ICT Outcomes K – 12 (Alberta Learning 2000-2003)

As with other curricula, many ICT outcomes can be met through use of well designed inquiry-based learning projects. The ICT curriculum presents concepts within three interrelated categories that are intended to be infused within core courses and programs:

C - COMMUNICATING, INQUIRING, DECISION MAKING AND PROBLEM SOLVING

F - FOUNDATIONAL OPERATIONS, KNOWLEDGE AND CONCEPTS

P - PROCESSES FOR PRODUCTIVITY

The category most closely aligned with the inquiry process is:

C - COMMUNICATING, INQUIRING, DECISION MAKING AND PROBLEM SOLVING

"Communicating, inquiring, decision making and problem solving are about the ability to use a variety of processes to **critically assess information, manage inquiry, solve problems, do research and communicate with a variety of audiences.** Students are expected to **apply** their knowledge and skills in real-life situations." ICT (K-12), Alberta Learning, 2000-2003, p. 2.

Division 1	Division 2	Division 3	Division 4

Think-it-Through is infused throughout the inquiry process.	**Division 1**	**Communicating, inquiring, decision making and problem solving**

Explore	**C6** 1.1 Identify a problem within a defined context.
	C7 1.1 Develop questions that reflect a personal information need.
Plan	No outcomes for this stage of inquiry.
Search	**C4** 1.1 Follow a plan to complete an inquiry.
	C1 1.1 Access and retrieve appropriate information from electronic sources for a specific inquiry.
	C4 1.2 Formulate new questions as research progresses.
	C4 1.3 Organize information from more than one source.
	C1 1.2 Process information from more than one source to retell what has been discovered.
	C3 1.1 Compare and contrast information from similar types of electronic sources.
	C7 1.2 Summarize data by picking key words from gathered information and by using jottings, point form or retelling.
	C7 1.3 Draw conclusions from organized information .
	C7 1.4 Make predictions based on organized information.
Present	**C5** 1.1 Share information collected from electronic sources to add to a group task.
	C6 1.2 Use technology to organize and display data in a problem-solving context.
	C6 1.3 Use technology to support and present conclusions.

Think-it-Through is infused throughout the inquiry process.	**Division 2**	**Communicating, inquiring, decision making and problem solving**

Explore

C5 2.2 Record group brainstorming, planning and sharing of ideas by using technology.

Plan

C4 2.1 Design and follow a plan, including a schedule, to be used during an inquiry process, and make revisions to the plan, as necessary.

C6 2.1 Select and use technology to assist in problem solving.

Search

C1 2.1 Access and retrieve appropriate information from the Internet by using a specific search path or from given uniform resource locations (URLs).

C6 2.2 Use data gathered from a variety of electronic sources to address identified problems.

C5 2.1 Retrieve data from available storage devices, such as a shared folder, to which a group has contributed.

C5 2.3 Extend the scope of a project beyond classroom collaboration by using communication technologies, such as the telephone or email.

C2 2.1 Seek responses to inquiries from various authorities through electronic media.

C4 2.2 Organize information, using such tools as database, spreadsheet or electronic webbing.

C3 2.1 Identify and distinguish points of view expressed in electronic sources on a particular topic.

C3 2.2 Recognize that information serves different purposes and that data from electronic sources may need to be verified to determine accuracy or relevance for the purpose used.

C6 2.6 Solve issue-related problems, using such communication tools as a word processor or email to involve others in the process.

C6 2.7 Generate alternative solutions to problems by using technology to facilitate the process.

C7 2.1 Use a variety of technologies to organize and synthesize researched information.

Present

C1 2.2 Organize information gathered from the Internet, or and electronic source, by selecting and recording the data in logical files or categories; and by communicating effectively, through appropriate forms, such as speeches, reports and multimedia presentations, applying information technologies that serve particular audiences and purposes.

C7 2.2 Use selected presentation tools to demonstrate connections among various pieces of information.

C6 2.3 Use graphic organizers, such as mind mapping/webbing, flow charting and outlining, to present connections between ideas and information in a problem-solving environment.

C4 2.3 Reflect on and describe the processes involved in completing a project.

	Division 3	Communicating, inquiring, decision making and problem solving

Explore

Plan

C5 3.2 Use networks to brainstorm, plan and share ideas with group members.
C4 3.1 Create a plan for an inquiry that includes consideration of time management.
C1 3.1 Plan and conduct a search, using a wide variety of electronic sources.
C4 3.2 Develop a process to manage volumes of information that can be made available through electronic resources

C6 3.1 Articulate clearly a plan of action to use technology to solve a problem.
C6 3.2 Identify appropriate materials and tools to use in order to accomplish a plan of action.

Search

C6 3.3 Evaluate choices and the progress in problem solving, then redefine the plan of action as appropriate.
C5 3.1 Access, retrieve and share information from electronic sources, such as common files.
C1 3.3 Access and operate multimedia applications and technologies from stand-alone and online sources.
C1 3.4 Access and retrieve information through the electronic network.
C1 3.2 Refine searches to limit sources to a manageable number.
C4 3.3 Demonstrate the advanced search skills necessary to limit the number of hits desired for online and offline databases; for example, the use of "and" or "or" between search topics and the choice of appropriate search engines for the topic.
C2 3.1 Access diverse viewpoints on particular topics by using appropriate technologies.
C2 3.2 Assemble and organize different viewpoints in order to assess their validity.
C2 3.3 Use information technology to find facts that support or refute diverse viewpoints.
C3 3.1 Evaluate the authority and reliability of electronic sources.
C3 3.2 Evaluate the relevance of electronically accessed information to a particular topic.
C7 3.1 Identify patterns in organized information.
C1 3.5 Analyze and synthesize information to create a product.
C6 3.4 Pose and test solutions to problems by using computer applications, such as computer-assisted design or simulation/modelling software.
C7 3.2 Make connections among related, organized data, and assemble various pieces into a unified message.

Present

C6 3.5 Create a simulation or model by using technology that permits the making of inferences.

C1 3.6 Communicate in a persuasive and engaging manner, through appropriate forms, such as speeches, letters, reports, multimedia presentations, applying information technologies for content, audience and purpose.

Think-it-Through is infused throughout the inquiry process.	Division 4	Communicating, inquiring, decision making and problem solving

Explore

No outcomes for this stage of inquiry.

C4 4.1 Use calendars, time management or project management software to assist in conducting an inquiry.

Plan

Search

C7 4.1 Use appropriate strategies to locate information to meet personal needs.

C1 4.1 Plan and perform complex searches, using more than one electronic source.

C1 4.2 Select information from appropriate sources, including primary and secondary sources.

C1 4.3 Evaluate and explain the advantages and disadvantages of various search strategies.

C2 4.1 Consult a wide variety of sources that reflect varied viewpoints on particular topics.

C2 4.2 Evaluate the validity of gathered viewpoints against other sources.

C3 4.1 Assess the authority, reliability and validity of electronically accessed information.

C3 4.2 Demonstrate discriminatory selection of electronically accessed information that is relevant to a particular topic.

C5 4.1 Use telecommunications to pose critical questions to experts.

C5 4.2 Participate in a variety of electronic group formats.

C6 4.1 Investigate and solve problems of prediction, calculation and inference.

C6 4.2 Investigate and solve problems of organization and manipulation of information.

C6 4.3 Manipulate data by using charting and graphing technologies in order to test inferences and probabilities.

C6 4.4 Generate new understandings of problematic situations by using some form of technology to facilitate the process.

C7 4.2 Analyze and synthesize information to determine patterns and links among ideas.

Present

C7 4.3 Use appropriate presentation software to demonstrate personal understandings.

C1 4.4 Communicate in a persuasive and engaging manner, through appropriate forms, such as speeches, letters, reports and multimedia presentations, applying information technologies for context, audience and purpose that extend and communicate understanding of complex issues.

C6 4.5 Evaluate the appropriateness of the technology used to investigate or solve a problem.

F - FOUNDATIONAL OPERATIONS, KNOWLEDGE AND CONCEPTS

"Foundational operations, knowledge and concepts is about understanding the nature and affect of technology, **the moral and ethical use of technology, mass media in a digitized context,** ergonomic and safety issues, and basic computer, telecommunication and multimedia technology operations." ICT (K-12), Alberta Learning, 2000-2003, p. 2.

Division 1	Division 2	Division 3	Division 4

Think-it-Through is infused throughout the inquiry process.	Division 1	Foundational operations, knowledge and concepts

Explore	No outcomes for this stage of inquiry.
Plan	**F1** 1.1 Identify techniques and tools for communicating, storing, retrieving and selecting information.
Search	**F3** 1.4 Recognize and acknowledge the ownership of electronic material.
	F3 1.5 Use appropriate communication etiquette.
	F4 1.1 Compare similar types of information from two different electronic sources.
Present	No outcomes for this stage of inquiry.

Think-it-Through is infused throughout the inquiry process.	Division 2	Foundational operations, knowledge and concepts

Explore	No outcomes for this stage of inquiry.
Plan	No outcomes for this stage of inquiry.
Search	**F1** 2.2 Identify *and apply* techniques and tools for communicating, storing, retrieving and selecting information.
	F2 2.4 Assess the personal significance of having limitless access to information provided by communication networks, such as the Internet.
	F2 2.5 Describe, using examples, how communication and information networks, such as the telephone and the Internet, create a global community.
	F3 2.3 Use appropriate communication language and etiquette.
	F3 2.4 Document sources obtained electronically, such as web site addresses.
	F3 2.5 Respect the privacy and products of others.
	F3 2.7 Comply with copyright legislation.
	F4 2.1 Recognize that graphics, video and sound enhance communication.
	F4 2.2 Describe how the use of various texts and graphics can alter perception.
	F4 2.3 Discuss how technology can be used to create special effects and/or to manipulate intent through the use of images and sound.
	F6 2.2 Use and organize files and directories.
Present	No outcomes for this stage of inquiry.

Think-it-Through is infused throughout the inquiry process.	# Division 3	**Foundational operations, knowledge and concepts**

Explore   No outcomes for this stage of inquiry.

Plan   **F3** 3.1 Use time and resources on the network wisely.

Search   **F1** 3.1 Demonstrate an understanding that information can be transmitted through a variety of media.

F3 3.3 Understand the need for copyright legislation.

F3 3.4 Cite sources when using copyright and/or public domain material.

F4 3.2 Understand the nature of various media and how they are consciously used to influence an audience.

F4 3.3 Identify specific techniques used by the media to elicit particular responses from an audience.

Present   No outcomes for this stage of inquiry.

Think-it-Through is infused throughout the inquiry process.	# Division 4	**Foundational operations, knowledge and concepts**

Explore   No outcomes for this stage of inquiry.

Plan   No outcomes for this stage of inquiry.

Search   **F2** 4.7 Use current, reliable information sources from around the world.

F3 4.2 Record relevant data for acknowledging sources of information, and cite sources correctly.

F3 4.3 Respect ownership and integrity of information.

F4 4.1 Discriminate between style and content in a presentation.

F4 4.3 Identify and analyze a variety of factors that affect the authenticity of information derived from mass media and electronic communication.

Present   No outcomes for this stage of inquiry.

P - PROCESSES FOR PRODUCTIVITY

"Processes for productivity is about knowledge and skills required to use a variety of **basic productivity tools and techniques…**" ICT (K-12), Alberta Learning, 2000-2003, p. 2.

Division 1	Division 2	Division 3	Division 4

Think-it-Through is infused throughout the inquiry process.	**Division 1**	Processes for productivity

Explore — No outcomes for this stage of inquiry.

Plan — No outcomes for this stage of inquiry.

Search —
P2 1.1 Read information from a prepared database.

P5 1.1 Navigate within a document, compact disc or other software program that contains links.

P5 1.2 Access hyperlinked sites on an intranet or the Internet.

P6 1.1 Compose a message that can be sent through communication technology.

P6 1.2 Communicate electronically with people outside the classroom (e.g. email an expert).

Present —

P1 1.1 Create original text, using work processing software, to communicate…

P1 1.2 Edit complete sentences, using such features of word processing as cut, copy and paste.

P3 1.1 Access images, such as clip art, to support communication.

P3 1.2 Create visual images by using such tools as paint and draw programs for particular audiences and purposes.

P3 1.3 Access sound clips or recorded voice to support communication.

P4 1.1 Integrate text and graphics to form a meaningful message.

P4 1.2 Balance text and graphics for visual effect.

Think-it-Through is infused throughout the inquiry process.	**Division 2**	**Processes for productivity**

Explore   No outcomes for this stage of inquiry.

Plan   **P6** 2.1 Select and use the technology appropriate to a given communication situation.

Search   **P2** 2.1 Enter and manipulate data by using such tools as spreadsheets or databases for a specific purpose.

P5 2.2 Navigate through a document that contains links to locate, copy and then paste data in a new file.

P5 2.3 Navigate the Internet with appropriate software.

Present   **P5** 2.1 Create and navigate a multiple-link document.

P1 2.1 Create and revise original text to communicate…

P1 2.2 Edit and format text to clarify and enhance meaning, using such word processing features as the thesaurus, find/change, text alignment, font size and font style.

P2 2.2 Display data electronically through graphs and charts.

P3 2.1 Create a multimedia presentation, incorporating such features as visual images, sounds, and animated images, appropriate to a variety of audiences and purposes.

P3 2.2 Access available databases for images to support communication.

P4 2.1 Integrate a spreadsheet, or graphs generated by a spreadsheet, into a text document.

P4 2.2 Vary font size and font style, and placement of text and graphics, in order to create a certain visual effect.

Think-it-Through is infused throughout the inquiry process.	**Division 3**	**Processes for productivity**

Explore No outcomes for this stage of inquiry.

Plan No outcomes for this stage of inquiry.

Search **P5** 3.2 Demonstrate proficient use of various information retrieval technologies.

P6 3.2 Demonstrate proficiency in accessing local area network, wide area network and Internet services, including uploading and downloading text, image, audio and video files.

P2 3.1 Design, create and modify a database for a specific purpose.

P2 3.3 Use a variety of technological graphing tools to draw graphs for data involving one or two variables.

Present

P1 3.1 Design a document, using style sheets and with attention to page layout, that incorporates advanced word processing techniques, including headers, footers, margins, columns, table of contents, bibliography and index.

P1 3.2 Use advanced word processing menu features to accomplish a task; for example, insert a table, graph or text from another document.

P1 3.3 Revise text documents based on feedback from others.

P1 3.4 Use appropriate communication technology to elicit feedback from others.

P3 3.1 Create multimedia presentations that take into account audiences of diverse size, age, gender, ethnicity and geographic location.

P3 3.2 Create multimedia presentations that incorporate meaningful graphics, audio, video and text gathered from remote sources.

P5 3.1 Create a multiple-link web page.

P6 3.1 Communicate with a targeted audience, within a controlled environment, by using such communication technologies as email and web browsers.

Think-it-Through is infused throughout the inquiry process.	**Division 4**	**Processes for productivity**

Explore   No outcomes for this stage of inquiry.

Plan   **P6** 4.1 Select and use the appropriate technologies communicate effectively with a targeted audience.

Search   No outcomes for this stage of inquiry.

Present   **P3** 4.1 Select and use, independently, multimedia capabilities for presentations in various subject areas.

P3 4.2 Support communication with appropriate images, sounds and music.

P4 4.1 Integrate a variety of visual and audio information into a document to create a message targeted for a specific audience.

P4 4.2 Apply principles of graphic design to enhance meaning and audience appeal.

P5 4.1 Create multiple-link documents appropriate to the content of a particular topic.

P5 4.2 Post multiple-link pages on the World Wide Web or on a local or wide area network.