

Learning Resources and Information Technology

CONTENT STANDARD 1: Defining Information Needs

Students will define their information needs and identify effective courses of action to conduct research, solve complex problems and pursue personal interests.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

STANDARD 1	K-2	3-4	5-6	7-8	9-10	11-12
TASK DEFINITION	1.K-2.1 restate the scope and ground rules of a task (such as time line, length, audience and presentation mode) with prompting	1.3-4.1 clearly restate the scope and ground rules of a task (such as time line, length, audience and presentation mode) with minimal prompting	1.5-6.1 independently and clearly restate the scope and ground rules for a given task	1.7-8.1 understand strategies for communicating the scope and ground rules for a given task to others	1.9-10.1 independently and clearly restate the scope and ground rules for a given task and demonstrate the ability to communicate them to others	1.11-12.1 further development and application of previous performance standard
EXISTING KNOWLEDGE	1.K-2.1 identify their existing knowledge and independently list areas where more information is needed	1.3-4.1 identify their existing knowledge and independently list areas where more information is needed	1.5-6.1 identify and discuss existing knowledge concerning a given task without prompting	1.7-8.1 understand strategies for communicating information and knowledge concerning a given task without prompting	1.9-10.1 independently identify and assess existing knowledge related to a given task and articulate information needs to information providers or peers	1.11-12.1 further development and application of previous performance standard
ESSENTIAL QUESTION	1.K-2.1 frame an essential question related to a topic of interest or assignment with assistance	1.3-4.1 frame an essential question related to a topic of interest or assignment with minimal assistance	1.5-6.1 frame an essential question using given information, and pose additional questions related to completion of the task	1.7-8.1 further development and application of previous performance standard	1.9-10.1 develop essential questions related to a topic and formulate a research hypothesis related to the topic	1.11-12.1 develop essential questions related to a topic and formulate alternative research hypothesis related to the topic
KEYWORDS	1.K-2.1 understand concept of keywords for searching for information	1.3-4.1 identify keywords for searching for information with assistance	1.5-6.1 identify keywords for searching information sources with minimal assistance	1.7-8.1 further development and application of previous performance standard	1.9-10.1 independently identify keywords for searching information sources	1.11-12.1 further development and application of previous performance standard
AVAILABLE RESOURCES	1.K-2.1 develop awareness of print, nonprint and electronic resources available through their school library media center	1.3-4.1 identify, locate and use appropriate print, nonprint and/or electronic resources available through their school library media center with assistance	1.5-6.1 identify, locate and use an array of print, nonprint and electronic resources available through their library media center with assistance, access resources outside the school	1.7-8.1 further development and application of previous performance standard	1.9-10.1 independently search print, nonprint and electronic resources within and outside their school	1.11-12.1 independently search print, nonprint, electronic and human resources within and outside their school
COURSE OF ACTION	1.K-2.1 describe a course of action for addressing the essential question	1.3-4.1 describe a course of action for addressing the essential question and completing the task	1.5-6.1 describe more than one course of action for addressing the essential question and select the most effective one with	1.7-8.1 independently describe more than one course of action for addressing the essential question and select the most	1.9-10.1 independently describe alternative courses of action for accomplishing a task and apply criteria for selecting a specific strategy	1.11-12.1 further development and application of previous performance standard

CONTENT STANDARD 1: Defining Information Needs						
<i>Students will define their information needs and identify effective courses of action to conduct research, solve complex problems and pursue personal interests.</i>						
EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:						
			assistance	effective one		

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CONTENT STANDARD 2: Information Systems

Students will apply principles of organized information systems to learning endeavors

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

STANDARD 2	K-2	3-4	5-6	7-8	9-10	11-12
ALPHABETIZING	2.K-2.1 alphabetize by first letter to find information in resources	2.3-4.1 alphabetize by second letter to find information in resources	2.5-6.1 alphabetize by word to find information in resources	2.7-8.1 further development and application of previous performance standard	2.9-10.1 further development and application of previous performance standard	2.11-12.1 further development and application of previous performance standard
ELECTRONIC MENUS	2.K-2.1 use simple graphic menus to locate information from electronic media	2.3-4.1 use simple graphic and text menus to locate information from electronic media	2.5-6.1 use more complex graphic and text menus to locate information from electronic media	2.7-8.1 demonstrate the ability to navigate through a variety of software menus to access information	2.9-10.1 further development and application of previous performance standard	2.11-12.1 further development and application of previous performance standard
KEYWORD SEARCHING	2.K-2.1 understand that keywords are used in searches	2.3-4.1 perform simple key word searches	2.5-6.1 combine keywords with simple Boolean operators to search electronic databases	2.7-8.1 use Boolean logic to search electronic databases	2.9-10.1 use Boolean logic with two or more variables to search electronic databases	2.11-12.1 further development and application of previous performance standard
PRINCIPLES OF LIBRARY ORGANIZATION	2.K-2.1 demonstrate the knowledge of various areas of the library media center	2.3-4.1 demonstrate the ability to locate information from various areas of the library media center, such as fiction, nonfiction and reference	2.5-6.1 describe principles of library organization (e.g., Dewey Decimal System, database protocols)	2.7-8.1 demonstrate principles of library organization by independently locating materials	2.9-10.1 apply standard principles of library and information systems organization to locate resources in other libraries and databases	2.11-12.2 further development and application of previous performance standard
CATALOGS AND INDICES	2.K-2.1 understand the purpose of on-line catalog and card catalog resources	2.3-4.1 use the on-line catalog or card catalog with assistance to locate resources	2.5-6.1 independently use the on-line catalog or card catalog to locate materials by author, title or subject, including cross references/links	2.7-8.1 understand the variety of ways indexes are used as organizers for information systems	2.9-10.1 independently access specific information from print and nonprint resources by using internal organizers (e.g., indexes and cross references)	2.11-12.2 further development and application of previous performance standard

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CONTENT STANDARD 3: Information Strategies

Students will demonstrate a command of information skills and strategies to locate and use effectively print, nonprint and/or electronic resources to solve problems, conduct research and pursue personal interests.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

STANDARD 3	K-2	3-4	5-6	7-8	9-10	11-12
IDENTIFY RESOURCES	3.K-2.1 identify and describe basic print, nonprint, almanacs, encyclopedia, dictionary and electronic reference sources (e.g., atlas, almanacs, encyclopedia, dictionary)	3.3-4.1 identify basic print, nonprint and electronic media formats and their characteristics, advantages and disadvantages	3.5-6.1 use organizing features of print, nonprint and electronic materials (tables of contents, menus, indexes, bibliographies and hyperlinks) to locate and use information	3.7-8.1 further development and application of previous performance standard	3.9-10.1 independently use advance references, indexes, dictionaries and abstracts	3.11-12.1 further development and application of previous performance standard
RESOURCE TERMINOLOGY	3.K-2.1 understand that there is special type of terminology for library and technology resource	3.3-4.1 use correct library/information/technology terminology	3.5-6.1 use correct library/information/technology terminology	3.7-8.1 use correct library/information/technology terminology	3.9-10.1 use correct library/information/technology terminology	3.11-12.1 use correct library/information/technology terminology
USING ELECTRONIC RESOURCES	3.K-2.1 describe a variety of media formats	3.3-4.1 select appropriate resources from a variety of media formats	3.5-6.1 search, find, sort and evaluate database information from computers, CD-ROM	3.7-8.1 select and use multiple appropriate resources and/or equipment to accomplish a given task	3.9-10.1 use key word descriptors and Boolean logic to perform advanced on-line and CD-ROM searches (e.g., field searches)	3.11-12.1 independently select and use appropriate connectivity with resources related to a task (e.g., telephone, e-mail, fax telecommunication)
INTERPRETATION OF INFORMATION	3.K-2.1 interpret simple charts, graphs and tables	3.3-4.1 interpret more complex charts, graphs, tables	3.5-6.1 select and use appropriate resources and/or equipment to accomplish a given task	3.7-8.1 search, find, sort and evaluate database and spreadsheet information from computers, CD-ROM and on-line resources	3.9-10.1 gather information from primary and secondary sources	3.11-12.1 further development and application of previous performance standard
GATHERING INFORMATION	3.K-2.1 understand that different media have different characteristics	3.3-4.1 further development and application of previous performance standard	3.5-6.1 recognize wide range of tools for extracting and recording information (notetaking, video, audio)	3.7-8.1 select the appropriate mechanism for recording information from a wide range of sources (e.g., notetaking, video,	3.9-10.1 independently use the full range of print, nonprint and electronic resources within the school or district	3.11-12.1 further development and application of previous performance standard

CONTENT STANDARD 3: Information Strategies

Students will demonstrate a command of information skills and strategies to locate and use effectively print, nonprint and/or electronic resources to solve problems, conduct research and pursue personal interests.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

				on-line, print, interview)		
RESOURCES OUTSIDE SCHOOL	3.K-2.1 demonstrate awareness of resources outside school (e.g. libraries, museums, people, electronic resources)	3.3-4.1 with assistance use resources outside school including electronic sources	3.5-6.1 with guidance establish connectivity with resources outside the school	3.7-8.1 demonstrate the ability to establish connectivity with resources outside the school (e.g., e-mail, computer conferencing, the Internet, the Connecticut Library Network)	3.9-10.1 independently use the full range of print, non-print electronic and human resources available within and outside of the school community	3.11-12.1 independently use the full range of print, non-print electronic and human resources available within and outside of the school community

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CONTENT STANDARD 4: Information Processing

Students will apply evaluative criteria to the selection, interpretation, analysis, reorganization and synthesis of information from a variety of sources and formats.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

STANDARD 4	K-2	3-4	5-6	7-8	9-10	11-12
SELECT SOURCES	4.K-2.1 establish criteria for selecting matter of interest	4.3-4.1 use simple evaluative criteria to select materials of interest at an appropriate ability level	4.5-6.1 develop and apply criteria for aligning resources with a specific need and presentation	4.7-8.1 develop and apply more complex criteria for aligning resources with a specific need and presentation	4.-9-10.1 develop and use personal and established criteria for selecting materials of appropriate breadth and depth of detail, format, illustrations, special features, level, content and purpose	4.11-12.1 use sources of information and independently apply evaluative criteria, including movie, point of view, biases and stereotypes, accuracy, continuity and currency in student selected activities
EVALUATIVE CRITERIA	4.K-2.1 understanding the appropriate sources of information and their different purposes	4.3-4.1 identify appropriate sources of information for a specific purpose	4.5-6.1 define stereotypes, biases and propaganda techniques in print, nonprint, and electronic resources	4.7-8.1 discern stereotypes, biases and propaganda techniques in print, nonprint, and electronic resources	4.9-10.1 demonstrate ability to identify sources of information and apply evaluative criteria, including motive, point of view, biases and stereotypes, accuracy, continuity and currency	4.11-12.1 further development and application of previous performance standard
DIFFERENTIATE SOURCES	4.K-2.1 distinguish between fiction and nonfiction	4.3-4.1 describe types of fiction (e.g., mystery, historical fiction)	4.5-6.1 differentiate among fiction, nonfiction and opinion pieces in a variety of media formats	4.7-8.1 apply evaluative criteria in using fiction, non-fiction and opinion pieces	4.9-10.1 apply an expanded set of evaluative criteria in using fiction, nonfiction and opinion pieces	4.11-12.1 further development and application of previous performance standard
SYNTHESIZE INFORMATION	4.K-2.1 develop criteria to judge the relevance and completeness of information	4.3-4.1 organize information for application by using a variety of organizational styles	4.5-6.1 with guidance synthesize information to draw meaningful conclusions and develop effective methods of presentation	4.7-8.1 independently synthesize information for applications by using an appropriate organizational style and the most effective method of presentation for the purpose and audience	4.9-10.1 further development and application of previous performance standard	4.11-12.1 further development and application of previous performance standard
APPLY EVALUATIVE CRITERIA	4.K-2.1 demonstrate attentive and purposeful listening and viewing skills	4.3-4.1 differentiate intent and details from audio and visual presentations	4.5-6.1 develop critical evaluation skills in viewing and listening	4.7-8.1 use critical evaluation skills in viewing and listening	4.9-10.1 demonstrate ability to redefine/adjust evaluative criteria applied to information during the research process and for the resulting product	4.11-12.1 further development and application of previous performance standard
USE INTERNET	4.K-2.1 demonstrate	4.3-4.1 understand Internet	4.5-6.1 develop an awareness of	4.7-8.1 develop and apply	4.9-10.1 consistently apply	4.11-12.1 consistently apply

CONTENT STANDARD 4: Information Processing

Students will apply evaluative criteria to the selection, interpretation, analysis, reorganization and synthesis of information from a variety of sources and formats.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

SOURCES	awareness of Internet and Internet vocabulary	vocabulary and basic access to Internet information	the nature of the Internet and the varied authenticity of Internet sources	criteria for evaluating and using Internet resources	evaluative criteria in using Internet resources	evaluative criteria in using Internet resources
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CONTENT STANDARD 5: Application

Students will use appropriate technologies to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

STANDARD 5	K-2	3-4	5-6	7-8	9-10	11-12
USING SOFTWARE	5.K-2.1 understand the mechanics of appropriate grade level software	5.3-4.1 use appropriate software (e.g., word processing, desktop publishing, graphing or charting) to create clear and organized presentations of ideas and conclusions	5.5-6.1 use appropriate software (e.g., spreadsheet, database, hypermedia) to construct, organize, analyze and interpret ideas and data, and present conclusions	5.7-8.1 incorporate mixed media (e.g., spreadsheets, database, hypermedia) to construct, organize, analyze and interpret ideas and data in a composite document	5.9-10.1 create databases and spreadsheets and a variety of graphic presentations to clearly communicate numeric information and opinion in an organized form	5.11-12.1 create databases and spreadsheets and a variety of graphic presentations to clearly communicate numeric information and opinion in an organized form in student selected activities
USING TELECOMMUNICATIONS	5.K-2.1 develop awareness and purpose of telecommunication for general use	5.3-4.1 with assistance, use telecommunication s, to post queries and present responses and new information to the electronic learning community	5.5-6.1 with guidance use telecommunications to locate and correspond with peers involved in similar studies	5.7-8.1 independently use telecommunications to locate and correspond with peers involved in similar studies	5.9-10.1 independently use telecommunications to search for and identify potential work, career or study opportunities	5.11-12.1 independently use telecommunication to search for, evaluate and obtain work, study or career opportunities
USING MULTIMEDIA TOOLS	5.K-2.1 develop awareness of the use of video, audio and multimedia tools for communication	5.3-4.1 with assistance use video, audio and multimedia tools to communicate ideas	5.5-6.1 with assistance select appropriate media from a variety of resources to create a clear and meaningful multimedia presentation	5.7-8.1 independently select appropriate media from a variety of resources to create a clear and meaningful multimedia presentation	5.9-10.1 further development and application of previous performance standard	5.11-12.1 further development and application of previous performance standard
OPERATING EQUIPMENT	5.K-2.1 identify equipment needed for information access (e.g., telephone, computer)	5.3-4.1 demonstrate operation of equipment needed for information access, organization and presentation	5.5-6.1 demonstrate operation of equipment needed for information access, organization and presentation	5.7-8.1 demonstrate operation of equipment needed for information access, organization and presentation	5.9-10.1 demonstrate operation of equipment needed for information access, organization and presentation	5.11-12.1 demonstrate operation of equipment needed for information access, organization and presentation
COMMUNICATING INFORMATION	5.K-2.1 identifies various media formats as communication vehicles	5.3-4.1 develop an awareness of the characteristics of various media formats	5.5-6.1 demonstrate an understanding of the strengths and weaknesses of various media formats as communications vehicles	5.7-8.1 with guidance determine the most appropriate technologies and formats to use in presenting materials gathered from a variety of print, nonprint, and electronic sources and to create a presentation that clearly communicates information, new knowledge and opinion	5.9-10.1 independently determine the most appropriate technologies and formats to use in presenting materials gathered from a variety of print, nonprint, and electronic sources and to create a presentation that clearly communicates information, new	5.11-12.1 independently determine the most appropriate technologies and formats to use in presenting materials gathered from a variety of print, nonprint, and electronic sources and to create a presentation that clearly communicates information, new

CONTENT STANDARD 5: Application

Students will use appropriate technologies to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

					knowledge and opinion	knowledge and opinion in student selected activities
NOTETAKING	5.K-2.1 develop awareness of notetaking from various media	5.3-4.1 with assistance demonstrate an ability to take notes from a variety of media	5.5-6.1 demonstrate an ability to take notes from a variety of media	5.7-8.1 consistently demonstrate the ability to take notes from a variety of media formats	5.9-10.1 consistently demonstrate the ability to take notes from a variety of media formats	5.11-12.1 consistently demonstrate the ability to take notes from a variety of media formats

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CONTENT STANDARD 6: Evaluation

Students will evaluate the effectiveness and efficiency of their own choices and uses of information and technology for problem-solving and communication.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

STANDARD 6	K-2	3-4	5-6	7-8	9-10	11-12
ASSESSING SEARCH PROCESS	6.K-2.1 awareness of the processes and skills for searching information	6.4-5.2 with assistance apply process and content standards for searching	6.5-6.1 with assistance and during the process, analyze and adjust information search strategies	6.7-8.1 with minimal assistance and during the process, analyze and adjust information search strategies	6.9-10.1 monitor and adjust search process continuously to improve its efficiency	6.11-12.1 further develop the ability to monitor and adjust search process continuously to improve its efficiency
ASSESSING QUALITY AND QUANTITY	6.K-2.1 define the concepts of quality and quantity of information resources related to an information need	6.3-4.1 assess, with assistance, the relevancy (quality) of retrieved information to the assigned need and the completeness (quantity) of information for the assignment	6.5-6.1 assess the quality and quantity of retrieved information and, with assistance, assess the credibility of retrieved information against the assigned need	6.7-8.1 assess the quality and quantity of retrieved information and, with assistance, assess the credibility of retrieved information against the assigned need	6.9-10.1 independently and continuously assess the quantity and quality (relevance, credibility) of retrieved information	6.11-12.1 further develop the ability to independently and continuously assess the quantity and quality (relevance, credibility) of retrieved information
ASSESSING EFFECTIVENESS	6.K-2.1 understand importance of considering audience when producing information products	6.3-4.1 with assistance create products which meet conventional standards, express ideas clearly to diverse audiences and use a variety of appropriate technologies	6.5-6.1 assess the overall effectiveness and efficiency of their search performance upon completion of the assignment with assistance	6.7-8.1 assess the overall effectiveness and efficiency of their search performance upon completion of the assignment and with assistance understand strategies for evaluating audience impact	6.9-10.1 create products which meet conventional and personal strategies for process, product and presentation and with assistance develop strategies for evaluating audience impact	6.11-12.1 independently and continually assess the effectiveness and efficiency of their processes, products, presentation and audience impact

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CONTENT STANDARD 7: Responsible Information Use

Students will demonstrate the responsible and legal use of information resources, computers and other technologies, recognizing the attendant social, economic and ethical issues.

EDUCATIONAL EXPERIENCE IN THE FOLLOWING GRADE CLUSTERS SHOULD ENSURE THAT ALL STUDENTS ARE ABLE TO:

STANDARD 7	K-2	3-4	5-6	7-8	9-10	11-12
COPYRIGHT	7.K-2.1 demonstrate an understanding of the concept of ownership of ideas and information	7.3-4.1 demonstrate an understanding of the concept of ownership of ideas and information by respecting and observing laws and/or guidelines for using information, hardware and networks	7.5-6.1 understands there are different types of ownership and protection of intellectual property (e.g., trademarks, copyrights)	7.7-8.1 differentiate among various types of ownership or protection of intellectual property (e.g., copyright, patents)	7.9-10.1 demonstrate an understanding of the process for copyrighting/protecting their own original work	7.11-12.1 further development and application of previous performance standard
BIBLIOGRAPHIC STANDARDS	7.K-2.1 demonstrate awareness for giving credit for information	7.3-4.1 apply established bibliographic standards for giving credit for information or ideas used	7.5-6.1 observe, in all original work, the ethical restraints imposed by copyright on using and transmitting information	7.7-8.1 able to locate established bibliographic standards for citing electronic sources	7.9-10.1 give complete bibliographic credit to original sources when using or transmitting information to others	7.11-12.1 give complete bibliographic credit to original sources when using or transmitting information to others
FAIR USE	7.K-2.1 develop awareness of concept of fair use	7.3-4.1 observe the legal and ethical limitations for using or copying print, nonprint or electronic information sources	7.5-6.1 understands concept of “fair use” guidelines for all types of protected materials	7.7-8.1 observe educational “fair use” guidelines for all types of protected materials	7.9-10.1 observe all ethical and legal restraints in copying or using material from any print, nonprint or electronic resources	7.11-12.1 observe all ethical and all restraints in copying or using material from any print, nonprint or electronic resources
RESPONSIBLE USE	7.K-2.1 develop awareness of the concept of responsible use	7.3-4.1 with guidance understand and follow guidelines for responsible use	7.5-6.1 demonstrate responsible and ethical use of hardware and networks	7.7-8.1 demonstrate responsible and ethical use of hardware and networks with an understanding of legal implications	7.9-10.1 demonstrate responsible and ethical use of hardware and networks with an understanding of legal implications	7.11-12.1 demonstrate responsible and ethical use of hardware and networks with an understanding of legal implications