INFORMATION AND COMMUNICATION TECHNOLOGY

A. RATIONALE AND PHILOSOPHY

The Information and Communication Technology (ICT) curriculum provides a broad perspective on the nature of technology, how to use and apply a variety of technologies, and the impact of ICT on self and society. Students in Kindergarten through Grade 12 will be encouraged to grapple with the complexities, as well as the advantages and disadvantages, of technologies in our lives and workplaces. **The ICT curriculum is not intended to stand alone, but rather to be infused within core courses and programs**.

Technology is best learned within the context of applications. Activities, projects and problems that replicate real-life situations are effective resources for learning technology. Students will learn:

- that, although technology is often complex, it is simply "a way of doing things"
- about the impact of technologies in their lives and workplaces
- how to determine which processes, tools and techniques to use, and when to use them
- how to use and apply a variety of information and communication technologies to problem solving, decision making, inquiring and researching in the context of other subject matter.

Technology will serve today's students well—in entry-level work and beyond, in further study and lifelong learning, and in their personal lives as inquisitive, reflective, discerning and caring citizens. Advanced technologies are more pervasive today than they have ever been, and their uses are expanding continually. ICT is significantly enhancing and altering human activity, and enabling us to live, work and think in ways that most of us never thought possible.

Since technology has an increasingly significant impact, and such broad implications for everyone—individuals, groups and entire nations—students must be prepared to understand, use and apply ICT in effective, efficient and ethical ways.

A Way of Doing Things

Technology is about the ways things are done; the processes, tools and techniques that alter human activity. ICT is about the new ways in which we can communicate, inquire, make decisions and solve problems. It is the processes, tools and techniques for:

- gathering and identifying information
- classifying and organizing
- summarizing and synthesizing
- analyzing and evaluating
- speculating and predicting.

The ICT curriculum presents these concepts within three interrelated categories:

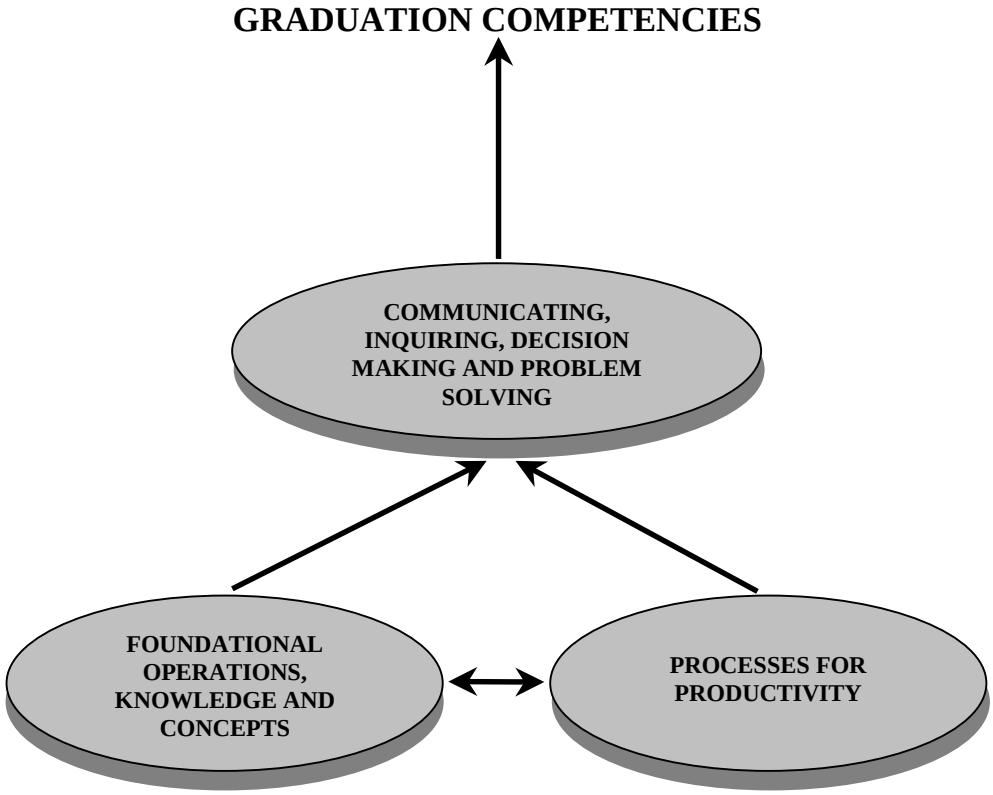
- communicating, inquiring, decision making and problem solving
- foundational operations, knowledge and concepts
- processes for productivity.

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.

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.

Processes for productivity is about the knowledge and skills required to use a variety of basic productivity tools and techniques—for example, text composition; data organization; graphical, audio and multimedia composition and manipulation; media and process integration; and electronic communication, navigation and collaboration through electronic means.

Expected ICT graduation competencies are illustrated in the diagram below.



Information and Communication Technology Outcomes

ICT CURRICULUM

The contents of the ICT curriculum include:

- general outcomes
- specific outcomes
- illustrative examples
- assessment framework.

There is a progressive sequence of skill development throughout the grades.

General Outcomes

General outcomes are statements that identify what students are expected to know, be able to do and value upon completion of an exit level.

Specific Outcomes

Specific outcomes are statements identifying the component knowledge, skills and attitudes of a general outcome.

Illustrative Examples

Illustrative examples are provided in support documents and arranged by grade and subject. They are sample tasks that demonstrate and elaborate on the general and specific outcomes. They are important in further clarifying the intent of the outcomes and in conveying their richness, breadth and depth. There are suggestions for their placement in certain grade levels and/or subject areas, but they can be developed in any sequence that best meets student needs. **The illustrative examples are for discretionary use.**

Assessment Framework

The *Classroom Assessment Tool Kit* provides a support framework for determining student competencies in the ICT outcomes within core subjects and courses. Sample assessment tasks are provided in the subject areas of language arts, mathematics, science and social studies for Grade 3, Grade 6, Grade 9 and 20- and 23-level courses. These can be found at the Alberta Learning web site.

CURRICULUM OUTCOMES FORMAT

The format of the ICT curriculum has been structured in two ways. The outcomes, by category, are displayed once across all four divisions, and then stated once again, within each division.

FRENCH IMMERSION AND FRANCOPHONE PROGRAMS

Schools offering francophone and French immersion programs must take into account that ICT outcomes are to be achieved in the French language. Thus, the acquisition of software and operating systems should be consistent with the language of learning. In the case of dual-track schools, decisions regarding software and operating systems should be made on the basis of the needs of both student clienteles.

SOFTWARE TOOLS

Appropriate computer-based software tools are:

- word processing
- database
- spreadsheet
- draw/paint/graphics applications
- Internet browser
- email
- multimedia applications
- clipart/media clips.

OUTCOME ORGANIZATION

OUTCOME CATEGORIES

Communicating, Inquiring, Decision Making and Problem Solving	
C1	Students will access, use and communicate information from a variety of technologies.
C2	Students will seek alternative viewpoints, using information technologies.
C3	Students will critically assess information accessed through the use of a variety of technologies.
C4	Students will use organizational processes and tools to manage inquiry.
C5	Students will use technology to aid collaboration during inquiry.
C6	Students will use technology to investigate and/or solve problems.
C7	Students will use electronic research techniques to construct personal knowledge and meaning.

Foundational Operations, Knowledge and Concepts	
F1	Students will demonstrate an understanding of the nature of technology.
F2	Students will understand the role of technology as it applies to self, work and society.
F3	Students will demonstrate a moral and ethical approach to the use of technology.
F4	Students will become discerning consumers of mass media and electronic information.
F5	Students will practise the concepts of ergonomics and safety when using technology.
F6	Students will demonstrate a basic understanding of the operating skills required in a variety of technologies.

Processes for Productivity	
P1	Students will compose, revise and edit text.
P2	Students will organize and manipulate data.
P3	Students will communicate through multimedia.
P4	Students will integrate various applications.
P5	Students will navigate and create hyperlinked resources.
P6	Students will use communication technology to interact with others.

B. GENERAL AND SPECIFIC OUTCOMES

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C1 **Students will access, use and communicate information from a variety of technologies.**	**DIVISION 1** C1 1.1 access and retrieve appropriate information from electronic sources for a specific inquiry 1.2 process information from more than one source to retell what has been discovered **DIVISION 2** C1 2.1 access and retrieve appropriate information from the Internet by using a specific search path or from given uniform resource locations (URLs) 2.2 organize information gathered from the Internet, or an 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 **DIVISION 3** C1 3.1 plan and conduct a search, using a wide variety of electronic sources 3.2 refine searches to limit sources to a manageable number 3.3 access and operate multimedia applications and technologies from stand-alone and online sources 3.4 access and retrieve information through the electronic network 3.5 analyze and synthesize information to create a product 3.6 communicate in a persuasive and engaging manner, through appropriate forms, such as speeches, letters, reports and multimedia presentations, applying information technologies for content, audience and purpose **DIVISION 4** C1 4.1 plan and perform complex searches, using more than one electronic source 4.2 select information from appropriate sources, including primary and secondary sources 4.3 evaluate and explain the advantages and disadvantages of various search strategies 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

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C2 **Students will seek alternative viewpoints, using information technologies.**	**DIVISION 1** C2 1.1 [no outcomes for this division] **DIVISION 2** C2 2.1 seek responses to inquiries from various authorities through electronic media **DIVISION 3** C2 3.1 access diverse viewpoints on particular topics by using appropriate technologies 3.2 assemble and organize different viewpoints in order to assess their validity 3.3 use information technology to find facts that support or refute diverse viewpoints **DIVISION 4** C2 4.1 consult a wide variety of sources that reflect varied viewpoints on particular topics 4.2 evaluate the validity of gathered viewpoints against other sources
C3 **Students will critically assess information accessed through the use of a variety of technologies.**	**DIVISION 1** C3 1.1 compare and contrast information from similar types of electronic sources **DIVISION 2** C3 2.1 identify and distinguish points of view expressed in electronic sources on a particular topic 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 **DIVISION 3** C3 3.1 evaluate the authority and reliability of electronic sources 3.2 evaluate the relevance of electronically accessed information to a particular topic **DIVISION 4** C3 4.1 assess the authority, reliability and validity of electronically accessed information 4.2 demonstrate discriminatory selection of electronically accessed information that is relevant to a particular topic

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C4 **Students will use organizational processes and tools to manage inquiry.**	**DIVISION 1** C4 1.1 follow a plan to complete an inquiry 1.2 formulate new questions as research progresses 1.3 organize information from more than one source **DIVISION 2** 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 2.2 organize information, using such tools as a database, spreadsheet or electronic webbing 2.3 reflect on and describe the processes involved in completing a project **DIVISION 3** C4 3.1 create a plan for an inquiry that includes consideration of time management 3.2 develop a process to manage volumes of information that can be made available through electronic sources 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 **DIVISION 4** C4 4.1 use calendars, time management or project management software to assist in conducting an inquiry

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C5 **Students will use technology to aid collaboration during inquiry**.	**DIVISION 1** C5 1.1 share information collected from electronic sources to add to a group task **DIVISION 2** C5 2.1 retrieve data from available storage devices, such as a shared folder, to which a group has contributed 2.2 record group brainstorming, planning and sharing of ideas by using technology 2.3 extend the scope of a project beyond classroom collaboration by using communication technologies, such as the telephone and email **DIVISION 3** C5 3.1 access, retrieve and share information from electronic sources, such as common files 3.2 use networks to brainstorm, plan and share ideas with group members **DIVISION 4** C5 4.1 use telecommunications to pose critical questions to experts 4.2 participate in a variety of electronic group formats

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C6 **Students will use technology to investigate and/or solve problems.**	**DIVISION 1** C6 1.1 identify a problem within a defined context 1.2 use technology to organize and display data in a problem-solving context 1.3 use technology to support and present conclusions **DIVISION 2** C6 2.1 select and use technology to assist in problem solving 2.2 use data gathered from a variety of electronic sources to address identified problems 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 2.4 solve problems, using numerical operations and such tools as calculators and spreadsheets 2.5 solve problems requiring the sorting, organizing, classifying and extending of data, using such tools as calculators, spreadsheets, databases or hypertext technology 2.6 solve issue-related problems, using such communication tools as a word processor or email to involve others in the process 2.7 generate alternative solutions to problems by using technology to facilitate the process **DIVISION 3** C6 3.1 articulate clearly a plan of action to use technology to solve a problem 3.2 identify the appropriate materials and tools to use in order to accomplish a plan of action 3.3 evaluate choices and the progress in problem solving, then redefine the plan of action as appropriate 3.4 pose and test solutions to problems by using computer applications, such as computer-assisted design or simulation/modelling software 3.5 create a simulation or a model by using technology that permits the making of inferences **DIVISION 4** C6 4.1 investigate and solve problems of prediction, calculation and inference 4.2 investigate and solve problems of organization and manipulation of information 4.3 manipulate data by using charting and graphing technologies in order to test inferences and probabilities 4.4 generate new understandings of problematic situations by using some form of technology to facilitate the process 4.5 evaluate the appropriateness of the technology used to investigate or solve a problem

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C7 **Students will use electronic research techniques to construct personal knowledge and meaning.**	**DIVISION 1** C7 1.1 develop questions that reflect a personal information need 1.2 summarize data by picking key words from gathered information and by using jottings, point form or retelling 1.3 draw conclusions from organized information 1.4 make predictions based on organized information **DIVISION 2** C7 2.1 use a variety of technologies to organize and synthesize researched information 2.2 use selected presentation tools to demonstrate connections among various pieces of information **DIVISION 3** C7 3.1 identify patterns in organized information 3.2 make connections among related, organized data, and assemble various pieces into a unified message **DIVISION 4** C7 4.1 use appropriate strategies to locate information to meet personal needs 4.2 analyze and synthesize information to determine patterns and links among ideas 4.3 use appropriate presentation software to demonstrate personal understandings

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F1 **Students will demonstrate an understanding of the nature of technology.**	**DIVISION 1** F1 1.1 identify techniques and tools for communicating, storing, retrieving and selecting information 1.2 apply terminology appropriate to the technologies being used at this division level 1.3 demonstrate an understanding that the user manages and controls the outcomes of technology **DIVISION 2** F1 2.1 apply terminology appropriate to the technologies being used at this division level 2.2 identify and apply techniques and tools for communicating, storing, retrieving and selecting information 2.3 explain the advantages and limitations of using computers to store, organize, retrieve and select information 2.4 recognize the potential for human error when using technology **DIVISION 3** F1 3.1 demonstrate an understanding that information can be transmitted through a variety of media 3.2 explain the concept of software and hardware compatibility 3.3 apply terminology appropriate to the technology being used at this division level 3.4 demonstrate an understanding that digital technology follows a logical order of operations 3.5 explain the difference between digital and analog data on communication systems 3.6 explain how the need for global communication affects technology around the world 3.7 demonstrate the ability to troubleshoot technical problems 3.8 demonstrate an understanding that technology is a process, technique or tool used to alter human activity **DIVISION 4** F1 4.1 assess the strengths and weaknesses of computer simulations in relation to real-world problems 4.2 solve mathematical and scientific problems by selecting appropriate technology to perform calculations and experiments 4.3 apply terminology appropriate to technology in all forms of communication 4.4 demonstrate an understanding of the general concepts of computer programming and the algorithms that enable technological devices to perform operations and solve problems

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F2 **Students will understand the role of technology as it applies to self, work and society.**	**DIVISION 1** F2 1.1 identify technologies used in everyday life 1.2 describe particular technologies being used for specific purposes **DIVISION 2** F2 2.1 identify how technological developments influence one's life 2.2 identify the role technology plays in a variety of careers 2.3 examine the environmental issues related to the use of technology 2.4 assess the personal significance of having limitless access to information provided by communication networks, such as the Internet 2.5 describe, using examples, how communication and information networks, such as the telephone and the Internet, create a global community **DIVISION 3** F2 3.1 describe the impact of communication technologies on past, present and future workplaces, lifestyles and the environment 3.2 identify potential technology-related career paths 3.3 identify the cultural impact of global communication 3.4 evaluate the driving forces behind various technological inventions 3.5 make inferences regarding future trends in the development and impact of communication technologies 3.6 explain ways in which technology can assist in the monitoring of local and global environmental conditions 3.7 analyze and assess the impact on society of having limitless access to information 3.8 identify the manner in which telecommunications technology affects time and distance **DIVISION 4** F2 4.1 use technology outside formal classroom settings 4.2 analyze how technological innovations and creativity affect the economy 4.3 demonstrate an understanding of new and emerging communication systems 4.4 evaluate possible potential for emerging technologies 4.5 demonstrate conservation measures when using technology 4.6 demonstrate an understanding of the basic principles and issues of e-commerce, including such topics as security and privacy, marketing, and implications for governments, businesses and consumers alike 4.7 use current, reliable information sources from around the world 4.8 analyze and assess the impact of technology on the global community

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F3 **Students will demonstrate a moral and ethical approach to the use of technology.**	**DIVISION 1** F3 1.1 demonstrate courtesy and follow classroom procedures when making appropriate use of computer technologies 1.2 work collaboratively to share limited resources 1.3 demonstrate appropriate care of technology equipment 1.4 recognize and acknowledge the ownership of electronic material 1.5 use appropriate communication etiquette **DIVISION 2** F3 2.1 comply with the acceptable use policy of the school and school authority for Internet and networked services, including software licensing agreements 2.2 work collaboratively to share limited resources 2.3 use appropriate communication language and etiquette 2.4 document sources obtained electronically, such as web site addresses 2.5 respect the privacy and products of others 2.6 use electronic networks in an ethical manner 2.7 comply with copyright legislation **DIVISION 3** F3 3.1 use time and resources on the network wisely 3.2 explain the issues involved in balancing the right to access information with the right to personal privacy 3.3 understand the need for copyright legislation 3.4 cite sources when using copyright and/or public domain material 3.5 download and transmit only materials that comply with the established network use policies and practices 3.6 model and assume personal responsibility for ethical behaviour and attitudes and acceptable use of information technologies and sources in local and global contexts **DIVISION 4** F3 4.1 demonstrate an understanding of how changes in technology can benefit or harm society 4.2 record relevant data for acknowledging sources of information, and cite sources correctly 4.3 respect ownership and integrity of information

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F4 **Students will become discerning consumers of mass media and electronic information.**	**DIVISION 1** F4 1.1 compare similar types of information from two different electronic sources **DIVISION 2** F4 2.1 recognize that graphics, video and sound enhance communication 2.2 describe how the use of various texts and graphics can alter perception 2.3 discuss how technology can be used to create special effects and/or to manipulate intent through the use of images and sound **DIVISION 3** F4 3.1 identify aspects of style in a presentation 3.2 understand the nature of various media and how they are consciously used to influence an audience 3.3 identify specific techniques used by the media to elicit particular responses from an audience 3.4 recognize that the ability of technology to manipulate images and sound can alter the meaning of a communication **DIVISION 4** F4 4.1 discriminate between style and content in a presentation 4.2 evaluate the influence and results of digital manipulation on our perceptions 4.3 identify and analyze a variety of factors that affect the authenticity of information derived from mass media and electronic communication

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F5 **Students will practise the concepts of ergonomics and safety when using technology.**	**DIVISION 1** F5 1.1 demonstrate proper posture when using a computer 1.2 demonstrate safe behaviours when using technology **DIVISION 2** F5 2.1 demonstrate the application of ergonomics to promote personal health and well-being 2.2 identify and apply safety procedures required for the technology being used **DIVISION 3** F5 3.1 identify risks to health and safety that result from improper use of technology 3.2 identify and apply safety procedures required for the technology being used **DIVISION 4** F5 4.1 assess new physical environments with respect to ergonomics 4.2 identify safety regulations specific to the technology being used

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F6 **Students will demonstrate a basic understanding of the operating skills required in a variety of technologies.**	**DIVISION 1** F6 1.1 perform basic computer operations, which may vary by environment, including powering up, inserting disks, moving the cursor, clicking on an icon, using pull-down menus, executing programs, saving files, retrieving files, printing, ejecting disks and powering down 1.2 use proper keyboarding techniques for the home row, enter, space bar, tab, backspace, delete and insertion-point arrow keys 1.3 operate basic audio and video equipment, including inserting, playing, recording and ejecting media **DIVISION 2** F6 2.1 power up and power down various technologies and peripherals correctly 2.2 use and organize files and directories 2.3 use peripherals, including printers and scanners 2.4 use appropriate keyboarding techniques for the alphabetic and punctuation keys **DIVISION 3** F6 3.1 connect and use audio, video and digital equipment 3.2 perform routine data maintenance and management of personal files 3.3 demonstrate proficiency in uploading and downloading text, image, audio and video files 3.4 demonstrate the ability to control devices electronically 3.5 describe the steps involved in loading software 3.6 identify and apply safety procedures, including antivirus scans and virus checks, to maintain data integrity **DIVISION 4** F6 4.1 continue to demonstrate the outcomes addressed within the previous divisions. Students interested in pursuing advanced study in such areas as electronics, programming, computer-aided design and drafting (CADD), robotics and other industrial applications of technology will find opportunities in Career and Technology Studies (CTS) courses.

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P1 **Students will compose, revise and edit text.**	**DIVISION 1** P1 1.1 create original text, using word processing software, to communicate and demonstrate understanding of forms and techniques 1.2 edit complete sentences, using such features of word processing as cut, copy and paste **DIVISION 2** P1 2.1 create and revise original text to communicate and demonstrate understanding of forms and techniques 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 2.3 convert digital text files by opening and saving them as different file types **DIVISION 3** 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 3.2 use advanced word processing menu features to accomplish a task; for example, insert a table, graph or text from another document 3.3 revise text documents based on feedback from others 3.4 use appropriate communication technology to elicit feedback from others **DIVISION 4** P1 4.1 continue to demonstrate the outcomes achieved in prior grades and course subjects

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P2 **Students will organize and manipulate data.**	**DIVISION 1** P2 1.1 read information from a prepared database **DIVISION 2** P2 2.1 enter and manipulate data by using such tools as spreadsheets or databases for a specific purpose 2.2 display data electronically through graphs and charts **DIVISION 3** P2 3.1 design, create and modify a database for a specific purpose 3.2 design, create and modify a spreadsheet for a specific purpose, using functions such as SUM, PRODUCT, QUOTIENT and AVERAGE 3.3 use a variety of technological graphing tools to draw graphs for data involving one or two variables 3.4 use a scientific calculator or a computer to solve problems involving rational numbers **DIVISION 4** P2 4.1 manipulate and present data through the selection of appropriate tools, such as scientific instrumentation, calculators, databases and/or spreadsheets

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P3 **Students will communicate through multimedia.**	**DIVISION 1** P3 1.1 access images, such as clip art, to support communication 1.2 create visual images by using such tools as paint and draw programs for particular audiences and purposes 1.3 access sound clips or recorded voice to support communication **DIVISION 2** P3 2.1 create a multimedia presentation, incorporating such features as visual images (clip art, video clips), sounds (live recordings, sound clips) and animated images, appropriate to a variety of audiences and purposes 2.2 access available databases for images to support communication **DIVISION 3** P3 3.1 create multimedia presentations that take into account audiences of diverse size, age, gender, ethnicity and geographic location 3.2 create multimedia presentations that incorporate meaningful graphics, audio, video and text gathered from remote sources **DIVISION 4** P3 4.1 select and use, independently, multimedia capabilities for presentations in various subject areas 4.2 support communication with appropriate images, sounds and music 4.3 apply general principles of graphic layout and design to a document in process

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P4 **Students will integrate various applications.**	**DIVISION 1** P4 1.1 integrate text and graphics to form a meaningful message 1.2 balance text and graphics for visual effect **DIVISION 2** P4 2.1 integrate a spreadsheet, or graphs generated by a spreadsheet, into a text document 2.2 vary font size and font style, and placement of text and graphics, in order to create a certain visual effect **DIVISION 3** P4 3.1 integrate information from a database into a text document 3.2 integrate database reports into a text document 3.3 emphasize information, using placement and colour **DIVISION 4** P4 4.1 integrate a variety of visual and audio information into a document to create a message targeted for a specific audience 4.2 apply principles of graphic design to enhance meaning and audience appeal 4.3 use integrated software effectively and efficiently to reproduce work that incorporates data, graphics and text

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P5 **Students will navigate and create hyperlinked resources.**	**DIVISION 1** P5 1.1 navigate within a document, compact disc or other software program that contains links 1.2 access hyperlinked sites on an intranet or the Internet **DIVISION 2** P5 2.1 create and navigate a multiple-link document 2.2 navigate through a document that contains links to locate, copy and then paste data in a new file 2.3 navigate the Internet with appropriate software **DIVISION 3** P5 3.1 create a multiple-link web page 3.2 demonstrate proficient use of various information retrieval technologies **DIVISION 4** P5 4.1 create multiple-link documents appropriate to the content of a particular topic 4.2 post multiple-link pages on the World Wide Web or on a local or wide area network

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P6 **Students will use communication technology to interact with others.**	**DIVISION 1** P6 1.1 compose a message that can be sent through communication technology 1.2 communicate electronically with people outside the classroom **DIVISION 2** P6 2.1 select and use the technology appropriate to a given communication situation **DIVISION 3** P6 3.1 communicate with a targeted audience, within a controlled environment, by using such communication technologies as email and web browsers 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 **DIVISION 4** P6 4.1 select and use the appropriate technologies to communicate effectively with a targeted audience

DIVISION 1

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C1 **Students will access, use and communicate information from a variety of technologies.**	C1 1.1 access and retrieve appropriate information from electronic sources for a specific inquiry 1.2 process information from more than one source to retell what has been discovered
C2 **Students will seek alternative viewpoints, using information technologies.**	C2 1.1 [no outcomes for this division]
C3 **Students will critically assess information accessed through the use of a variety of technologies.**	C3 1.1 compare and contrast information from similar types of electronic sources
C4 **Students will use organizational processes and tools to manage inquiry.**	C4 1.1 follow a plan to complete an inquiry 1.2 formulate new questions as research progresses 1.3 organize information from more than one source
C5 **Students will use technology to aid collaboration during inquiry.**	C5 1.1 share information collected from electronic sources to add to a group task
C6 **Students will use technology to investigate and/or solve problems.**	C6 1.1 identify a problem within a defined context 1.2 use technology to organize and display data in a problem-solving context 1.3 use technology to support and present conclusions
C7 **Students will use electronic research techniques to construct personal knowledge and meaning.**	C7 1.1 develop questions that reflect a personal information need 1.2 summarize data by picking key words from gathered information and by using jottings, point form or retelling 1.3 draw conclusions from organized information 1.4 make predictions based on organized information

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F1 **Students will demonstrate an understanding of the nature of technology.**	F1 1.1 identify techniques and tools for communicating, storing, retrieving and selecting information 1.2 apply terminology appropriate to the technologies being used at this division level 1.3 demonstrate an understanding that the user manages and controls the outcomes of technology
F2 **Students will understand the role of technology as it applies to self, work and society.**	F2 1.1 identify technologies used in everyday life 1.2 describe particular technologies being used for specific purposes
F3 **Students will demonstrate a moral and ethical approach to the use of technology.**	F3 1.1 demonstrate courtesy and follow classroom procedures when making appropriate use of computer technologies 1.2 work collaboratively to share limited resources 1.3 demonstrate appropriate care of technology equipment 1.4 recognize and acknowledge the ownership of electronic material 1.5 use appropriate communication etiquette
F4 **Students will become discerning consumers of mass media and electronic information.**	F4 1.1 compare similar types of information from two different electronic sources
F5 **Students will practise the concepts of ergonomics and safety when using technology.**	F5 1.1 demonstrate proper posture when using a computer 1.2 demonstrate safe behaviours when using technology
F6 **Students will demonstrate a basic understanding of the operating skills required in a variety of technologies.**	F6 1.1 perform basic computer operations, which may vary by environment, including powering up, inserting disks, moving the cursor, clicking on an icon, using pull-down menus, executing programs, saving files, retrieving files, printing, ejecting disks and powering down 1.2 use proper keyboarding techniques for the home row, enter, space bar, tab, backspace, delete and insertion-point arrow keys 1.3 operate basic audio and video equipment, including inserting, playing, recording and ejecting media

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P1 **Students will compose, revise and edit text.**	P1 1.1 create original text, using word processing software, to communicate and demonstrate understanding of forms and techniques 1.2 edit complete sentences, using such features of word processing as cut, copy and paste
P2 **Students will organize and manipulate data.**	P2 1.1 read information from a prepared database
P3 **Students will communicate through multimedia.**	P3 1.1 access images, such as clip art, to support communication 1.2 create visual images by using such tools as paint and draw programs for particular audiences and purposes 1.3 access sound clips or recorded voice to support communication
P4 **Students will integrate various applications.**	P4 1.1 integrate text and graphics to form a meaningful message 1.2 balance text and graphics for visual effect
P5 **Students will navigate and create hyperlinked resources.**	P5 1.1 navigate within a document, compact disc or other software program that contains links 1.2 access hyperlinked sites on an intranet or the Internet
P6 **Students will use communication technology to interact with others.**	P6 1.1 compose a message that can be sent through communication technology 1.2 communicate electronically with people outside the classroom

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C1 **Students will access, use and communicate information from a variety of technologies.**	C1 2.1 access and retrieve appropriate information from the Internet by using a specific search path or from given uniform resource locations (URLs) 2.2 organize information gathered from the Internet, or an 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
C2 **Students will seek alternative viewpoints, using information technologies.**	C2 2.1 seek responses to inquiries from various authorities through electronic media
C3 **Students will critically assess information accessed through the use of a variety of technologies.**	C3 2.1 identify and distinguish points of view expressed in electronic sources on a particular topic 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
C4 **Students will use organizational processes and tools to manage inquiry.**	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 2.2 organize information, using such tools as a database, spreadsheet or electronic webbing 2.3 reflect on and describe the processes involved in completing a project
C5 **Students will use technology to aid collaboration during inquiry.**	C5 2.1 retrieve data from available storage devices, such as a shared folder, to which a group has contributed 2.2 record group brainstorming, planning and sharing of ideas by using technology 2.3 extend the scope of a project beyond classroom collaboration by using communication technologies, such as the telephone and email

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C6 **Students will use technology to investigate and/or solve problems.**	C6 2.1 select and use technology to assist in problem solving 2.2 use data gathered from a variety of electronic sources to address identified problems 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 2.4 solve problems, using numerical operations and such tools as calculators and spreadsheets 2.5 solve problems requiring the sorting, organizing, classifying and extending of data, using such tools as calculators, spreadsheets, databases or hypertext technology 2.6 solve issue-related problems, using such communication tools as a word processor or email to involve others in the process 2.7 generate alternative solutions to problems by using technology to facilitate the process
C7 **Students will use electronic research techniques to construct personal knowledge and meaning.**	C7 2.1 use a variety of technologies to organize and synthesize researched information 2.2 use selected presentation tools to demonstrate connections among various pieces of information

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F1 **Students will demonstrate an understanding of the nature of technology.**	F1 2.1 apply terminology appropriate to the technologies being used at this division level 2.2 identify and apply techniques and tools for communicating, storing, retrieving and selecting information 2.3 explain the advantages and limitations of using computers to store, organize, retrieve and select information 2.4 recognize the potential for human error when using technology
F2 **Students will understand the role of technology as it applies to self, work and society.**	F2 2.1 identify how technological developments influence one's life 2.2 identify the role technology plays in a variety of careers 2.3 examine the environmental issues related to the use of technology 2.4 assess the personal significance of having limitless access to information provided by communication networks, such as the Internet 2.5 describe, using examples, how communication and information networks, such as the telephone and the Internet, create a global community
F3 **Students will demonstrate a moral and ethical approach to the use of technology.**	F3 2.1 comply with the acceptable use policy of the school and school authority for Internet and networked services, including software licensing agreements 2.2 work collaboratively to share limited resources 2.3 use appropriate communication language and etiquette 2.4 document sources obtained electronically, such as web site addresses 2.5 respect the privacy and products of others 2.6 use electronic networks in an ethical manner 2.7 comply with copyright legislation

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F4 **Students will become discerning consumers of mass media and electronic information.**	F4 2.1 recognize that graphics, video and sound enhance communication 2.2 describe how the use of various texts and graphics can alter perception 2.3 discuss how technology can be used to create special effects and/or to manipulate intent through the use of images and sound
F5 **Students will practise the concepts of ergonomics and safety when using technology.**	F5 2.1 demonstrate the application of ergonomics to promote personal health and well-being 2.2 identify and apply safety procedures required for the technology being used
F6 **Students will demonstrate a basic understanding of the operating skills required in a variety of technologies.**	F6 2.1 power up and power down various technologies and peripherals correctly 2.2 use and organize files and directories 2.3 use peripherals, including printers and scanners 2.4 use appropriate keyboarding techniques for the alphabetic and punctuation keys

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P1 **Students will compose, revise and edit text.**	P1 2.1 create and revise original text to communicate and demonstrate understanding of forms and techniques 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 2.3 convert digital text files by opening and saving them as different file types
P2 **Students will organize and manipulate data.**	P2 2.1 enter and manipulate data by using such tools as spreadsheets or databases for a specific purpose 2.2 display data electronically through graphs and charts
P3 **Students will communicate through multimedia.**	P3 2.1 create a multimedia presentation, incorporating such features as visual images (clip art, video clips), sounds (live recordings, sound clips) and animated images, appropriate to a variety of audiences and purposes 2.2 access available databases for images to support communication
P4 **Students will integrate various applications.**	P4 2.1 integrate a spreadsheet, or graphs generated by a spreadsheet, into a text document 2.2 vary font size and font style, and placement of text and graphics, in order to create a certain visual effect
P5 **Students will navigate and create hyperlinked resources.**	P5 2.1 create and navigate a multiple-link document 2.2 navigate through a document that contains links to locate, copy and then paste data in a new file 2.3 navigate the Internet with appropriate software
P6 **Students will use communication technology to interact with others.**	P6 2.1 select and use the technology appropriate to a given communication situation

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C1 **Students will access, use and communicate information from a variety of technologies.**	C1 3.1 plan and conduct a search, using a wide variety of electronic sources 3.2 refine searches to limit sources to a manageable number 3.3 access and operate multimedia applications and technologies from stand-alone and online sources 3.4 access and retrieve information through the electronic network 3.5 analyze and synthesize information to create a product 3.6 communicate in a persuasive and engaging manner, through appropriate forms, such as speeches, letters, reports and multimedia presentations, applying information technologies for content, audience and purpose
C2 **Students will seek alternative viewpoints, using information technologies.**	C2 3.1 access diverse viewpoints on particular topics by using appropriate technologies 3.2 assemble and organize different viewpoints in order to assess their validity 3.3 use information technology to find facts that support or refute diverse viewpoints
C3 **Students will critically assess information accessed through the use of a variety of technologies.**	C3 3.1 evaluate the authority and reliability of electronic sources 3.2 evaluate the relevance of electronically accessed information to a particular topic
C4 **Students will use organizational processes and tools to manage inquiry.**	C4 3.1 create a plan for an inquiry that includes consideration of time management 3.2 develop a process to manage volumes of information that can be made available through electronic sources 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

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C5 **Students will use technology to aid collaboration during inquiry.**	C5 3.1 access, retrieve and share information from electronic sources, such as common files 3.2 use networks to brainstorm, plan and share ideas with group members
C6 **Students will use technology to investigate and/or solve problems.**	C6 3.1 articulate clearly a plan of action to use technology to solve a problem 3.2 identify the appropriate materials and tools to use in order to accomplish a plan of action 3.3 evaluate choices and the progress in problem solving, then redefine the plan of action as appropriate 3.4 pose and test solutions to problems by using computer applications, such as computer-assisted design or simulation/modelling software 3.5 create a simulation or a model by using technology that permits the making of inferences
C7 **Students will use electronic research techniques to construct personal knowledge and meaning.**	C7 3.1 identify patterns in organized information 3.2 make connections among related, organized data, and assemble various pieces into a unified message

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F1 **Students will demonstrate an understanding of the nature of technology.**	F1 3.1 demonstrate an understanding that information can be transmitted through a variety of media 3.2 explain the concept of software and hardware compatibility 3.3 apply terminology appropriate to the technology being used at this division level 3.4 demonstrate an understanding that digital technology follows a logical order of operations 3.5 explain the difference between digital and analog data on communication systems 3.6 explain how the need for global communication affects technology around the world 3.7 demonstrate the ability to troubleshoot technical problems 3.8 demonstrate an understanding that technology is a process, technique or tool used to alter human activity
F2 **Students will understand the role of technology as it applies to self, work and society.**	F2 3.1 describe the impact of communication technologies on past, present and future workplaces, lifestyles and the environment 3.2 identify potential technology-related career paths 3.3 identify the cultural impact of global communication 3.4 evaluate the driving forces behind various technological inventions 3.5 make inferences regarding future trends in the development and impact of communication technologies 3.6 explain ways in which technology can assist in the monitoring of local and global environmental conditions 3.7 analyze and assess the impact on society of having limitless access to information 3.8 identify the manner in which telecommunications technology affects time and distance

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F3 **Students will demonstrate a moral and ethical approach to the use of technology.**	F3 3.1 use time and resources on the network wisely 3.2 explain the issues involved in balancing the right to access information with the right to personal privacy 3.3 understand the need for copyright legislation 3.4 cite sources when using copyright and/or public domain material 3.5 download and transmit only materials that comply with the established network use policies and practices 3.6 model and assume personal responsibility for ethical behaviour and attitudes and acceptable use of information technologies and sources in local and global contexts
F4 **Students will become discerning consumers of mass media and electronic information.**	F4 3.1 identify aspects of style in a presentation 3.2 understand the nature of various media and how they are consciously used to influence an audience 3.3 identify specific techniques used by the media to elicit particular responses from an audience 3.4 recognize that the ability of technology to manipulate images and sound can alter the meaning of a communication
F5 **Students will practise the concepts of ergonomics and safety when using technology.**	F5 3.1 identify risks to health and safety that result from improper use of technology 3.2 identify and apply safety procedures required for the technology being used
F6 **Students will demonstrate a basic understanding of the operating skills required in a variety of technologies.**	F6 3.1 connect and use audio, video and digital equipment 3.2 perform routine data maintenance and management of personal files 3.3 demonstrate proficiency in uploading and downloading text, image, audio and video files 3.4 demonstrate the ability to control devices electronically 3.5 describe the steps involved in loading software 3.6 identify and apply safety procedures, including antivirus scans and virus checks, to maintain data integrity

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P1 **Students will compose, revise and edit text.**	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 3.2 use advanced word processing menu features to accomplish a task; for example, insert a table, graph or text from another document 3.3 revise text documents based on feedback from others 3.4 use appropriate communication technology to elicit feedback from others
P2 **Students will organize and manipulate data.**	P2 3.1 design, create and modify a database for a specific purpose 3.2 design, create and modify a spreadsheet for a specific purpose, using functions such as SUM, PRODUCT, QUOTIENT and AVERAGE 3.3 use a variety of technological graphing tools to draw graphs for data involving one or two variables 3.4 use a scientific calculator or a computer to solve problems involving rational numbers
P3 **Students will communicate through multimedia.**	P3 3.1 create multimedia presentations that take into account audiences of diverse size, age, gender, ethnicity and geographic location 3.2 create multimedia presentations that incorporate meaningful graphics, audio, video and text gathered from remote sources
P4 **Students will integrate various applications.**	P4 3.1 integrate information from a database into a text document 3.2 integrate database reports into a text document 3.3 emphasize information, using placement and colour
P5 **Students will navigate and create hyperlinked resources.**	P5 3.1 create a multiple-link web page 3.2 demonstrate proficient use of various information retrieval technologies
P6 **Students will use communication technology to interact with others.**	P6 3.1 communicate with a targeted audience, within a controlled environment, by using such communication technologies as email and web browsers 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

Category: Communicating, Inquiring, Decision Making and Problem Solving

General Outcomes	Specific Outcomes
C1 **Students will access, use and communicate information from a variety of technologies.**	C1 4.1 plan and perform complex searches, using more than one electronic source 4.2 select information from appropriate sources, including primary and secondary sources 4.3 evaluate and explain the advantages and disadvantages of various search strategies 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
C2 **Students will seek alternative viewpoints, using information technologies.**	C2 4.1 consult a wide variety of sources that reflect varied viewpoints on particular topics 4.2 evaluate the validity of gathered viewpoints against other sources
C3 **Students will critically assess information accessed through the use of a variety of technologies.**	C3 4.1 assess the authority, reliability and validity of electronically accessed information 4.2 demonstrate discriminatory selection of electronically accessed information that is relevant to a particular topic
C4 **Students will use organizational processes and tools to manage inquiry.**	C4 4.1 use calendars, time management or project management software to assist in conducting an inquiry
C5 **Students will use technology to aid collaboration during inquiry.**	C5 4.1 use telecommunications to pose critical questions to experts 4.2 participate in a variety of electronic group formats
C6 **Students will use technology to investigate and/or solve problems.**	C6 4.1 investigate and solve problems of prediction, calculation and inference 4.2 investigate and solve problems of organization and manipulation of information 4.3 manipulate data by using charting and graphing technologies in order to test inferences and probabilities 4.4 generate new understandings of problematic situations by using some form of technology to facilitate the process 4.5 evaluate the appropriateness of the technology used to investigate or solve a problem
C7 **Students will use electronic research techniques to construct personal knowledge and meaning.**	C7 4.1 use appropriate strategies to locate information to meet personal needs 4.2 analyze and synthesize information to determine patterns and links among ideas 4.3 use appropriate presentation software to demonstrate personal understandings

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F1 **Students will demonstrate an understanding of the nature of technology.**	F1 4.1 assess the strengths and weaknesses of computer simulations in relation to real-world problems 4.2 solve mathematical and scientific problems by selecting appropriate technology to perform calculations and experiments 4.3 apply terminology appropriate to technology in all forms of communication 4.4 demonstrate an understanding of the general concepts of computer programming and the algorithms that enable technological devices to perform operations and solve problems
F2 **Students will understand the role of technology as it applies to self, work and society.**	F2 4.1 use technology outside formal classroom settings 4.2 analyze how technological innovations and creativity affect the economy 4.3 demonstrate an understanding of new and emerging communication systems 4.4 evaluate possible potential for emerging technologies 4.5 demonstrate conservation measures when using technology 4.6 demonstrate an understanding of the basic principles and issues of e-commerce, including such topics as security and privacy, marketing, and implications for governments, businesses and consumers alike 4.7 use current, reliable information sources from around the world 4.8 analyze and assess the impact of technology on the global community
F3 **Students will demonstrate a moral and ethical approach to the use of technology.**	F3 4.1 demonstrate an understanding of how changes in technology can benefit or harm society 4.2 record relevant data for acknowledging sources of information, and cite sources correctly 4.3 respect ownership and integrity of information
F4 **Students will become discerning consumers of mass media and electronic information.**	F4 4.1 discriminate between style and content in a presentation 4.2 evaluate the influence and results of digital manipulation on our perceptions 4.3 identify and analyze a variety of factors that affect the authenticity of information derived from mass media and electronic communication

Category: Foundational Operations, Knowledge and Concepts

General Outcomes	Specific Outcomes
F5 **Students will practise the concepts of ergonomics and safety when using technology.**	F5 4.1 assess new physical environments with respect to ergonomics 4.2 identify safety regulations specific to the technology being used
F6 **Students will demonstrate a basic understanding of the operating skills required in a variety of technologies.**	F6 4.1 continue to demonstrate the outcomes addressed within the previous divisions. Students interested in pursuing advanced study in such areas as electronics, programming, computer-aided design and drafting (CADD), robotics and other industrial applications of technology will find opportunities in Career and Technology Studies (CTS) courses

Category: Processes for Productivity

General Outcomes	Specific Outcomes
P1 **Students will compose, revise and edit text.**	P1 4.1 continue to demonstrate the outcomes achieved in prior grades and course subjects
P2 **Students will organize and manipulate data.**	P2 4.1 manipulate and present data through the selection of appropriate tools, such as scientific instrumentation, calculators, databases and/or spreadsheets
P3 **Students will communicate through multimedia.**	P3 4.1 select and use, independently, multimedia capabilities for presentations in various subject areas 4.2 support communication with appropriate images, sounds and music 4.3 apply general principles of graphic layout and design to a document in process
P4 **Students will integrate various applications.**	P4 4.1 integrate a variety of visual and audio information into a document to create a message targeted for a specific audience 4.2 apply principles of graphic design to enhance meaning and audience appeal 4.3 use integrated software effectively and efficiently to reproduce work that incorporates data, graphics and text
P5 **Students will navigate and create hyperlinked resources.**	P5 4.1 create multiple-link documents appropriate to the content of a particular topic 4.2 post multiple-link pages on the World Wide Web or on a local or wide area network
P6 **Students will use communication technology to interact with others.**	P6 4.1 select and use the appropriate technologies to communicate effectively with a targeted audience

Glossary of Terms

Algorithm	Sequence of steps for solving a problem.
Analog	Used to describe a continuous variable signal, as opposed to a discrete or "digital" one, or a circuit designed to handle such signals.
Analog communication	Any system that uses a nominally continuous signal.
Asynchronous communication	Not synchronous; not occurring at predetermined or regular intervals. email is an asynchronous form of communication.
Binary	A numbering system consisting only of zeroes and ones.
Bookmark	A feature found in web browsers that allows users to keep track of sites to which they wish to return.
Browser	An application used to locate and display web pages; short for "web browser."
CADD	Computer-aided design and drafting.
Chat	Real-time, text-based communication between two or more users, via computer.
Communication technology	Concerned with the tools and processes used to transmit data from one device to another.
Convert files	To move data from one type of storage to another.
Copy	An operating system function that lets the user duplicate information from one application or location to another.
CTS	Career and Technology Studies
Cursor	A special symbol, usually a solid rectangle or a blinking underscore character, that signifies where the next character will be displayed on the screen.
Cut	To remove text or graphics as part of a cut and paste process.
Database	An electronic filing system.

Glossary of Terms (continued)

Database Management System (DBMS)	A collection of utilities that allows the user to query and manipulate a database.
Digital	Describes a signal in which numerical values are broken up into a binary equivalent and transmitted as a sequence of on/off values.
Digital communication	Any communication system that uses digital signals in the sending and receiving of messages.
Digital information	Information that is in a computer-readable form.
Directory	A hierarchical tree-like structure used for organizing information.
Document	A file created with a word processor.
Download	The process of transferring a computer file from a remote computer to a local computer.
Electronic bulletin board	An electronic message centre. It allows an individual to review messages left by others and to post messages if desired.
Email	Electronic mail. A service that permits users to electronically exchange messages and data. Email can be used to send text as well as computer files, such as word processing documents or graphics.
Ergonomics	The study of physical and mental factors that affect people in work settings; used in the design of work sites, work processes, and so on; e.g., the design of computer work stations so that users will have minimal strain on posture and vision.
File	A collection of data defined and used by an application.
Flow chart	A diagram that shows the steps involved in solving a problem. This is often used by programmers to plan the flow of logic in a program.
Font	The complete assortment of characters for one style of a particular typeface.
Grammar checker	A feature for checking the grammatical soundness of text, either as it is being keyed in, or later, at the user's discretion.
Graphic	A pictorial form of information.

Glossary of Terms (continued)

Hit	A single file served by a web server. Images are files, as is the document text describing the page.
Home row	The row of keys on the keyboard where users rest their fingers between keystrokes.
Hyperlink	On web pages, a button or highlighted bit of text that, when selected, moves the reader to a different place within a document, to another document or to another web site.
Hypertext	Text that contains links to other text documents.
Icon	A picture displayed on a computer screen to represent a commonly used function or concept.
Information technology	The broad subject concerned with the processes and tools used to send, retrieve, store, manipulate and manage information.
Internet	A worldwide network of computer networks.
Intranet	A collection of private web sites and other network resources that are available only to employees, or other trusted parties within an organization.
LAN	A Local Area Network. A computer network usually confined to a single office or building.
Laser disk	A mass storage device that can store large amounts of digital information. Often used to store digital video data.
Login	Enter into a computer network or application session.
Logout	To end a computer session.
Mail merge	A function that lets users merge information from a database into documents composed on a word processor.
Mass media	Any means of public communication reaching a large audience.
Menu	A list of options for a person using a piece of software.
Mind mapping	A knowledge organization tool used to elicit ideas from one or more users by placing a topic in the centre of a blank space and branching out with related ideas.
Multimedia	Use of text, graphics, video, animation, sound, etc., in an integrated way.

Glossary of Terms (continued)

Navigate	Any or all of the various processes used in determining position and differing movement from one place to another.
Network	A linked set of computers and computer equipment.
Network etiquette	The traditional rules of civilized behaviour online, commonly referred to as "netiquette."
News groups	Online discussion forums where ideas and information can be exchanged.
Offline	Not currently connected to a network.
Online database	A database that is accessible to many users via the Internet.
Paste	To insert a copy at an insertion point.
Peripheral	Any device, such as input, output, or storage, that is connected to a computer.
Platform	A type of computer or system.
Printer	An output device that converts the coded information from the processor into a readable form on paper.
Program	An application run on a computer.
Public domain	Not bearing copyright; any product in the public domain can be freely exchanged and copied.
Query	A request for information from a database.
Retrieve	The process of extracting data from a computer.
Scanner	A device that can read text or illustrations printed on paper and translate the information into a form a computer can use.
Search path	Description of how to find a subdirectory or file by identifying its location with respect to a disk or drive's root directories.
Software	An application run on a computer, synonymous with "program."
Spell checker	Software that checks the spelling of all words in a document.

Glossary of Terms (continued)

Spreadsheet	A software calculating tool that helps people plan, manage data and present results. Similar in many ways to an accountant's ledger.
Storage device	A device that can receive data and retain it for subsequent retrieval.
Storyboard	A board or panel containing a series of small drawings or sketches that roughly depict the sequence of action for a script to be filmed, as for a motion picture, television commercial, music video or the like.
Synchronous	Two-way communication; a person using synchronous communication could send and receive data at the same time.
Technology	The processes, tools and techniques that alter human activity. The application of scientific knowledge for practical purposes; the employment of tools, machines, materials and processes to do work, produce goods, perform services or carry out other useful activities.
Telecommunication	Any process or group of processes that allows for the relay of printed or written matter, moving or fixed pictures, or other visible or audible signals.
Text	In word processing, the portion of a file that will be readable on a screen or printed page, sometimes including incidentals, such as headers.
URL	A Uniform Resource Locator. A web address. It consists of a protocol, a hostname, a port (optional), a directory (optional), and a file name (optional).
Upload	The process of transferring a computer file from a user's system to a remote system.
WAN	A Wide Area Network. A computer network spanning a wide geographical area.
Web page	A hypertext document on the web.
Window	A rectangular area on a display screen inside of which part of an image or file is displayed. A windows system is a means of presenting users with views of the state of a number of separate processes, each carrying out a task for the user. The user is able to initiate, monitor and terminate processes, each process having an associated window.
Word processing	A computer software writing tool.
World Wide Web	A collection of hypertext documents and associated files linked together over the Internet.

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