies for solving problems in the real world.	Students **identify** a strategy for solving a problem or completing a task by applying information generated using technology tools and resources.	Students **know how to use** technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities.	Students **know how to select and use** information and communication technology tools and resources to collect, organize, and evaluate information relevant to a real-world problem.	Students **recognize and discuss** how spreadsheets are used to calculate, graph, and represent data in a variety of settings (e.g., schools, government, business, industry, mathematics, science).

