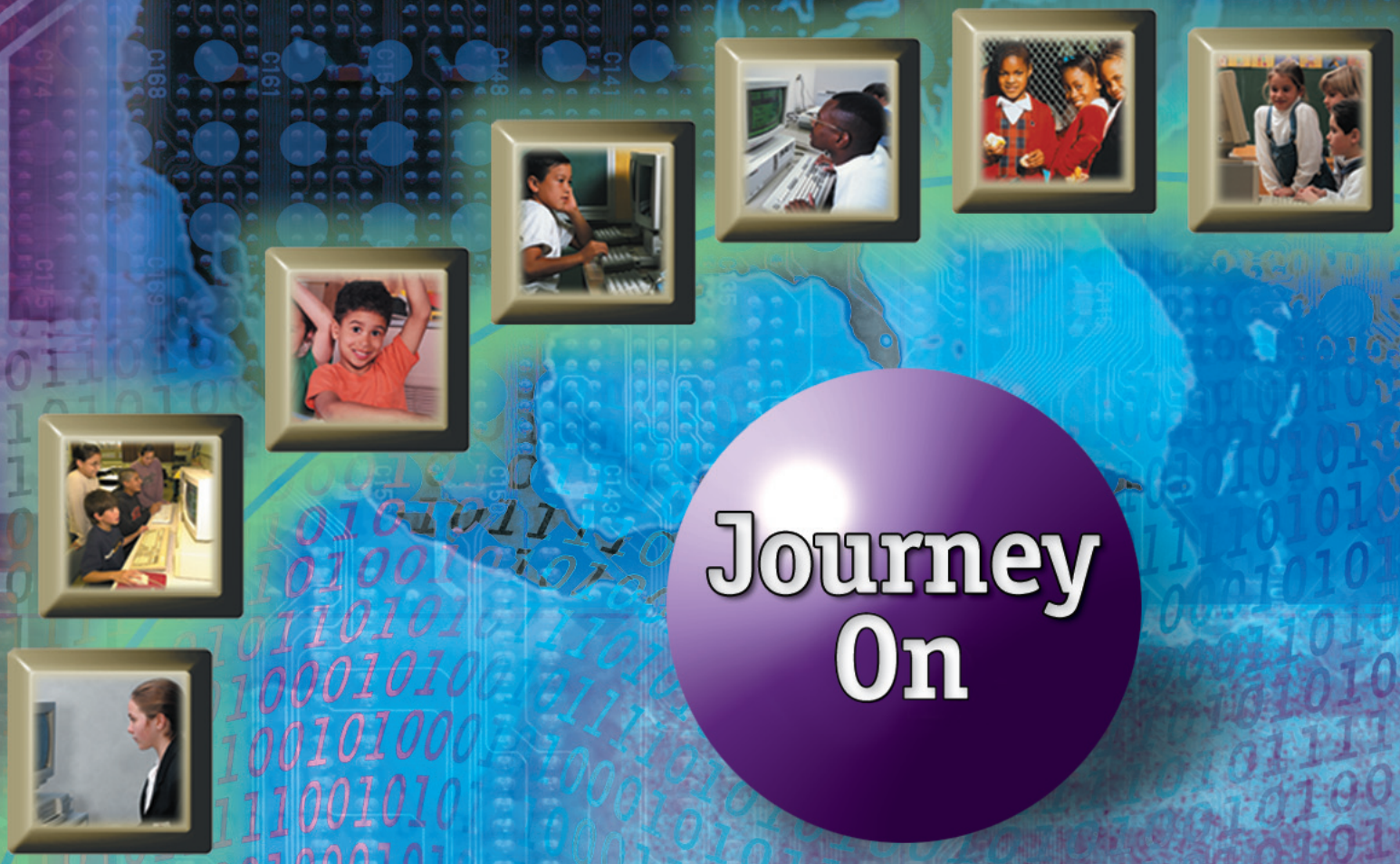
Prince Edward Island
CANADA

Department of Education



Journey On

Working Toward Communication and Information Technology Literacy

Grade 3

September 2007 Draft

Preface

The document, A Journey (1997), first introduced the general concept of integrating technology into the curriculum at the elementary level in Prince Edward Island. As stated in this earlier document, using information technology in the schools was considered new and largely uncharted territory. We continue a journey into an interesting world of communication and information tools for teaching and learning. Journey On Grades 1-3 (1999) provided a framework and lesson plans for teachers at the primary level to integrate communication and information technology in their classrooms. Journey On Grades 4-6 (September 2000) and the document, Journey On Grades 7-9 (September 2000), continued with the same framework and specific grade level lesson plans intended for teachers in elementary and intermediate schools.

Journey On (2007), provides grade specific curriculum outcomes that have been assigned to core curriculum subjects. This grade 3 document contains specific technology outcomes, instructional considerations, teaching suggestions - activities and assessment strategies, lesson plans, and links to other curriculum areas.

These documents will serve as a guide for teachers. Lesson plans suggest specific exercises for classroom use and will serve as a starting point from which teachers may develop and enhance their own ideas and competencies in the area of communication and information technology (CIT).

Acknowledgements

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The communication and information technology committees were instrumental in providing input for the curriculum outcomes grades 1-12 framework on which Journey On (2007) is based. Past and present members of the committees are listed below:

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Contents

Vision

Technology education for Atlantic Canada fosters the development of all learners as technologically literate and capable citizens who can develop, implement, and communicate practical, innovative, and responsible technological solutions to problems.

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Introduction

Purpose of Document

Journey On is a practical working guide which will provide educators and administrators at all levels, including schools, school boards/districts, and provincial departments, with a reference point for integrating communication and information technologies (CIT) into the Prince Edward Island school curriculum.

Journey On will be the basis for future decisions pertaining to human and physical CIT resources. These decisions will focus on personnel, professional development, instructional techniques, course development, student and teacher access to technology, and hardware and software purchases.

It is recognized that many disciplines have their own specialized technologies and technological processes. Students will have the opportunity to develop skills required to use these specialized technologies within the context of courses such as Computer Science, Science, Career Exploration, Visual Communication, Industrial Arts, and Home Economics. CIT differs from other technologies because of its vast and far reaching applications in all disciplines.

The purpose of *Journey On* is to focus on how CIT can be used from grade 1-12 and across all areas of the curriculum as part of a more global strategy that will contribute to the development of technologically competent and literate individuals graduating from our school system.

Journey On:

- provides strategies and concrete suggestions for effective integration of communication and information technologies into the Prince Edward Island curriculum in a way that enhances learning
- identifies the communication and information technologies that we wish our students to use
- identifies the knowledge and skills that students need to develop to be considered technologically competent in communication and information technologies

Terminology

Technology

The broad definition of technology includes the tools and processes we use to alter our surroundings, perform a task, discover more about ourselves, and communicate. For the purpose of this document *technology* refers to the tools used to access, gather, process, and share information. These communication and information technologies (CIT) pertain to computers and their peripherals such as scanners, printers, digital cameras, projection devices, and video-conferencing equipment.

Technological Competence

The Atlantic Provinces Educational Foundation (APEF) defines technological competence as "the ability to use a variety of technologies, demonstrate an understanding of technological applications and apply appropriate technologies for solving problems independently." Individuals competent in information and communication technologies have specialized knowledge and skills that enable them to use technology to access, gather, process, and share information.

Technological Literacy

Technological literacy encompasses technological competence but refers to a higher level of understanding of technology. Individuals literate in the area of CIT think critically about information gained through the use of technology, the application of specific technologies, and the impact of technology on individuals and society when formulating decisions, opinions and courses of action. These individuals apply problem solving strategies and creative thinking skills to independently learn how to use new technologies, or circumvent problems associated with older technologies. CIT literate individuals demonstrate confidence and a positive attitude as they adapt and use technologies for a beneficial purpose.

Philosophy

The use of technology in our educational system is based upon a number of underlying beliefs:

- as educators in Prince Edward Island we are committed to provide for the development of children so that each may take a meaningful place in society
- literacy extends beyond the traditional concept of the ability to read and write print materials to encompass media and information literacy
- technological competence is a requirement for literacy and lifelong learning in today's world
- students today require knowledge, skills and attitudes for dealing with the rapid pace of change and growth of our knowledge base
- technology, when used appropriately, enhances student-centred learning and the teacher's role as a facilitator

Technology Integration

Integrating communication and information technologies into the curriculum is a preferred strategy for developing technologically literate learners. Integration occurs when the technology is used as a tool to achieve existing curricular learning outcomes within the context of a theme or subject. Technology knowledge and skills are not acquired separately in an integrated approach but in the context of learning activities intended to address various outcomes across the curriculum. Integration means that the use of technology as a teaching tool should not be limited to specialist teachers but applies to teachers in all curricular areas.

Advantages of Technology Integration

Integration of technology into the curriculum

- ensures that curriculum is the principle focus, rather than technology
- promotes the development of creative thinking, critical thinking, research, communication, and problem solving skills
- provides access to rich resources and learning experiences that can extend far beyond those offered in traditional classrooms
- motivates students to complete learning tasks and become more readily engaged in their own learning
- supports current research which suggests that people learn in a holistic fashion rather than in a compartmentalized manner
- supports contemporary approaches to education such as cooperative learning, constructivism, resource-based learning and individualized learning
- provides teachers with an additional means to address multiple learning styles
- provides students with the opportunity throughout their school career to expand and reinforce their repertoire of technology skills
- enables the students to acquire a better understanding of how to use technology in meaningful ways
- ensures that all students have the opportunity to develop technological competencies
- prepares students to select appropriate technologies to complete tasks
- provides teachers with an opportunity to model lifelong learning as students witness teachers learning and using new skills for a purpose

ABCs of curriculum

An Outcome-based Curriculum

An outcome-based curriculum is a student-centred design which focuses on expectations of the student as a result of learning. It ensures that each student is provided with the time and assistance to meet his/her potential.

> A learning outcome is the result of learning for the student, something that the student *will know, be able to do,* or *be like.*

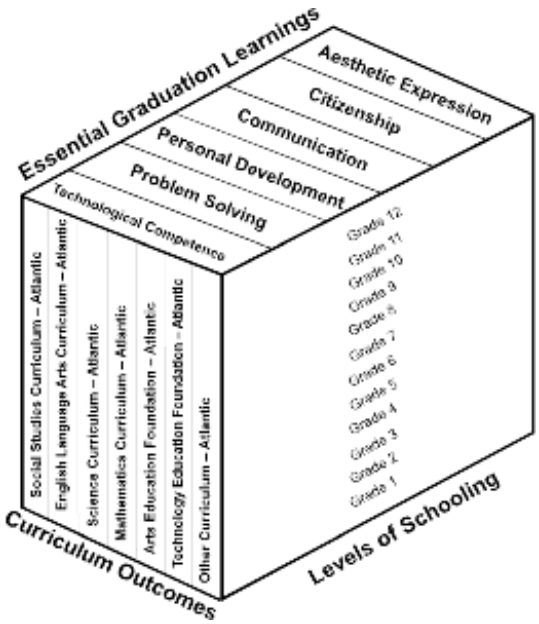
Essential Graduation Learnings (EGLs)

"The essential graduation learnings are statements that describe the knowledge, skills, and attitudes expected of all students who graduate from high school." (APEF/CAMET) These statements are the framework upon which curriculum for all subject areas is based. The six Essential Graduation Learnings include:

- Aesthetic Expression
- Citizenship
- Communication
- Personal Development
- Problem Solving
- Technological Competence

General and Specific Curriculum Outcomes

General curriculum outcomes are statements that describe what students are expected to know in a curriculum area upon graduation. Specific outcomes are statements that identify what students should know and be able to do at a particular grade level. These are used to guide the teacher in planning day to day activities. Students demonstrate the essential graduation learnings through accomplishing the outcomes.



Other Features of the Curricula

In addition to the six essential graduation learnings, there are a number of underlying concepts and strategies which are interwoven into the 1-12 curricula of Prince Edward Island, and which influence methods of delivery and instruction.

Cooperative Learning and Group Work

Small and large group work provide students with the opportunity to develop language (communication skills) and social skills.

Creative Thinking

"Creative thinking deals with combining elements of reality in novel ways to formulate new perceptions, enriched concepts and new understandings" (Nature of Thinking)

Critical Thinking

Critical thinking involves the analysis of statements or arguments and an evaluation of their worth or validity. Critical thinking skills include identifying and validating sources; determining what is being said, relevancy, and point of view or perspective; detecting bias; recognizing persuasive techniques; and drawing logical, well-supported conclusions.

Diversity/Equity Education

Diversity education encourages the understanding of diversity within our society and promotes a commitment to equity by fostering an awareness and critical analysis of individual and systemic discrimination.

Resource-based learning

Resource-based learning is an educational approach that actively engages the students in carefully structured learning activities that use a wide range of resources, and emphasizes skills and strategies needed to achieve information literacy.

Learning Styles

The Theory of Multiple Intelligences suggests that all people learn differently, with eight identfied intelligences. It is essential that educators make students aware of their learning styles and teach using a variety of methods to provide students the opportunity to learn in a number of ways.

Essential Grad

Aesthetic Expression Citizenship
Personal Development

Language Arts

Speaking and Listening

Students will be expected to
- speak and listen to explore, extend, clarify, and reflect on their thoughts, ideas, feelings, and experiences
- communicate information and ideas effectively and clearly, and respond personally and critically
- interact with sensitivity and respect, considering the situation, audience, and purpose

Reading and Viewing

Students will be expected to
- select, read, and view with understanding a range of literature, information, media, and visual texts
- interpret, select, and combine information using a variety of strategies, resources, and technologies
- respond personally to a range of texts
- respond critically to a range of texts, applying their understanding of language, form, and genre

Writing and Other Ways of Representing

Students will be expected to
- use writing and other forms of representation to explore, clarify, and reflect on their thoughts, feelings, experiences and learnings; and use their imaginations
- create texts collaboratively and independently, using a variety of forms for a range of audiences and purposes
- use a range of strategies to develop effective writing and media products and to enhance their clarity, precision and effectiveness

General Curri

Mathematics

Number Concepts/Number and Relationship Operations
- Students will demonstrate number sense and apply number theory concepts
- Students will demonstrate operation sense and apply operation principles and procedures in both numeric and algebraic situations

Patterns and Relationships
- Students will explore, recognize, represent and apply patterns and relationships, both informally and formally

Shape and Space
- Students will demonstrate an understanding of and apply concepts and skills associated with measurement
- Students will demonstrate spatial sense and apply geometric concepts, properties, and relationships

Data Management and Probability
- Students will solve problems involving the collection, display and analysis of data
- Students will represent and solve problems involving uncertainty

Ot

Health, Music, Physical Education and Visual Arts
These guides contain general curriculum outcomes

uation Learnings

Technological Competence

Communication Problem Solving

culum Outcomes

Science

Science, technology, society, and the environment (STSE)

- Students will develop an understanding of the nature of science and technology, the relationships between science and technology, and the social and environmental contexts of science and technology

Skills

- Students will develop the skills required for scientific and technological inquiry, for solving problems, for communicating scientific ideas and results, for working collaboratively, and for making informed decisions

Knowledge

- Students will construct knowledge and understanding of concepts in life science, physical science, and Earth and space science, and apply these understandings to interpret, integrate, and extend their knowledge

Attitudes

- Students will be encouraged to develop attitudes that support the responsible acquisition and application of scientific and technological knowledge to the mutual benefit of self, society, and the environment

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curriculum guides exist on Prince Edward Island.
and specific curriculum outcomes.

Social Studies

Citizenship, Power, and Governance

- Students will be expected to demonstrate an understanding of the rights and responsibilities of citizenship; and the origins, functions, and sources of power, authority, and governance

Culture and Diversity

- Students will be expected to demonstrate an understanding of culture, diversity, and world view, recognizing the similarities and differences reflected in various personal, cultural, racial, and ethnic perspectives

Individuals, Societies, and Economic Decisions

- Students will be expected to demonstrate the ability to make responsible economic decisions as individuals and as members of society

Interdependence

- Students will be expected to demonstrate an understanding of the interdependent relationship among individuals, societies, and the environment - locally, nationally, and globally, and the implications for a sustainable future

People, Place, and Environment

- Students will be expected to demonstrate an understanding of the interactions among people, places, and the environment

Time, Continuity, and Change

- Students will be expected to demonstrate an understanding of the past and how it affects the present and the future

Effective Use of Technology with

Language Arts

The Foundation for the Atlantic Canada English Language Arts Curriculum (1996) identifies technological advances in our society as a contributing factor to the revision of the concept of literacy. Literacy now encompasses print literacy, visual literacy, media literacy, and other literacies required to use technology in our culture. This APEF foundation guide suggests that students use a range of information retrieval, and information processing technologies to meet their own information needs. Specific examples of student experiences should include

- using a word processor to develop a piece of writing
- constructing simple databases and spreadsheets to organize information
- exploring the applications of interactive CD-ROM software
- using graphic communication software
- producing a variety of desk top publishing texts
- using multimedia
- using e-mail
- using listservs and web browsers
- using appropriate technologies to organize and create complex information with multiple textual and graphic sources
- distinguishing sources which are central, reliable and relevant among the vast number of choices offered by technologies

Adapted from APEF Foundation Guide for English Language Arts Curriculum (1996) page 40

Mathematics

The Foundation for the Atlantic Canada Mathematics Curriculum guide (1996) supports the recommendations of National Council of Teachers of Mathematics (NCTM) curriculum standards to use technology i) to enhance the teaching and learning of mathematics and ii) to relate school mathematics to the world in which students live through developing and interpreting mathematical models. APEF suggests that technology has altered the nature of what mathematics is important to learn and has made possible the development of new problems and innovative ways of investigating these problems. Specifically, it is recommended that technology should be used to

- explore situations with complicated numbers which previously would have been beyond their capabilities
- quickly and easily explore individual or groups of related computations or functions
- create and explore numeric and geometric situations for the purpose of developing conjectures
- perform simulations of situations which would otherwise be impossible to examine
- easily link different representations of the same information
- model situations mathematically
- observe the effects of simple changes in parameters or coefficients
- analyze, organize, and display data

Adapted from APEF Foundation Guide for Mathematics Curriculum (1996) page 39

in the Core Curriculum Areas

Science

The Foundation for the Atlantic Canada Science Curriculum guide (1998) states that technology can be used to facilitate the learning of science and recommends that technology should have a major role in the teaching and learning of science. APEF proposes the following guidelines for the implementation of technologies in the teaching and learning of science

- tutorial software should engage students in meaningful interactive dialogue and creatively employ graphs, sound, and simulations to promote acquisition of facts and skills, promote concept learning and enhance understanding
- simulation software should provide opportunities to explore concepts and models that are not readily accessible in the laboratory (e.g., those that require hazardous materials, unavailable equipment, or more time than is possible in real-time classroom.)
- analog-digital interface technology should be used to permit students to collect and analyse data as scientists do, and perform observations over long periods of time, enabling experiments that otherwise would be impractical
- databases and spreadsheets should be used to facilitate the analysis of data by organizing and visually displaying information
- networking among students and teachers should be encouraged to permit students to emulate the way scientists work and to reduce teacher isolation
- using tools such as the World Wide Web should be encouraged as it provides instant access to an incredible wealth of information on any imaginable topic

Adapted from APEF Foundation Guide for Science Curriculum (1998) page 44

Social Studies

The Foundation for the Atlantic Canada Social Studies (1998) recommends that technology have a major role in the teaching and learning of social studies but, that it enhance, not replace, essential social studies learning. APEF recognizes that Communication and Information Technologies have become important tools for the acquisition, analysis, presentation, and communication of data in ways that allow students to become more active participants in research and learning

- CD-ROMs and the Internet provide teachers and students with quicker and easier access to extensive and current information. Students and teachers should critically analyse such information to determine its validity, accuracy, bias, and interpretation
- students are enabled to directly employ inquiry skills by exposure to first hand information through direct e-mail conversations, student created Web sites, and listservs. These modes of communication provide connections to students and cultures from around the world.
- students can present their learnings to peers within their classroom and beyond in a wide variety of forms (graphics, maps, text, graphic organizers, Web sites, multimedia presentations, etc.) that fit their learning styles.
- technology can provide opportunity for students to become more actively involved in their learning by allowing students control of information gathering, processing, and presentation.

Adapted from APEF Foundation Guide for Social Studies(1998) page 40

Technology Curriculum Outcomes

GENERAL TECHNOLOGY OUTCOMES
(as per APEF Technology Foundation Document)

GTO A- Technology Problem Solving
Students will be expected to design, develop, evaluate, and articulate technological solutions.

GTO B- Technology Systems
Students will be expected to operate and manage technological systems.

GTO C- History and Evolution of Technology
Students will be expected to demonstrate an understanding of the history and evolution of technology and of its social and cultural implications.

GTO D- Technology and Careers
Students will be expected to demonstrate and understanding of current and evolving careers and of the influence of technology on the nature of work.

GTO E- Technological Responsibility
Students will be expected to demonstrate an understanding of the consequences of their technological choices.

Areas

1. **Computer Systems** - In general, a complete, working computer. The computer system includes not only the computer, but also any software, networking, and peripheral devices that are necessary to make the computer function. Every computer system, for example, requires an operating system such as Windows.

2. **Social, Ethical and Health** - General user guidelines for the responsible use of technology .

3. **Internet** - A global network connecting millions of computers. This network carries various information and services such as email, online chat, video, audio, web sites and other documents of the World Wide Web.

4. **Concept Maps** - Visual representations of relationships between ideas. Methods for grouping and organizing information. Visual learning allows new concepts to be more thoroughly and easily understood.

5. **Graphics** - Refers to display and manipulation of images (text, pictures and drawings)

6. **Spreadsheets** - A table of values (text, numeric, dates) or information arranged in rows and columns. Spreadsheets allow the computation of data with formulas and the creation of charts and graphs.

7. **Word Processing** - Using a computer to create, edit, and print documents. A word processor enables you to create a document, store it electronically, display it on a screen, modify it by entering commands and characters from the keyboard, and print it.

8. **Multimedia** -The use of computers to create and present several different media such as text, graphics, video, animation, and sound in an integrated way.

9. **Database** - A collection of data organized in such a way that a computer program can quickly select desired pieces of information from a search request. You can think of a database as an electronic filing system.

10. **Telecommunications** - Refers to all types of data transmission, from voice to video using a variety of media such as copper cable, fibre optics, satellites, wireless technology, etc.

11. **Web Authoring** - The act of developing a web site. Software is available that will generate the required HTML coding for the layout of the particular Web page.

Each skill area of the outcome continuum is identified by grade level and progress as follows:

Awareness - the student is exposed to the technology as it is being used by others.
Guided - the student begins to use the technology with the help of others.
***Summative Assessment**- beyond this grade level, students will be expected to meet the outcome independently.
Independent - the student uses the technology without assistance.

Computer Systems

Awareness | Guided | Independent

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A1.1	make use of help features to independently find solutions to problems													
B1.1	login, open and close a program, open, save and close a file with mouse													
B1.2	demonstrate proper use of login numbers and names, set-up and change passwords, and be aware of implications of multiple logins													
B1.3	begin to work with more than one file open at once (multi-task)													
B1.4	differentiate between "Save" and "Save as..."													
B1.5	be able to identify the common windows components of a given software screen (eg. menu bar, button bar, cursor, insertion point)													
B1.6	have an understanding of file management (drives and folders, rename, select, move, copy, paste, delete, display format, backup, etc.)													
B1.7	understand how to display file properties													
B1.8	understand the difference between software and hardware													
B1.9	identify system specifications and be aware of compatibility issues between the hardware and the software (processor speed and type, RAM, hard drive size, optical drive, connection types, video card, sound card, monitor, network cards)													
B1.10	understand how and when to re-boot (warm boot vs cold boot)													
B1.11	describe networks, file servers, connections (wireless, line types and speeds)													
B1.12	demonstrate proper use of network printing, choose proper printer, recognizes process and purpose of Print Queues													
B1.13	identify computer viruses, how they are transmitted and how anti-virus software is used to protect or clean a computer													
B1.14	identify SPAM, pop-up ads, spyware and other invasive software coding													
B1.15	modify and utilize master pages/templates													
B1.16	import and export files to other formats (.html, .pdf)													
C1.1	identify technologies that are found in everyday life													

Social, Ethical, and Health

Awareness | Guided | Independent

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A2.1	identify aspects of an ergonomic workstation (lighting, monitor angle, work placement, keyboard height, seat height, posture, etc.)													
B2.1	demonstrate proper touch keyboarding techniques (ie: home row, quick key strokes, proper reaches)													
C2.1	examine current Canadian law governing the use of technology													
D2.1	determine the technological requirements for specific career goals													
E2.1	respect equipment and other student's work													
E2.2	work co-operatively at work station													
E2.3	adhere to acceptable use agreement for work station/network/Internet													
E2.4	use electronic communication etiquette													
E2.5	adhere to rules of freeware, shareware and commercial ware													
E2.6	adhere to copyright and privacy laws, give credit to sources of information (MLA, APA)													
E2.7	identify ethical issues involved with Internet content, awareness of inappropriate use of technology													
E2.8	demonstrate caution before sending personal information over the internet													
E2.9	follow publishing etiquette (suitable language, no discrimination, etc.). Adhere to the guidelines for school web pages as outlined by PEI Department of Education.													

Internet

Awareness | Guided | Independent

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A3.1	demonstrate awareness of the Internet as a source of information													
A3.2	use various tools (search engines and directories) and strategies necessary to carry out research													
A3.3	obtain/download material (text, graphics, files) from Internet													
B3.1	Use the various browser navigation tools (back, forward, history)													
B3.2	manage bookmarks/favorites													
B3.3	distinguish among various file formats (file extensions), required plugins, file compression/decompression utilities													
C3.1	discuss ways in which the Internet is evolving													
E3.1	critically evaluate information and its source based on pre-determined criteria													

Concept Maps

Awareness Guided Independent

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A4.1	use brainstorming techniques to generate ideas													
A4.2	create a web (i.e.: literary, concept, character, word, Venn Diagrams, and timelines)													
A4.3	categorize ideas graphically													
A4.4	create links between ideas, re-link or delete links between ideas													
A4.5	elaborate on ideas (i.e. adding notes, annotations, etc.)													
B4.1	add fonts, graphics, sound, and colours to enhance ideas													
B4.2	create hyperlinks to files, web sites, or multimedia content													

Graphics

Awareness ***Guided*** ***Independent***

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A5.1	create illustrations or graphics by using the various drawing tools													
A5.2	apply principles of design													
B5.1	demonstrate various object editing features (ie. select, unselect, resize, crop, area fill, add colour and pattern, size adjustment using the mouse or scale, various erasing techniques, object orientation, changing font and text size, colour or appearance, creating text blocks, change text wrap selection and other text manipulation functions)													
B5.2	carry out various object manipulations (ie. object alignment, creation of graphics in layers, grouping/un-grouping components of an image)													
B5.3	use other graphic creation tools (i.e. clone brush, colour replacements, effects and filters, hexidecimal (RGB and CMYK colour values)													
B5.4	convert various graphic formats between vector (ie: .png, .psp, .cdr) and bitmap images (ie: .wmf, .tif, .bmp, .gif, jpeg, .jpg), import a graphic file from another source													

Spreadsheets

Awareness Guided Independent

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A6.1	plan / design a spreadsheet to organize and tabulate data from various sources (to make a schedule, tally/score sheet, solve a mathematical word problem)													
A6.2	correct errors, modify or delete data in a cell													
A6.3	design own formulas incorporating functions {if SUM(B1..D1)>0, @SUM(B1..D1), 0} and absolute / relative cell references													
A6.4	use different types of graphs / charts (line, pie, bar) to visually represent data; label graph components (legend, title, x-y axis, colour, fill pattern)													
B6.1	identify spreadsheet components and terminology (rows and columns, cell addresses, data entry bar)													
B6.2	identify different types of cell data (text, numeric, function, date)													
B6.3	enter data into simple preexisting spreadsheets, auto fill data, data entry bar, sort data													
B6.4	edit spreadsheet layout (insert and delete rows or columns, select a range of cells, alter column widths and row heights, locking row and column headings, lock and unlock cell(s), fixed titles)													
B6.5	enter formulas to perform calculations across columns, rows, cells, move/copy data or formulas from one area of spreadsheet to another													
B6.6	format numbers (decimal places, currency, etc.), format text (font, colour, size)													
B6.7	create links [between notebooks (tabs or sheets), external files, graphs, charts, website]													

Word Processing

Awareness Guided Independent

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A7.1	create and edit data files and form documents to perform a merge													
A7.2	identify examples of desktop publishing (i.e. newspaper, catalogue, ads, brochure)													
B7.1	use a grade level appropriate wordprocessor to create and edit written work													
B7.2	locate characters on a keyboard and identify functions of word processing (ie. cursor, insertion point, enter key, space bar, upper case, backspace, shortcut key)													
B7.3	use editing tools to revise work (i.e. spell check, thesaurus, find and replace)													
B7.4	change font, size, colour, style (ie. bold, italics, underline, insert special characters, drop capitals)													
B7.5	format text (ie. justification, line spacing, outlines and bullets, text wrap)													
B7.6	format documents (ie. using margins, tab rulers, indents, page center, border, watermark)													
B7.7	insert a graphic and manipulate, (ie. resize, add borders and fill, create text art)													
B7.8	insert and format tables and text boxes (ie. lines, fill, columns, rows, borders, alignment)													
B7.9	format multi-page documents with headers, footers, page numbers, page breaks and keep text together function, change page orientation/size (ie. text presentation features)													
B7.10	insert automated features (ie. date and file stamp)													

Multimedia

Awareness Guided Independent

	Students are expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A8.1	apply planning strategies, (storyboards, scripts, graphic organizing, brainstorming)													
A8.2	create an age/grade appropriate slide show presentation that may contain one or more of the following objects (text, graphics, images, animations, audio and video)													
A8.3	describe situations where streaming video and audio is appropriate													
A8.4	create graphics, audio and video special effects (animation, virtual reality, panorama)													
A8.5	select appropriate medium to convey a message (be conscious of file size, formats and storage location)													
B8.1	navigate multimedia resources such as slide shows, online resources or CD rom interactive educational activities													
B8.2	use multimedia creation and editing tools (screen captures, scanner, sound recording, digital image editing software: still and video)													
B8.3	convert file formats for a particular application (.jpg, gif, .bmp, mp3, wav, avi, mpeg, mov, etc.)													
B8.4	use proper tools and procedures to enhance product quality. (Microphones, lighting, camera movement, instrumentation, teleprompters, assign various responsibilities to a production team.)													

Database

Awareness ***Guided*** ***Independent***

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A9.1	use an existing database (CD ROM, Microcat, Dynex, Internet search engine) to find information (sign up for Provincial Library Card - Abbycat)													
A9.2	perform searches on a database file using logical and Boolean operators (understands commands, scope, filters, and conditions)													
A9.3	design/plan a database to use as a method of organizing information													
A9.4	create and modify a form (add graphics, and error checking routines)													
A9.5	use databases to analyze data and look for trends													
B9.1	enter data into a pre-existing database, edit data, and use automated text													
B9.2	create fields and with variable field types (numeric, text, date) and properties (color, width, font, etc.)													
B9.3	restructure database (add / delete fields, change field width)													
B9.4	sort records alphabetically, numerically and by multiple fields													
B9.5	create a report from the entire database or selected records													
B9.6	create a report with automated summaries and calculations (understand logic, date and summary field types)													
B9.7	bring database information into a word processing environment ie: (Mail Merges)													
B9.8	distinguish between the two general types of database management systems (flat and relational)													
E9.1	examine functions and implications of database driven websites (ie: online purchasing, searching, and password secured sites)													

Telecommunications

Awareness | Guided | Independent

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
	Email:													
B10.1	send messages													
B10.2	open messages													
B10.3	manage mail/folders													
B10.4	manage address books													
B10.5	use distribution lists													
B10.6	send and open attachments													
B10.7	create signatures													
B10.8	apply filters and rules													
B10.9	use calendar features such as appointments, tasks, reminder notes/memos													
	E-Learning/Collaborative tools:													
	Students will be expected to:													
A10.1	collaborate using software: (ie. whiteboard, slideshow, application sharing, chat, messaging, send and receive files, photos, group file sharing, resource sharing (links), online content creation and sharing, assignment drop box, video and audio, discussion forums, journal.)													
B10.10	use the organizational features of collaborative tools such as scheduling, calendaring, and interactive syllabus													

Web Authoring

Awareness ***Guided*** ***Independent***

	Students will be expected to:		1	2	3	4	5	6	7	8	9	10	11	12
A11.1	identify web page creation possibilities													
A11.2	create appropriate text and image file formats													
A11.3	create an interactive webpage. (online surveys, forms, interactive database, polls)													
B11.1	examine html tags													
B11.2	create a basic web page (may include backgrounds, images, hyperlinks, tables)													
B11.3	indicate where file or page is hosted (server, web server, hosting service)													
B11.4	apply website file management and transfer files to and from web servers (ftp), edit pages online													
B11.5	use special features (image maps, cascading style sheets, frames, rollovers, layers)													
B11.6	embed objects (audio, video, pdfs, animation, Flash, Java Script Applet,)													
E11.1	describe standards which guide web based publication (W3C accessibility guidelines)													

How to Use this Document

Paper Document

The first section of the document includes background material, definitions, philosophy, advantages of technology integration, an overview of the APEF curriculum, and grade 1-12 general outcomes for information and communication technologies.

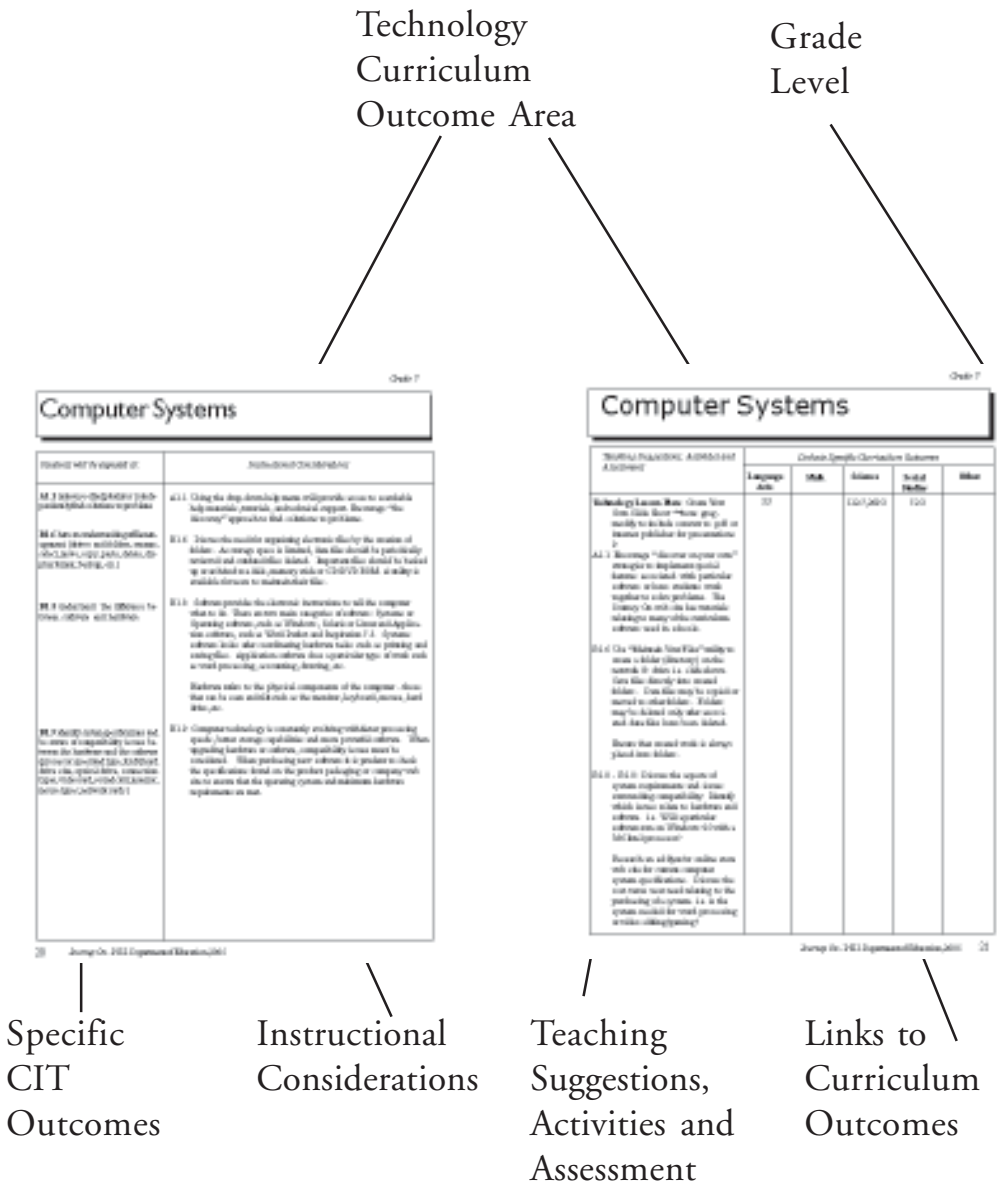
The remainder of the document addresses the level and defines specific knowledge and CIT skills expected of students as they work toward technology competency. Practical considerations are given for incorporating CIT into the curriculum and accompanying lesson plans. The information is presented in a two-page layout as outlined on the following pages.

On-line Document

An on-line version of this document will be developed. Having a document on-line has a number of advantages. It enables teachers to easily cross-reference material in the document with on-line help manuals and curriculum documents. It can encourage a greater level of collaboration among all educational partners. An on-line document can be easily revised and updated without having to copy and redistribute. It is our intent to revise, modify, and add new materials in the future only to the on-line version of *Journey On* (www.edu.pe.ca/journeyon).

Two Page-Layout

Four major sections are found on these pages as you go from left to right: 1) specific CIT outcomes, 2) instructional considerations, 3) teaching suggestions or names of grade specific lesson plans, and 4) links to curriculum outcomes. The applicable technology curriculum outcome area is found in a box at the top of each page along with the grade level.



Two Page-Layout in Detail

letter designation of general technology outcome — A5.1 — indicates first skill in subdivision

refers to fifth area for this grade level under technology general outcome A

Specific Outcomes

- are steps towards accomplishing the general technology outcomes and lettered as subdivisions of GTOs

Grade 7

Computer Systems

Students will be expected to:	*Instructional Considerations*
A1.1 make use of help features to independently find solutions to problems	A1.1 Using the drop-down help menu will p help materials, tutorials, and technical discovery" approach to find solutions
B1.6 have an understanding of file management (drives and folders, rename, select, move, copy, paste, delete, display format, backup, etc.)	B1.6 Discuss the need for organizing elect folders. As storage space is limited, d reviewed and outdated files deleted. I up or archived to a disk, memory stick or CD/DVD ROM. A utility is available for users to maintain their files.
B1.8 understand the difference between software and hardware	B1.8 Software provides the electronic instructions to tell the computer what to do. There are two main categories of software: Systems or Operating software, such as Windows, Solaris or Linux and Applica-

Instructional Considerations

- useful information for teachers on terminology and/or purpose and background of specific technologies

Teaching Suggestions, Activities and Assessment

- readiness considerations
- may be suggestions for activities or name of lesson plan

aluate and select information using

Teaching Suggestions and Activities	*Links to Specific Curriculum Outc*			
	Language Arts	**Math**	**Science**	
Grade 2 **Language Arts Theme**: *New Perspectives* **Lesson Plan**: *Through a Bug's Eyes*	**A1, A3, A4, D1, D3 E1, E1.3, E1.5 G1, G1.1, G2, G2.1, G2.2, G3, G3.1**			
Grade 3 **Language Arts Theme**: *Vanishing Animals* **Internet Sites**:	**A1, A3, A4 D1, D3 E1, E1.3, E1.4, E1.5 G1, G1.1, G2, G2.1, G2.2, G3, G3.1 H2, I1, J5**			

Links to Curriculum Outcomes

- letters and numbers representing curriculum outcomes as defined in other APEF (CAMET) documents

Computer Systems

Students will be expected to:	Instructional Considerations
B1.1 login, open and close a program, open, save and close a file with mouse (Independent)	B1.1 Students must be able to recognize capital letters and numbers in order to be able to login. There is a login and network password for grade 2 students. Students need to recognize left and right to operate a mouse and must have opportunity to practice these fine motor skills. The peer helping system encourages collaboration and cooperative learning. This exposes the younger students to the concept of communicating with technology and gives the older students an opportunity to reinforce their skills.
B1.2 demonstrate proper use of login numbers and names, setup and change passwords, and be aware of implications of multiple logins (Awareness)	B1.2 One network account is provided. If a user tries to log into a second computer while already logged onto another computer, the second login will fail. Applications at school do not permit the changing of passwords. Users at home may have access to programs which allow for the creation and changing of passwords.Passwords should be composed of alphabetic and numeric characters so that they cannot be easily guessed. To prevent data loss, always exit programs and log out of the network properly.
B1.3 begin to work with more than one file at once (Awareness)	B1.3 Windows operating environments allow for many programs to be open at the same time. Individual programs allow several files to be open. (Word Perfect 9 allows nine files to be open at the same time). This ability to "multi-task" allows users to share information between programs quickly and easily.
B1.4 differentiate between "Save" and "Save as..."(Guided*)	B1.4 Newly created files must be given a name using the "save as" selection. Subsequent changes to the file will be updated with the "save" command. To avoid losing work, users should become accustomed to saving at regular intervals.

Computer Systems

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Pictographs pg. 60		F1, F2, F4			
B1.1 With assistance students will be able to enter their login and password to access the school network. Schools are making extensive use of peer helping. A student from a higher grade becomes a mentor for a student in a lower grade. Early on the mentor could assist the grade 3 student with logging in, opening files, saving files and closing programs.					
B1.2 Teachers have access to all student logins and passwords. It is advisable to have a list of these available should students forget.					
B1.3 Demonstrate how to work with multiple files by using a web browser and word processor to gather and record information. (ALT + TAB) keys are used to "toggle" between two programs.					
B1.4 Teachers may place activity files in the M: network drive (Multi-use) for students to access. Students are required to use the SAVE AS command to change the file name and storage location (to their G: drive). SAVE AS is important when using templates so as not to destroy the original file. Save often.					

Computer Systems

Students will be expected to:	Instructional Considerations
B1.6 have an understanding of file management (Awareness)	B1.6 File space on the server is limited. Users should be reminded to clean up their work space. File folders should be created to keep files organized. Files can be deleted or archived (saved on CD, memory stick or floppy disk). "Maintain Your Files" is a utility available to users to manage their files.
B1.10 understand how and when to re-boot (Awareness)	B1.10 Always exit programs using "File-Exit" menu whenever possible. In the event that a program "freezes", there are two options: 1) press " ctrl + alt + delete" and follow the onscreen logout or shutdown instructions(warm boot) 2) hold the power button until the computer shuts off (cold boot).
B1.12 demonstrate proper use of network printing, choose proper printer, recognizes process and purpose of Print Queues (Awareness)	B1.12 During the login process, users are asked to select a printer. Sometimes there is a delay between the time a user orders a print job and when the printer responds. Never print a task more than once as this delays printing for others and is a waste of resources. All print jobs pass through a software utility called a print queue. Should a number of users request printing at the same time, the first job is printed and the others will be processed in order received. Teachers may monitor the printing queue and delete any unnecessary print jobs.
B1.13 identify computer viruses, how they are transmitted and how anti-virus software is used to protect or clean a computer. (Awareness)	B1.13 Programs designed to damage the data on a computer or disrupt its use fall into one of the following categories: Virus: a program that spreads from computer to computer by attaching itself to an executable file. When this file is activated the virus supplies instructions to the computer. These instructions can range from a mere nuisance (eg. a message on your monitor) to the very destructive (eg. erasing the hard drive). Worm: a program that is written in segments and spawns copies of itself in the computer's memory until eventually it causes a crash. Trojan horse: a program disguised as a game or useful application but when executed destroys information on the computer, or gives assess or control of the computer to another. Care must be exercised when installing files or opening e-mail. The best methods for prevention are: (a) to only accept programs from reliable sources and (b) to install a reputable virus checker on the system which scans all imported data files, diskettes and CD's for possible viruses.

Computer Systems

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
B1.6 Insist that work be organized into folders. Categories may be selected by subject, theme, or assignment. File management skills may be part of the assessment for a task.					
B1.10 Should a computer freeze during class, use this as an opportunity to demonstrate the difference between "warm"and "cold" boot.					
B1.12 Users have access to a utility that shows print jobs that are pending for the network printer. This utility provides information about a print job such as file name, user, and time sent. These print jobs can be deleted. Encourage the students to wait for the printer and not hit the "print" button more than once.					
B1.13 Ensure that files transferred from home are virus checked. School email attachments are automatically scanned for viruses. Precautions must be taken at home when using private email services such as Yahoo or Hotmail which may not scan attached files. Private email services must not be accessed in school.					

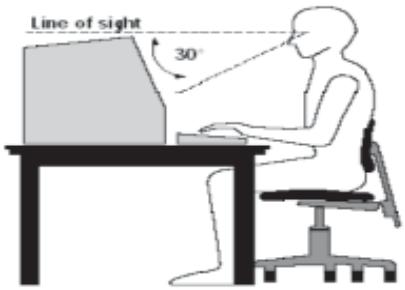
Computer Systems

Students will be expected to:	Instructional Considerations
B1.14 identify spam, popup ads, spyware and other invasive software coding (Awareness)	B1.14 Spyware is coding that transmits information to external parties about a users' browsing habits. Spyware and popup screens may also take control of the users browser and automatically redirect the user to an unwanted website.
B1.15 modify and utilize master pages/templates(Awareness)	B1.15 Master pages and style templates allow the user to setup a document layout that will be applied to all like sections in a publication. This makes the document uniform and consistent in appearance and saves time producing the work. Master pages allow for automated page numbering and document page setup. Many types of software provide templates and examples in the "help" menu or online. Users may create templates for frequently used activities.
C1.1 identify technologies that are found in everyday life (Independent)	C1.1 Technology is human innovation in action that involves the generation of knowledge and process to develop systems that solve problems and extend human capabilities - technology is how humans modify the world around them to meet their needs or to solve practical problems (ITEA, 2000) Technology is constantly evolving and will continue to impact upon the lives of our students. The speed at which change occurs, dictates the necessity for helping individuals to begin to develop strategies for managing and utilizing technology appropriately and to suit their own purpose.

Computer Systems

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
B1.14 Preview web sites that will be visited and avoid those that enable popup windows and advertisements. Discuss the topic of respect with regards to Internet material. Students must be made aware of situations when they should ask adults for help. (i.e.: a student is automatically redirected when browsing or a popup window appears) Notify teacher immediately should popup or automatic redirection occur. B1.15 The Applworks Activity Files provide templates that teachers may use or modify to fit their needs. If teachers wish to use Word Perfect, select "File" - "New From Project". A variety of templates exist for creating greeting cards, certificates, brochures, newletters, etc. C1.1 Students in the primary grades will begin to develop an awareness of technologies that are used in their home, school, and community. When using a specific technology, the purpose, appropriate use and etiquette surrounding technology must be reviewed by the teacher. Technology issues can be discussed within the context of several curricular themes.					

Social, Ethical and Health

Students will be expected to:	Instructional Considerations
A2.1 identify aspects of an ergonomic workstation (Awareness)	A2.1 Ergonomics or the relationship between people and their work is a science with a growing body of evidence. Applying ergonomics by adjusting your chair, work surface, monitor, keyboard, mouse, lighting and modifying your work habits with lifting techniques all have reduced the risk of injury at our workplaces. Furthermore, it increases productivity. (Occupational Health and Safety Manual, 2004) Teaching young children to position themselves properly at the computer and using good posture is essential to prevent the future development of serious injury.  To prevent eye strain, encourage students to look away from the screen every few minutes to rest their eyes. Stretching and shaking their hands at regular intervals are also good habits.
B2.1 demonstrate proper touch keyboading techniques (Awareness)	B2.1 Emergent writers will become familiar with the keyboard through use of the keyboard and familiarity can be taught ... keyboarding skills for independent writers should be sufficient for them to keep up with their line of thought. (pg. 240 English Language Arts Curriculum, Grades Entry -3)
E2.1 respect equipment and other student's work (Independent)	E2.1 Work together to maintain a safe learning environment. Attention to computer work station arrangement will decrease the likelihood of electrical or physical mishap.

Social, Ethical and Health

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Who is your Friend? pg. 64 A2.1 Introduce aspects of an ergonomic workstation (see appendix) Model proper posture and position at the keyboard. Many online resources exist for ergonomics. An example would be the following from Cornell University Department of Ergonomics (**http://ergo.human.cornell.edu/CUEHinfo.html**). Encourage posture and technique. B2.1 Use Ultimate Writing and Creativity Center as an entry level word processor. E2.1 Ensure that wires are properly connected and secured. Safety issues relating to electric shock, use of power bars, tripping on wires, etc. must be discussed. Encourage students to report any workstation abnormalities. Discuss classroom rules for behavior.					Health: W-3.7,W-3.9

Social, Ethical and Health

Students will be expected to:	Instructional Considerations
E2.2 work co-operatively at work station (Independent)	E2.2 Working cooperatively includes: listening to others, sharing ideas, taking turns keyboarding, asking questions, and participating in discussion.
E2.3 adhere to acceptable use agreement for work station/ network/ Internet (Independent)	E2.3 Ensure that parents have signed the Acceptable Use Agreement. Additional permission must be obtained from parents to publish any student work, pictures or names on the Internet. See PEI Department of Education website guidelines (http://www.edu.pe.ca/journeyon/tech_support_pages/GuidelinesforSchoolWebPages.html) E2.8 Never give out personal information (personal details, phone number, address, picture, etc.) Personal information may include details about yourself, family and friends.
E2.4 use electronic communication etiquette (Awareness)	E2.4 Establishing connections with classrooms in different parts of Canada or the world can be a powerful tool for the classroom teacher in all subject areas. Student assignments take on another level of authenticity when they are shared with other classes via telecommunications.

Social, Ethical and Health

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
E2.2 Suggestions for engaging students in the classroom can be found in the section "The One Computer Classroom" on the Journey On site (http://www.edu.pe.ca/journeyon/pro_d_pages/OneComputerClassroom.htm) E2.3 Discuss the contents of the Acceptable Use Policy. E2.4 Use e-mail accounts or collaborative software to communicate among students in a class, school or the world. There are also sites to facilitate establishment of e-mail contacts between classes for particular projects. .					

Social, Ethical and Health

Students will be expected to:	Instructional Considerations
E2.7 identify ethical issues involved with Internet content, awareness of inappropriate use of technology (Awareness)	E2.7 Placing student work on the Internet takes publishing to whole new level and can be a tremendous motivator. At the same time teachers must be cognizant of not compromising the privacy or safety of students. Parents have to be informed and give permission before their children's names or photos are published on the Web. General guidelines for finding accurate information on the Web: Be cautious of sites created by unknown individuals or organizations. Be aware of bias, tone and stereotyping as well as accuracy. Compare information obtained to that of other sources. URL's with the title (name) in the address indicate authorship of a private person. Sites created by government or national institutions are often the most reliable. The following domain abbreviations are helpful to identify authorship: com = commercial organization edu = educational institution gov = government institution org = organization mil = military ~ = personal website
E2.8 demonstrate caution before sending personal information over the Internet (Awareness)	E2.8 Teachers and students should not supply any personal information when publishing on the Internet. If a student happens to open an objectionable site, s/he should immediately click on the "back button" to take him/her out of the site. S/he must immediately contact the adult in charge.
E2.9 follow publishing etiquette Adhere to the guidelines for school web pages as outlined by PEI Department of Education. (Awareness)	E2.9 Consider the following: Do not type messages in upper case since this is the equivalent of "shouting". Take credit for your work, sign your e-mail messages and do not send a message using someone else's account. Do not compose e-mail that contains objectionable language or content. Do not send e-mail messages that contain large graphics or other components that take a long time to download. Always include a meaningful subject description in the subject line. Do not send junk mail to people. Remember that e-mail is not private. Do not send confidential information via e-mail. Use correct grammar and spelling. The use of chat programs and text messaging has given rise to emoticons such as ;>)and three letter abbreviations such as lol (laughing out loud). Consider the intended audience and whether they understand or appreciate their use.

Social, Ethical and Health

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
E2.7 Teachers should discuss with students the topic of privacy. Students need be made aware of situations when they should ask adults for help. If students happen to open an objectionable site they should: Immediately click on the Back button to take them out of the site. AND Immediately contact the adult in charge. BUT If the first doesn't work, (and it sometimes won't) turn off the monitor and immediately contact the teacher. The Media Awareness Network (www.media-awareness.ca/) offers resources for teachers to use with students on Internet safety and ethics This Professional Development Resource is available in school libraries on CD.					
E2.8 Discuss the topic of personal privacy. Students must be made aware of situations when they should ask adults for help.					
E2.9 Guidelines for publishing school material on the web may be found on Journey On (http://www.edu.pe.ca/journeyon/tech_support_pages/GuidelinesforSchoolWebPages.html)					

Internet

Students will be expected to:	Instructional Considerations
A3.1 demonstrate awareness of the Internet as a source of information (Guided)	A3.1 During the entry-12 grades, students within the school system must not use the Internet without teacher supervision. Most of the work by students at the grade 3 level will involve working with preselected websites. Teachers should take the opportunity when using the Internet in class to begin to discuss appropriateness with their students. There are a great number of Web sites on the Internet that provide the opportunity to learn about the values, customs and beliefs of their own and other cultures.
A3.2 use various tools (search engines and directories) and strategies necessary to carry out research (Awareness)	A3.2 Students should be able to understand that the browser enables the user to send and receive information to and from the Internet. Students at Grade 3 level should practice using the following buttons in the browser: back/forward, home, refresh, and stop. Use a search engine designed for children such as Yahoo Kids (http://kids.yahoo.com).
B3.1 Use the various browser navigation tools (Awareness)	B3.1 Be familiar with navigation, hotlinks and the back, forward and home buttons in the browser. For example, a student may follow any given links to a destination several pages or sites removed from the original starting point. At some point in time the student may realize that the followed links are not leading to the desired results and they wish to return to the original starting point. They could use the back button in the browser and return, page by page, to the original site. A faster way to return, however, is to use the "home" feature in the menu bar. When the user clicks on "home",it will take them back to their original site. There is also a history button for recently visited sites. By clicking on the original site in the list, the user automatically returns to that site rather than retracing steps through all of the visited sites with the use of the back button.
B3.2 manage bookmarks/favorites (Awareness)	B3.2 It is possible to record the address of a Web site that has been visited as a favorite (Internet Explorer) or bookmark (Firefox, Netscape). This enables the user to easily visit a favourite site again and again without retyping the address of the site.

Internet

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Who is your Friend? pg.64					Health: W-3.7, W-3.9
A3.1 Demonstrate various multimedia resources from the Internet such as graphics, sound, text, etc. A3.2 Use a search engine. Key searchable terms such as "bullying".					
B3.1 Using a search engine, such as YahooKids, practice navigating among web sites.with the back, forward, home and history buttons. Observe difficulties encountered by students while navigating sites and provide specific feedback. B3.2 Save a web page URL for future reference, click on "favorites" in the menu bar. To organize websites folders may be created. Add the website to the appropriate folder by selecting it and pressing "OK".					

Concept Maps

Students will be expected to:	Instructional Considerations
A4.1 use brainstorming techniques to generate ideas (Awareness)	A4.1 Concept mapping software exists to assist users in developing ideas resulting from a brainstorming activity.
A4.2 create a web(Awareness)	A4.2 The visual nature of a web (literary, concept, character, word, venn diagram, timeline) allows students to see patterns and relationships from ideas. Visual learning helps students strengthen critical thinking comprehension and writing skills across the curriculum. Students may build graphic organizers to represent concepts and relationships.
A4.3 categorize ideas graphically (Guided)	A4.3 Concept mapping encourages students and teachers to be creative. They are able to work together to create concept maps, story boards, cause and effect diagrams, and outlines.
A4.4 create links between ideas, relink or delete links between ideas (Guided)	A4.4 Graphical software allows easy manipulation of linked ideas. Simply click on a link and drag it to a new location.
A4.5 elaborate on ideas (Guided)	A4.5 Further explanation on an idea may be provided by adding notes. These may be clues, activities or questions relating to clarification of ideas.
B4.1 add fonts, graphics, sound, and colours to enhance ideas (Awareness)	B4.1 Learners are able to differentiate among ideas with colors, shapes, patterns, shadows, fonts and styles. Audio also supports multiple learning styles.

Concept Maps

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: People Coming and Going pg. 71				3.2.1, 3.4.1	
A4.1-A4.3 Inspiration 7.5 is available on all school computers and teachers may use this as a tool for organizing group discussion and prompting students for input. The licensing agreement also allows teachers to install this software on their home computer. Copies of this program have been provided to school librarians. A4.4 Record ideas generated during brain-storming sessions without organizing. Later, ideas can be easily categorized or deleted as required. A4.5 Following the brainstorming session further information can be added to the ideas by using the note feature. B4.1 Express design creativity through the use of graphics, fonts, sound and color. Critique aesthetic qualities of the completed activity.					

Graphics

Students will be expected to:	Instructional Considerations
A5.1 create illustrations or graphics by using the various drawing tools (Awareness)	A5.1 Graphics programs provide the user with onscreen tools and palettes that can be used to design and create illustrations or graphics. Graphics programs can be used as an alternative learning strategy to explore and experiment with geometric shapes and relationships. The computer provides a highly interactive environment for the learner in which precise geometric shapes can be created.
B5.1 demonstrate various object editing features (Awareness)	B5.1 Geometric shapes can be altered with respect to their size, orientation, colour, and position. Graphics programs are useful for helping students develop eye-hand coordination and aspects of spatial sense such as visual discrimination, perceptual constancy, and recognition of transformation (translation, rotation and reflection). Object editing features may include select, unselect, resize, crop, area fill, add colour and pattern, size adjustment using the mouse or scale, various erasing techniques, object orientation, changing font and text size, colour or appearance, creating text blocks, change text wrap selection and other text manipulation functions.

Graphics

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Design a House pg. 68			203-2, 203-3		
A5.1 Teachers may wish to create a collection of activity files that can be opened and used at a learning station by individual or small groups of students. Example files are provided with sample lesson plans at the following website: **www.edu.pe.ca/journeyon/resources_pages/lesson_plans/grade_3_index.htm**					
B5.1 Shapes can be sorted and classified according to various attributes. Patterns with 2D and 3D shapes may be created with varying attributes (size, colour, line thickness, etc.). Shape recognition can be reinforced by selecting or creating shapes.					

Word Processing

Students will be expected to:	Instructional Considerations
A7.2 identify examples of desktop publishing (Independent)	A7.2 Use concrete examples of computer generated media such as magazines, brochures, catalogues, newspapers to demonstrate how technology is used to create written and illustrated text.
B7.1 use a grade level appropriate word processor to create and edit written work (Independent)	B7.1 Students can be introduced to using word processing to develop effective writing. As students develop new skills in writing, they can be introduced to new keys and functions. Once students become familiar with the various components of the writing process, cut and paste functions can be introduced.
B7.2 locate characters on a keyboard and identify functions of word processing (Independent)	B7.2 Emergent writers will become familiar with the keyboard through use. It is simply necessary that writers be able to key their ideas at a pace similar to composing with pencil and paper. Keyboarding skills for independent writers should be sufficient for them to keep up with their line of thought. (APEF English Language Arts Curriculum Document for Grades Entry-3, page 240). Encourage students to use proper posturing and healthy ergonomic habits (see Social, Ethical and Health section of this guide).
B7.3 use editing tools to revise work(Awareness)	B7.3 The advantage of using a word processor as a writing tool can be attributed to the ease with which text can be inserted, deleted, rearranged, and corrected.
B7.4 change font, size, colour, and style of text (Guided*)	B7.4 Change text attributes by selecting upper and lower case letters, underlining text, placing spaces between words and changing font, style, colour and size of text.
B7.5 format text (Awareness)	B7.5 Word processing is one strategy to develop effective writing. As students develop new skills in rearranging sentence structures and sequencing of events. Publication of projects can develop more of a professional appearance by introduction to more advanced stylistics (i.e., justification, columns, line spacing, outlines, text wrap, and bullets).
B7.7 insert a graphic and manipulate (Awareness)	B7.7 Images may be imported, acquired from a scanner, digital camera or from the Internet. Many word processors come with a clipart library that allow for the easy insertion and manipulation of graphics. A text art feature available in most word processors allows text to be created as a graphic. ie. templates for placing text in arcs, circles, waves, 2D or 3D format, and in different colors.

Word Processing

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Let's go on a Trip pg. 62 A7.2 Provide or create an examplar. Publish written work by printing a hard copy. Identify examples of Beverly Cleary books. B7.1 Begin to use a simple word processor such as Appleworks or Ultimate Writing Creativity Centre. B7.2 Use the characters of the keyboard and the simple function keys such as the space bar and enter key. Change the style of the characters, words, lines, paragraphs, and pages of the written work. These changes are termed formatting and enhance the presentation of student writing. B7.4 to B 7.7 The design needs of a document will determine the appropriate use of these features. Suggested activities which may incorporate some or all of these outcomes are as follows. Create a story by providing a starting sentence and students take turns by adding a sentence. Create a class story to provide a model for writing. Write a group story or report. Each student can have the responsibility for a section which can be combined into one publication. Create an on screen book or presentation. Create a new story by revising a story read in class.	(Transitional) 4.3, 9.1, 10.1, 10.4				

Multimedia

Students will be expected to:	Instructional Considerations
B8.1 navigate multimedia resources such as slide shows, online resources or CD-ROM interactive educational activities (Guided*)	B8.1 Multimedia components such as CD-ROM/DVD, slideshows, and online resources often motivate the young learner to explore and discover new information, and therefore encourages self-directed learning. These components also address the issue of multiple intelligences by providing information visually (static and moving images) and auditorally. In terms of technology skills these programs are useful in encouraging the development of motor skills such as those required when using the mouse. More importantly, these components can be used to enhance the development of many information processing skills required for retrieving computerized information.

Multimedia

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Electronic Word Collection pg. 70	(Transitional) 10.1, 10.2				
B8.1 Corel Presentations is a slideshow creation program which is available in all schools. For further information on this program, visit: **www.edu.pe.ca/journeyon/pro_d_pages/corel.htm** Ultimate Writing Creativity Center also has a component which allows students to showcase their work using a slideshow in the form of a theatre presentation. For more information on this, visit the website: **www.edu.pe.ca/journeyon/pro_d_pages/UWCC_basics/index.htm** Electronic CD-ROM encylopedias may also be available resources in schools. Web-based slide shows and educational websites are available for use.					

Database

Students will be expected to:	Instructional Considerations
A9.1 use an existing database to find information (Independent)	A9.1 Databases can help students to develop organizational and problem solving skills by engaging them in tasks that involve organizing and sorting information from research to test hypotheses, retrieving information, discovering relationships and commonalities, and predicting trends.
A9.2 perform searches on a database file using logical and boolean operators (Guided)	A9.2 The primary purpose of any database file is to store information so that it can be retrieved quickly and accurately. A database query can range from the simple (eg. Show all the records which are located in Charlottetown) to the complex (eg. Show all the records located in Charlottetown, who are younger than 35 and are females). The second example demonstrates the use of logic operators (less than, less than or equal to, greater than, greater than or equal to, not equal and equal) as well as the use of Boolean operators (AND, OR, NOT, AND NOT).
A9.5 use databases to analyze data and look for trends (Awareness)	A9.5 Databases created in Appleworks use query techniques. Layouts may be created that contain specified fields. Records may be sorted into ascending or descending order. Particular records may be searched through the "find", "match records" or "omit" features. See the Journey On online tutorial relating to Appleworks databases (http://www.edu.pe.ca/journeyon/tech_support_pages/help_manual/database/default.html)
B9.1 enter data into a pre-existing database, edit data, use automated text (Guided)	B9.1 Compare non-computer databases such as phone books, index cards and recipe books to electronic databases. Convey to students that computers are advantageous because of the speed and ease with which information can be organized, stored, searched and retrieved.
B9.4 sort records alphabetically , numerically and by multiple fields (Awareness)	B9.4 In the "Royalty in Fairy Tales" example, the records may be sorted by "Author" as key one. Should two authors have the same last names a second key "first name" sort can be specified.

Database

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Royalty in Fairy Tales pg. 73 A9.1 Submit queries in a pre-existing database such as a search engine or library book database. A9.2 Visit a search engine (www.altavista.com) which is a very large database. Practice searching for sites about Fairy Tales using Boolean operators in the "advanced search" area. eg. "Tales" NOT "Fairy" AND "Royalty"(note that using "quotations" is the same as using AND to limit a search) A9.5 Refer to the lesson plan "Royalty in Fairy Tales". Review the chosen fields for this database.On page 74, a number of questions are provided. Use these as an assessment or as a resource to brainstorm further questions/trends. B9.1 Enter new information into a pre-existing database. This information may result from their own research activity. B9.4 Once students have entered data records for the lesson plan activity, they can demonstrate multiple field sorting with the following examples: sort the data by title, author, setting, royalty, etc.	(Early) 10.5 (Transitional) 5.1, 10.4, 10.5				

Database

Students will be expected to:	Instructional Considerations
B9.5 create a report from the entire database or selected records (Awareness)	B9.5 Users may create a report from the database. These reports will contain parts of the information arranged in some particular fashion. To create a report, a layout containing the necessary fields is prepared. Once this layout has been created, and sort and match criteria specified, the report can be printed in this format. Alternatively, the information can be cut and pasted into another wordprocessor as part of a larger written report or presentation.

Database

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
B9.5 Create a report from the data in the lesson plan. Create a new layout and select the fields for the second sort from B9.4 -author, title, genre . From the pull-down menu select "Layout" - "New Layout" - "Columnar Report". Enter a name for the report i.e. Favorite Books. Set the field order as author, title, genre . To sort the records for this report select "Organize" - "Sort Records". Move the author, title, genre field names into the sort order box and specify ascending or descending. Click OK. Observe progress and check that records are in specified sort order. Specify records to be included in the report by selecting "Organize" - "Show All Records" and "Layout" - "Find" and specify the field data you would like.					

Telecommunications

Students will be expected to:	Instructional Considerations
B10.1 send messages (Independent)	B10.1 The language skills of grade three students may be sufficiently developed to independently send an e-mail message. Some students, however, may need assistance to send a simple message.
B10.2 open messages (Independent)	B10.2 Each student on Prince Edward Island is provided with an e-mail account. As with regular mail, e-mail requires an address. The address begins with a username followed by an @ symbol and the domain name. It is important to write the full e-mail address without any spaces. eg: **smithjx01@netmail.edu.pe.ca**

Telecommunications

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Who is your Friend? pg. 64 B10.1 Grade three students can be sent an email message by one of their peers. The grade three student should be able to access, read, reply or compose a message. B10.2 Alternatively, send each student a greeting prior to class. Students may use this to practice how to open, reply, or compose a message.					Health: W-3.7, W-3.9

Web Authoring

Students will be expected to:	Instructional Considerations
A11.1 identify web page creation possibilities (Awareness)	A11.1 Many opportunities exist within the grade three curriculum for publishing class activities. This may be a method of celebrating the completion of a theme or unit. It provides a means for parents to see their child's work or activities.

Web Authoring

Teaching Suggestions, Activities and Assessment	Links to Specific Curriculum Outcomes				
	Language Arts	Math	Science	Social Studies	Other
Technology Lesson Plan: Let's go on a Trip pg.62 A11.1 Use a web page editor to create a template to display student creations. Content may include text, scanned drawings or graphics.	(Transitional) 4.3, 9.1, 10.1, 10.4				

Lesson Plan Layout

Curriculum Outcomes

Activity Resources, Instructions and Suggestions

Lesson Plan: Illustrating Stories

Outcomes

Technology (Awareness) E2.9, A5.1, A 11.1, E5.1

Language Arts:
10.4 (Early), 9.1 (Transitional)
10.4 (Transitional)

Visual Arts 2.1.1, 2.8.1, 2.7.2

Activity

Students can use computer graphics to illustrate stories, poems, journal entries and reports. Any graphics program can be used for this exercise; Color Magic, AppleWorks, or Windows Paint Brush. Ultimate Writing Creativity Center is also a very useful program which allows the students to add graphics to their stories. Graphic programs are a great way to assist students in developing hand-eye co-ordination and enhance mouse skills. Young children quickly learn by exploration to use the different graphic tools and adapt very readily to expressing themselves using this medium.

Resources

art materials
graphics software
Ultimate Writing Creativity Center

Instructions

1. There are several ways to approach this activity Students can have the story prepared first and then illustrate it, or they can create a drawing and then write a story based on the drawing (see sample at end of exercise). You may wish to fit the written work and illustration into a theme that you are currently exploring in your class.

2. Let students explore the medium. If using a program such as *Color Magic*, limit the amount of clip art (stamps) used and encourage as much freehand drawing as possible. Students may need to be reminded that pictures are created with shapes and briefly (2- 5 minutes) shown how to create different shapes, erase an object or page, and add color to an object. Having a volunteer in your classroom, pairing novices with more experienced users, or having student computer mentors may help you with this aspect, especially if you have a one-computer classroom.

3. Students can save their work if they haven't completed it by the end of their allotted time, and come back to it at a later date. When they have completed their work, have each student print out a hard copy

Lesson Plan Index

Lesson Plan: Pictographs

Outcomes

Technology:(Guided) B1.4
(Awareness)A5.1, B1.3, B5.1

Math: F1, F2, F4

Activity

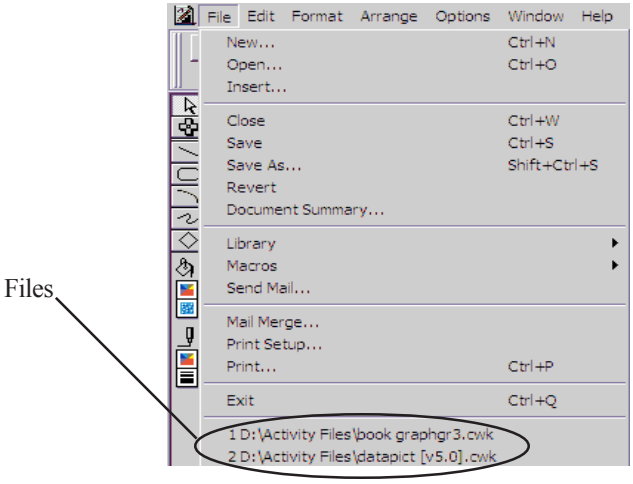
As part of the grade 3 math curriculum, students are expected to collect and display data in a variety of ways. In this activity students use a graphics program to construct pictographs or symbolic graphs of data. Students can use the drawing tools available to create axes and simple geometric shapes or imaginative drawings to symbolize units of data.

Resources

Graphics software such as Appleworks or Inspiration 7.5
Appleworks files: **picto.cwk, datapict.cwk**

Instructions

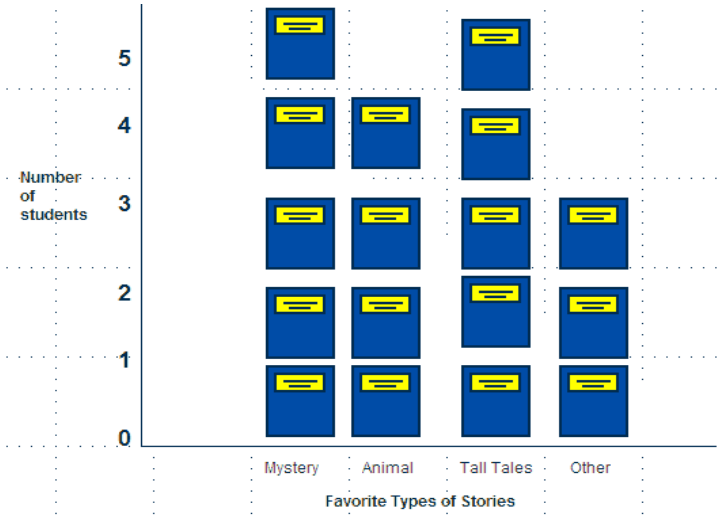
1. Have students complete a class survey. Small group or class discussion could be used to plan the survey. Possible survey topics include:
   food items ordered for the week.
   left-handed versus right-handed students.
   types of pets
   number of books that have been read this week
   favorite books from the latest theme or author study
   number of students who brush their teeth 1, 2 3, or 4 times a day
2. A note-taking form or tally sheet can assist this process
3. Using a program such as Appleworks, open the file picto.cwk. Click on FILE/ SAVE AS and save the file with a new name. If you downloaded datapict.cwk,there are a number of pictures and shapes that can be used to represent data on the graph. Students can practice working with more than one file at once by opening the datapict.cwk and their new file. By clicking on "File", students are able to see at the bottom of the drop down menu how many files they have open. They can then click on the appropriate file to open. See the following diagram.



Lesson Plan: Pictographs

4. Label the pictograph using the text tool.
5. Create the picture or symbol that you will use to represent data.
6. Create the picture or symbol that you will use to represent data.Click on your picture to select it.Next click on EDIT and DUPLICATE (CTRL + D) to make multiple copies.

The following diagram illustrates how you may use the symbol library in Appleworks and the drawing tool to represent the number of students and their favorite genre.



Remember to use the "Save As" command as soon as you open the file to give it a name and "Save" changes to that file.

Use the "Zoom" feature to enlarge the screen. It is easier to create a small drawing using the "Zoom" feature to enlarge the picture while you draw it and to reduce when you want to use it on your graph.

To quickly duplicate your picture, click on the picture to select it. Next hold the CTRL key down and type the letter D on the keyboard quickly to make a duplicate copy. Every time you tap the letter D while holding the CTRL key down you will get a duplicate.

For further information on Appleworks Drawing, please visit the following website:

http://www.edu.pe.ca/journeyon/tech_support_pages/help_manual/drawing/default.htm

Lesson Plan: Let's go on a Trip

Outcomes

Technology:(Guided)B7.4 (Awareness) A11.1, B1.10, B1.12, B2.1, B7.3, B7.5, B7.7, E2.9

Language Arts: (Transitional) 4.3, 9.1, 10.1, 10.4

Activity

In this activity, students will use the Writing Ideas portion of Ultimate Writing Creativity Center to write a comparison between the Tropical Rainforest and the Soutwestern Desert.

Resources

Ultimate Writing Creativity Center

Instructions

Open up Ultimate Writing Creativity Center and click on the "Writing Idea Lands" sign. This will bring up a window with 4 sections.
To start, click on the "Tropical Rainforest" section. See illustration below.

Each time you click on the "Did you Know?", facts about the Tropical Rainforest will appear on the screen. By clicking outside the fact window, it will disappear. Writing project ideas can be generated by clicking on the "Writing Projects" sign. Students will also find writing ideas by clicking on one of the characters on the screen. This will start an animation and then a writing idea. Do the same for the 'Southwestern Desert".
Once the students have 5 facts about each geographic area, they can write information comparing the 2 different parts of our planet using the word processing portion of the program.

Lesson Plan: Let's go on a Trip

Instructions

When ideas are collected from the Writing Ideas Land, click on the pen and paper icon on the lower left of the screen. This will take you to the word processing section of the program. From there the students can write their story. Different elements such as sound, graphics, and animation may be added using the Binders button. Text may be resized, edited and colored. Layout may also be changed. This means that the document may be changed to add columns, or as a story. Page numbers may be added or a border may be placed on the story. The Tools section has a spell checker and a voice function that will read the document aloud so that the student can hear how it sounds.

The finished story can then be saved or printed using the school's network printer.(*Note: It is good practice for the students to "connect" to the school's network printer when they first login to the school network.)

With any computer usage, it is sometimes necessary for students to do some basic troubleshooting. In the event that a computer "freezes" and will not function, holding down the keys "CTRL, ALT, DELETE", will re-boot the system as a "warm boot". If this does not work, turning off and on the power will result in a "cold boot". In any case, the student may have to login back into the network. It is good practice for the students to save their work often.

Information from this activity could also be used as a basis for a class webpage. Using a web editor such as Front Page Express, students could easily create a web page with text and a simple graphic. For more information on how to create a simple web page, please visit the following site:**http://www.edu.pe.ca/journeyon/pro_d_pages/frontpage.htm**
Guidlines for school web pages can also be found at this site:
http://www.edu.pe.ca/journeyon/tech_support_pages/GuidelinesforSchoolWebPages.html
*Please note that when you open this program, it will ask you to "sign in" with a name and password. It will not matter what name the student uses as all files from this program will be saved on the student's "G" Drive.
When the password window comes up, do not enter a password and just click "ok". This will take you to the main screen. For more information, see the following website:
http://www.edu.pe.ca/journeyon/pro_d_pages/UWCC_basics/index.htm

Lesson Plan: Who is your Friend?

Outcomes

Technology:(Guided)A3.1
(Awareness) A3.2, B2.1, B3.1, B3.2, E2.4, E2.7, E2.8
(Independent) B10.1, B10.2

Health: W-3.7, W3-9

Activity

This activity looks at the problem of bullying and some of the steps that students can take to either prevent bullying or to help make it stop.

Resources

Internet
Word Processor such as Appleworks, Word Perfect, Ultimate Writing Creativity Center
Netmail

Instructions

Because bullying is a subject that students are sometimes reluctant to discuss on a personal level, the teacher may wish to start the discussion by using the following questions as a survey. Discussion could begin with the question such as the definition of bullying. Students will use a word processor to anonymously answer the questions and hand them back to the teacher. When using the computer, encourage proper posture and other ergonomic factors. Also, students should be aware of proper touch keyboarding techniques such as home row, and proper fingers.

1. Have you ever been bullied?
2. If yes, how often did someone bully you?
3. Where did it happen? (school, community, etc) When?
4.If it happened at school, where? (bus, playground, washroom, etc)
5. Have you seen other students being bullied? Where?
6.How did you feel?
7. How much of a problem is bullying for you?

After class discussion on the questions, students will use the program Ultimate Writing Creativity Center and write about some of the actions that parents, teachers and other adults could perform to stop bullying.

Technology has allowed the bully to operate more effectively and sometimes with impunity. Students need to know how to deal with cyber-bullies. Websites such as: **www.bullying.org** or **www.cyberbullying.ca** are very good sites that will help explain this concept to the students. After visiting these and other sites, students may wish to save the address. To do this in Internet Explorer, click on “Favorites” and in the drop-down menu, “Add to Favorites”. When they want to visit the site at another time, click on “Favorites” and the site should be listed in the drop down menu.

Following is a role play activity that students may use to discuss this issue.

Put the students in pairs. Introduce the scenario that one student has moved away. They still stay friends by using email and an instant messenging service at home. the friend who moved away is having difficulty in school and is being bullied by a student at his/her new school. The student has no new friends to talk to about this. Have the students email each other using Netmail asking for and giving advice. After a period of time, reverse the roles.

As a follow-up assessment activity, have partners work together and write the possible solutions and advice that they gave each other.

Lesson Plan: Understanding Numeration

Outcomes

Technology:(Guided) B8.1
(Awareness) B1.2

Math: for a complete listing of curriculum outcome links, see page 86

Activity

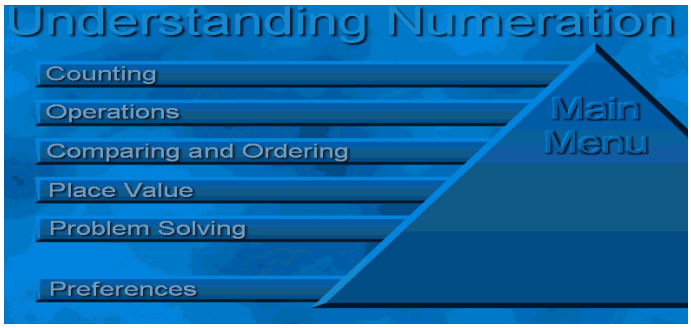
The purpose of this activity is to give teachers and students a brief tour of some of the basic functions of the program Understanding Numeration Plus.

Resources

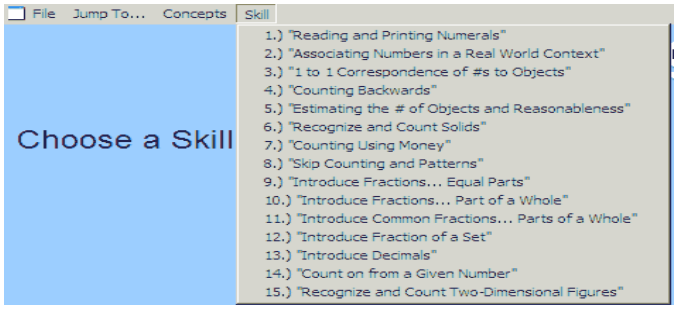
Internet
Understanding Numeration Plus software

Instructions

All schools with students from grades 1 to 6 have access to this software.
When you open the program, the first thing that you will see is "Introduction for Teachers" page. You may wish to go through this the first time you open the program. After that, skip this page by clicking on the "**Jump to**" button at the top left of your screen. By clicking on the "**Main Menu**" option , the following page opens.



Students may enter any of the 5 components of the program by clicking on them. By clicking on "**Counting**", for example, a new window will open and you will be given a window that has a button that says"**skill**". If you click on it, the following menu will appear.

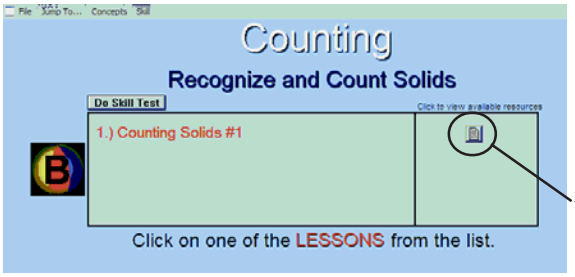


Teachers can then direct students to click on the appropriate skill that they are working on. In this case, they are numbered 1 to 15.

Lesson Plan: Understanding Numeration

In this case, the concept chosen was Counting and the skill chosen was "Recognize and Count Solids". You will notice from the graphic below that in this instance, you are given 2 choices. Letters "B" and "C" will allow students to go to the appropriate activity. You will also notice that students have the option of completing a skill test on each of the skills.

If you clicked on "B" for example, the following window will appear.

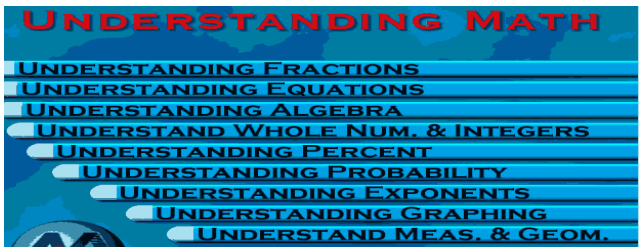


resource icon

If you click on "1.) Classifying Solids #1", the activity will begin. The available worksheet may be viewed by clicking on the resource icon on the right of the screen.

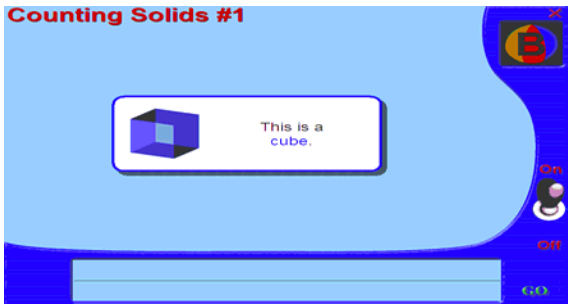
(* Note: Teachers should have access to an icon in the "Teacher Group" window called " Unum worksheets".This will give teachers all the worksheets in .pdf. Some schools have printed these and placed them in a binder in the school library so that teachers can easily photocopy them.)

Some of the grade 3 outcome correlations are linked to Understanding Math Plus which is also in all elementary schools. The Introductory page for this program is illustrated below.Click on one of the nine topics to enter. Navigation through the program is similar to Understanding Numeration Plus.



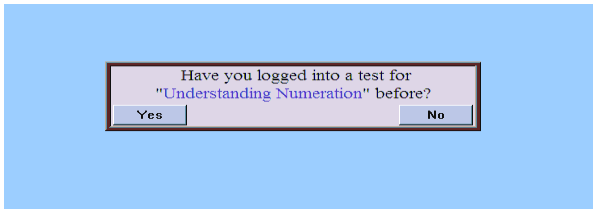
Lesson Plan: Understanding Numeration?

Click on the "Go" button and the following page will appear.



Students may then proceed through the activity. Sound is also available by moving the switch up or down.

If the teacher wishes the student to complete a test and clicks on the skill test icon, the following window will appear.



The first time a student wishes to complete a test, he/she will click "No". The program will then ask for a login name and password. Students should use either their Usernet login/password or one that is given to them by the teacher.
From there the student will be given a series of directions. Teachers may wish to go over these with the students the first time through. All student test records will automatically be sent to the Teacher Tracking Utility.
(*Note: refer to the "Understanding Numeration Plus " manual in your school for description of the Teacher Tracking Utility)

This has been a brief introduction to the program. For more details, refer to the "Understanding Numeration Plus" manual.
Also please refer to the company website at:
http://www.neufeldmath.com

Lesson Plan: Design a House

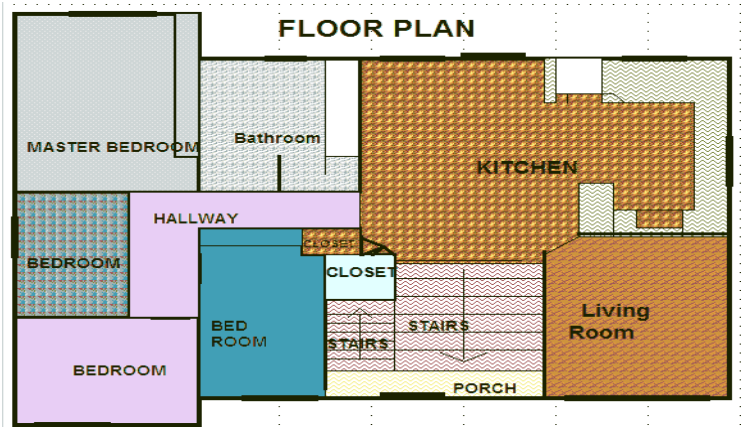
Outcomes

Technology:(Guided) B1.4
(Awareness) A5.1, B5.1

Science: 203-2, 203-3

Activity

This activity is linked to the grade 3 Science unit called Materials and Structures. Students are to use AppleWorks Drawing as a tool for making a floor plan of a structure.As an example, students could create a floor plan of their own home.Following is a graphic example of how Appleworks Draw could be used to design a structure.

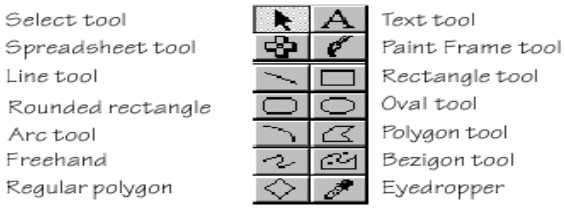


Resources

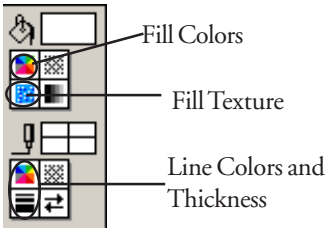
Appleworks Drawing

Instructions

Students should become familiar with the following tools in Appleworks Drawing.

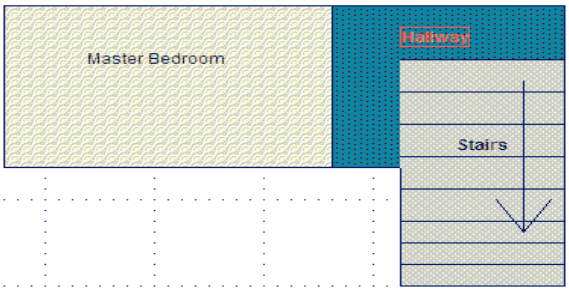


Also available are the various fill and color palettes.



Lesson Plan: Design a House

Allow the students some time to experiment with the differents shapes and patterns but insist that by the end of class, a simple plan must be in the process of being constructed. One of the big advantages of using Appleworks Draw is that if editing needs to take place, it is simply a matter of selecting the part by clicking and hitting the "Backspace" or "Delete" key.



Have the students click on "File", "Save As" and give it a name such as "Houseplan" so that when they go to Appleworks again to work on this, they will be able to find the right file.
For more information on Appleworks Drawing, please visit the following website: **http://www.edu.pe.ca/journeyon/tech_support_pages/help_manual/drawing/default.htm**

Lesson Plan: Electronic Word Collection

Outcomes

Technology:(Guided) 8.1
(Awareness) B5.1, B1.15

Language Arts: (Transitional) 10.1, 10.2

Activity

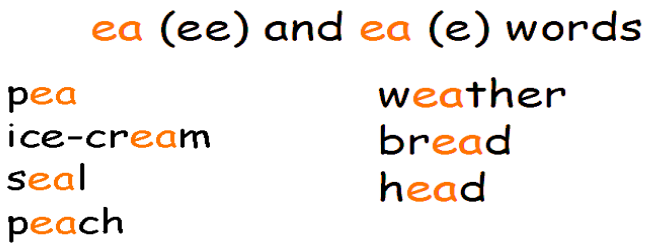
To assist students in identifying and spelling high frequency words, a slideshow using Corel Presentations will be used.

Resources

Corel Presentations software

Instructions

Students will open Corel Presentations, click on "Create". They will then be asked to choose a master slide as a background. Have students choose one from the color group.
Using the text tool (letter A on the toolbar), have the students type a need to know word.
Students will then click on "File", "Save As" and give the file a name such as " My Word List".
Students could type a sentence on the slide using the word.
As students come upon difficult words, they may either create a new slide or if the words have a pattern, they may be combined on the same slide. See the following graphic as an example.



For more information on Corel Presentations, please visit the following website:
http://www.edu.pe.ca/journeyon/pro_d_pages/corel.htm

Lesson Plan: People Coming and Going

Outcomes

Technology: (Guided) A4.3, A4.4, A4.5
(Awareness) A4.1, A4.2, B4.1

Social Studies: 3.2.1, 3.4.1

Activity

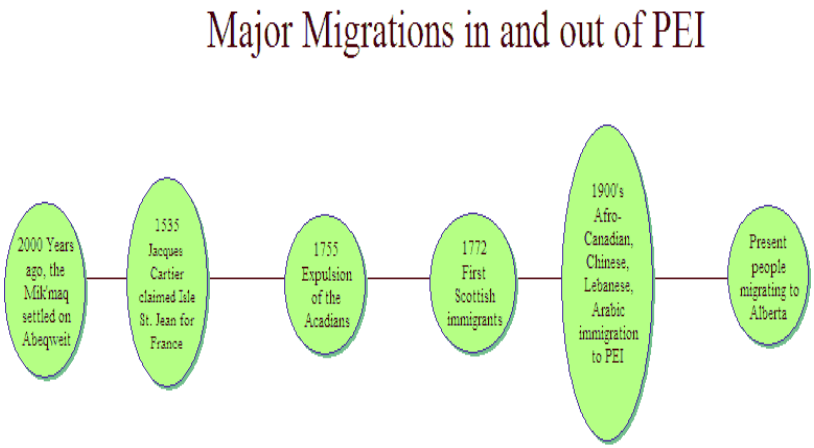
Prince Edward Island has a rich history of cultural diversity. Many different cultural groups have contributed to the development of this province.
Using Inspiration 7.5, students will create a simple timeline to illustrate the migration of people in and out of the province. By doing so, students will be better able to demonstrate an understanding of how many different groups have contributed to the development of Prince Edward Island.

Resources

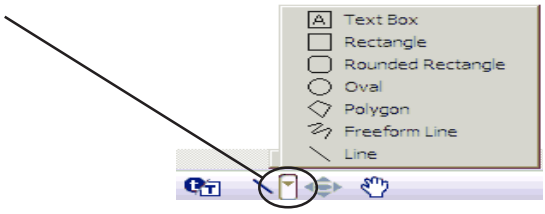
Inspiration 7.5 software

Instructions

Using Inspiration 7.5, students will create a simple timeline to help illustrate the migration to and from Prince Edward Island. Following is an example of how a timeline may be created.



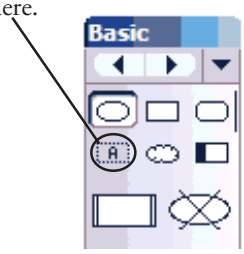
To have the students create this simple timeline, follow these steps:
1. Open Inspiration 7.5 and click with your mouse to a place on the screen.
2. Type the information for your timeline. By default, the text will appear in a graphic similar to the above diagram. You may wish to use the "Rapid Fire" tool for quick and easy brainstorming.
To add new information, simply click somewhere else on the screen and type the next set of information.
3. When you have all the information for your timeline, you must use your drawing tool to create a straight line. This tool is located on the bottom of your screen.



Lesson Plan: People Coming and Going

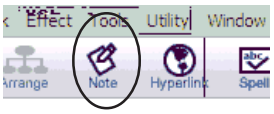
Instructions

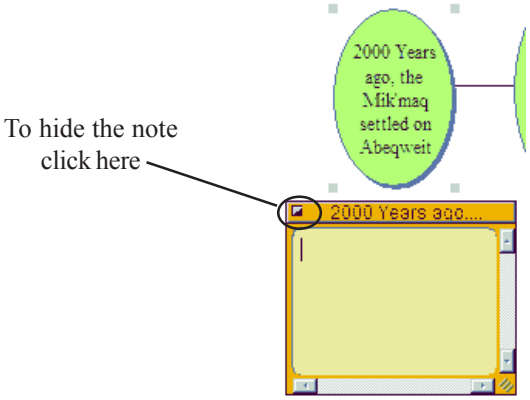
4. When you have drawn a straight line across your screen, place your mouse on an information graphic, hold down the left side of the mouse and drag it on to the straight line.
5. By tapping the short cut key "F8", the symbol palette may be activated. Click on the text box button as shown here.



This will open up a text box. Type in a title for the timeline. By using the text tool at the top of the screen, students can change the font size, color, etc.

Students may wish to add more information and this can be done by adding a note.Click to highlight the section of your timeline, then click on the Notes" button on the toolbar at the top of the screen.





For more information on Inspiration 7.5, please visit the following website:
http://www.edu.pe.ca/journeyon/pro_d_pages/Using_Inspiration/index.htm

Lesson Plan: Royalty in Fairy Tales

Outcomes

Technology: (Guided) A9.2,B9.1
(Awareness) A9.5, B9.4, B1.6,
B9.5,

Language Arts: (Early)10.5
(Transitional) 5.1, 10.4, 10.5

Activity

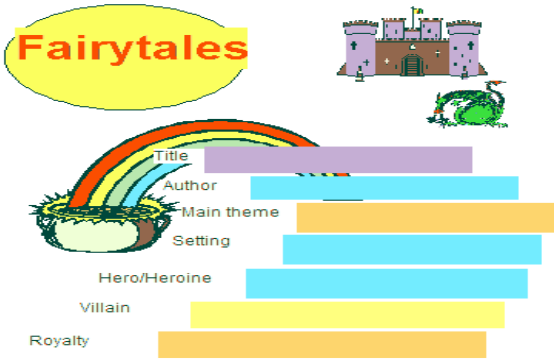
Fairy tales are an excellent genre for examining concepts such as heros(heroines)/ villains, setting, story structure and point of view. In this suggested learning activity, students read fairy tale books such as those provided for the grade 3 Reflexions theme, Royalty in Fairy Tales. Information gathered by the students is then entered into a database which can be used to examine some of the trends and genre conventions that are associated with fairy tales.

Resources

Appleworks Database software
Appleworks Activity File: **fairydb.cwk**
Books related to the Royalty in Fairy Tale theme

Instructions

Shown below is the layout sheet that will be used to take notes as the students read their books. This form can be printed out from the database file **fairydb.cwk**. You may wish to change the fields in this database to emphasize the characteristics of the fairy tales in which you and your students are interested.



In a one-computer classroom students can take turns entering the information into one file.This file may be saved in the teacher's account. Please note that information cannot be saved on the disk. The teacher must "save as" a new file in their own "G" Drive.
Students can create a class database. They can work in pairs or as individuals. However, each student or group of students should enter different books. Redundancy will make a class database less effective as a tool to see trends and patterns evident in this genre. Information can be entered over time as the students finish reading their books. Students can then work with the completed database when it is set up as a learning station.

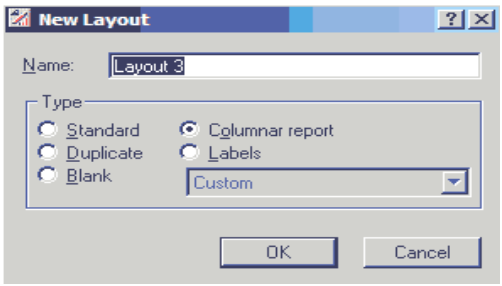
Lesson Plan: Royalty in Fairy Tales

Instructions

In a lab environment each student can create their own copy of the database.The teacher should place a copy of the database file in the "M" Drive in the "student" folder.Students will then have to "save as" in their own "G" Drive.

As students complete their reading, they can record information on note-taking forms. A time can then be scheduled for the entire class to go to the lab and enter all of the information they have collected thus far into their database. A limit can be set on the number of books that each student needs to include in the database, but a minimum of 7 is needed to see the benefits of a database. Since students are creating their own database, all students in the class can read and enter the same books into their respective databases.

Information can be displayed in a number of ways or "layouts".This function can be found by clicking on "Layout" and in the dropdown menu, clicking on "New Layout". This will bring up the following window.



Notice that one of your choices is Columnar Report. This is a popular layout for students to use when they begin to manipulate the data in the database as it allows the users of the database to see more than one record at a time. This layout makes it very easy to compare and see relationships in the data.

When you select "Columnar report" and click "ok", you will then be asked to set the Field order. Select the fields that you wish and move them. When you are finished, click "ok". This will give you a report.

As part of the assessment for this activity, the following questions could be asked of the students.

I read _____ fairy tale books.

Things I did to learn about fairy tales:

1._____

2._____

3._____

Fairy tales have things in common. Two things are:

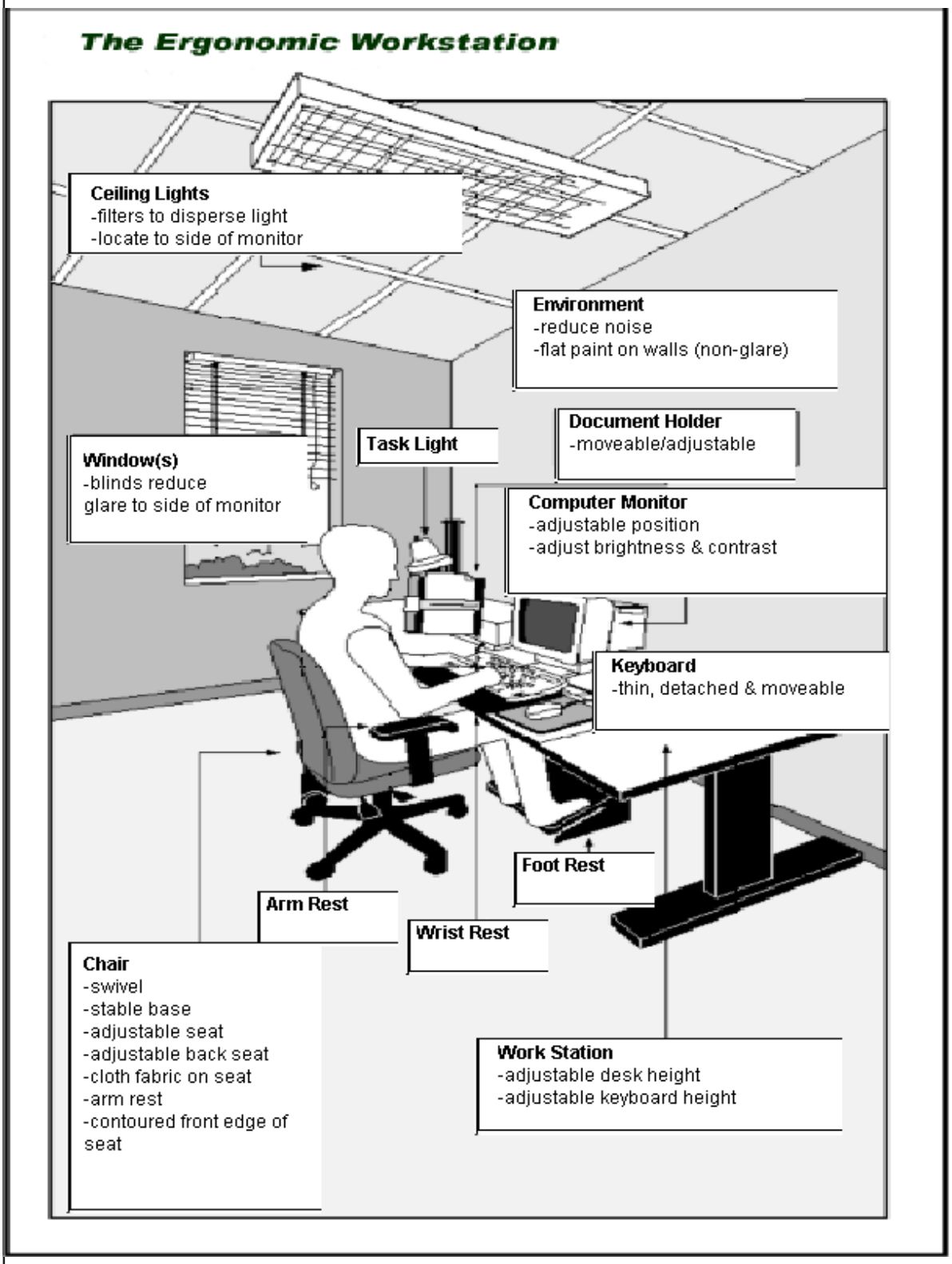
1._____

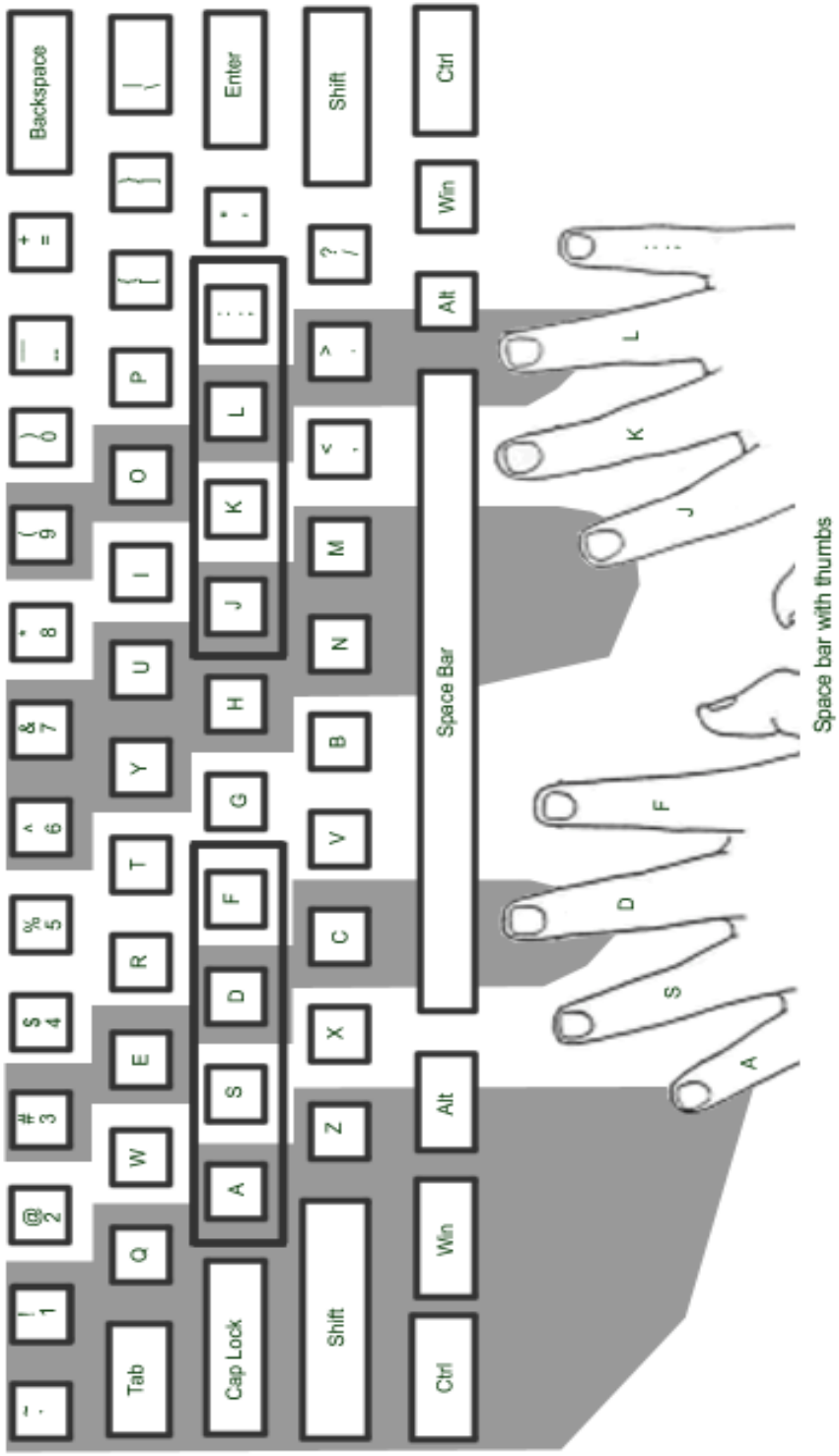
2._____

My favourite part of this project was:_____

For more information on how to use Appleworks Database, please visit the following website:

http://www.edu.pe.ca/journeyon/tech_support_pages/help_manual/database/default.html


The Ergonomic Workstation
Ceiling Lights
-filters to disperse light
-locate to side of monitor
Environment
-reduce noise
-flat paint on walls (non-glare)
Document Holder
-moveable/adjustable
Task Light
Window(s)
-blinds reduce
glare to side of monitor
Computer Monitor
-adjustable position
-adjust brightness & contrast
Keyboard
-thin, detached & moveable
Foot Rest
Arm Rest
Wrist Rest
Chair
-swivel
-stable base
-adjustable seat
-adjustable back seat
-cloth fabric on seat
-arm rest
-contoured front edge of
seat
Work Station
-adjustable desk height
-adjustable keyboard height


Backspace
Enter
Shift
Ctrl
Win
Alt
Space Bar
Space bar with thumbs

WHAT CAN I DO TO ADAPT THE COMPUTER TO MEET THE NEEDS OF ALL STUDENTS?

Listed below are some quick, easy, no cost strategies that teachers can use to make the computer more accessible to students of all needs. Most of the suggestions below are options that are available through Windows, the computer's operating system. Teachers may request the assistance of the School Site Technical Contact or your school's technician to implement these strategies. The following strategies have been divided into four areas for clarification; however, they may apply to many situations.

Most of the strategies listed below are available on Windows XP, while only some of them are available on Windows 98. In Windows XP, the strategies can be activated through the Accessibility Wizard (Start-Programs-Accessories-Accessibility-Accessibility Wizard). In Windows 98, they can be activated through the Control Panel: the Mouse, Keyboard and Display icons

It is important to note that if any of the following strategies are implemented on a particular computer, these settings will be enabled for all users of that computer.

Visual

• Windows Magnifier -Windows XP

• Increase size of monitor (17 inch or larger)

• Lower the screen resolution (ex. 800 x 600) - Windows XP and 98

• Enlarge icons - Windows XP and 98

• Enlarge the mouse, change its color, and assign mouse pointer trails - Windows XP and 98

• Change the speed of the mouse pointer - Windows XP and 98

• Slow down the cursor blink rate - Windows XP and 98

• Customize the size of font on desktop and menu bars - Windows XP

• Maximize the window to fill the screen - Windows XP and 98

• Customize the colour of screen, font and window title bars - Windows XP and 98

• Increase the size of the scroll bars and window borders - Windows XP

Hearing

• Display captions for speech and sounds - Windows XP

• Play sounds when you press CAPS lock, NUM lock or SCROLL lock. - Windows XP

• Make sure all students are facing you when giving instructions in the computer lab

• Use of personal headphones

Mobility

- Changing the response rate of the keyboard so that letters will not be repeated if the student holds down too long on a key - Windows XP and 98
- Ensure that the mouse is on the appropriate side of the computer depending on the dominant hand of the student. For left handed users, change the left and right mouse click buttons so that it matches with the students left hand. - Windows XP and 98
- On Screen keyboard - Windows XP
- Use sticky keys - this enables a user to press key combinations like CTRL+ALT+DEL that usually have to be held down at the same time to press them one keystroke at a time. - Windows XP
- Use keystrokes to perform mouse functions ie. use the numeric keypad to move the mouse up and down and to the left and right. - Windows XP

Other

- Develop peer support programs or buddy systems that involve classmates helping classmates, students with disabilities can play role of helper as well.
- Colour code the keyboard using small dot stickers. For example, right of centre is green, left of centre is red. Small stickers can be placed on the back of the student's hand, corresponding to the side of the keyboard.
- Use a slant board to position the keyboard (1" or 2" binders can be used as slant boards)
- Seat the student facing the computer monitor with keyboard and computer monitor at the appropriate height.
- Identify specific function keys such as Spacebar, Enter, Backspace, Tab and Shift, etc. with coloured dot stickers to highlight their position on the keyboard.
- Some software such as Ultimate Writing and Creativity Center, Inspiration 7.5, Understanding Numeration, ATutor have accessibility features. Check the help section of these programs to determine how to access available features.

Glossary

Abbycat: PEI Public library database system

Absolute: a cell reference that remains constant in a formula. Dollar signs are used to force the spreadsheet to keep the cell reference in a formula the same when it is copied. (i.e. when the formula =A6/B6 is copied the numerator A6 will change to A7, A8, etc. while the denominator B6 will stay the same)

APA: abbreviation of American Psychological Association. The APA standard is used for quoting references for the sciences.

Applet: An application, written in Java, that can run inside a web page but is not limited by the functionality of HTML. Java applet and Java script differ in that a Java applet needs to be downloaded. Java script is incorporated in a web page with HTML tags.

Application sharing: a program that is installed on the server computer which allow all computers on the network to have access to that software.

Assignment drop box: a mechanism for uploading electronic assignment files for an instructor using an online content management system such as WebCT or ATutor.

Attachment: file that is attached to an email

Auto fill data: spreadsheet feature that will complete a series of entries such as the "days of the week" or "months of the year". (i.e. enter January, February and select the corresponding cells with the mouse and select "auto fill". The remaining 10 months will be automatically entered)

Automated text: database input form feature that will automatically fill a field with a predetermined value (i.e. current year, telephone area code, etc.)

Background: display behind graphics and text on a web page. A background can be a colour or a tiled graphic.

Bitmap: pixel (picture element) representation of a graphic. The image is made by small dots (pixels) of different colors.

Bookmark (Favorite): a saved link to a specific place on the Internet.

Boolean operators: logic system that returns "true or false", "yes or no", "AND", "OR", "NOT". These terms are used to set parameters for searching.

Browser: a program that accesses and displays files and other data available on the Internet and other networks. (i.e. Internet Explorer, Netscape)

Bullets: a symbol appearing before items in a list.

Button bar: a bar of graphical buttons found in a program that contain "short cuts" for commonly used tasks.

Cascading style sheet (CSS): a feature of HTML that allows users to create style templates (sheets) that specifies how different text elements (paragraphs, headings, hyperlinks, etc.) appear throughout a website.

Cell address: coordinate of a cell. It is represented by a letter and a number such as A2

Cell: the area in a spreadsheet where rows and columns intersect. Data and formulas are placed in cells. Cells are identified by the alphabetical column and numeric row i.e. A1

Clone brush: a graphics tool used to copy all or part of an image.

CMYK: a subtractive color model used in color printing. This color model is based on mixing pigments of cyan, magenta, yellow and black in order to make other colors.

CODEC: abbreviation for COmpression/DECompression. Software or hardware that compresses and decompresses audio and video data streams into smaller sizes while maintaining the quality. (.wmv, .ra, SVCD, MPEG, mp3, etc.)

Cold boot: powering off the computer completely and restarting it.

Column: vertical section of a spreadsheet, identified by a letter

Commercial ware: commercial software which requires purchase and registration.

Compatibility: whether or not hardware or software will work on a computer.

Compression: process of encoding data, video, or audio in order to reduce its size (.zip, .jpg).

Connection line type: how a computer is linked to a network (i.e. T3, modem, DSL, etc.)

Connection speed: the speed of information transfer among networked devices.

Cursor (Pointer): the symbol used to represent the movement of the mouse. (i.e. arrow)

Data entry bar: space in the spreadsheet to enter the cell data or formulas.

Database report: data from fields specified in a search query sorted into a particular order. Calculations and formatting may be applied to the reports generated.

Database: collection of structured, searchable electronic data (i.e. search engines are data bases)

Decompression: process of decoding or reading encoded data.

Desktop publishing: combination of text, images and graphics to produce publications such as newsletters, posters and brochures

Display format: the way the files and folders are being displayed in the windows (i.e. thumbnails, icons, details, etc.)

Distribution list: a list of email addresses that are grouped together so that one email message may be sent to all members of the group. (i.e. all students in a class, all teachers on a particular committee)

Download / Upload: refers to the transfer of information between computers. The person/computer sending the information refers to the transfer as an upload, while the person/computer receiving the information refers to it as a download.

Drive: name that refers to a storage location such as C:, G:, or A:

Dynex: PEI (French) school library database system

Effect: graphical manipulation that applies special effects to objects (i.e. chrome, neon).

Embedded object: objects (audio, video, animation, etc.) that load with the HTML tags when the page is visited. Those items will be downloaded and run automatically

Ergonomic: workplace designed for maximum comfort, efficiency, safety, and ease of use.

Error checking routine: features in a database input form that checks to see that entered data corresponds to some pre-defined criteria (i.e. ticket number must fall within the range of 1-500, and no two records may have the same ticket number)

Export: to transfer information to another format for use in a different program.

Field types: identifies the type of information that is to be entered into a field in a database (i.e. date, numeric, text)

Fields: different categories in a database (i.e. first name, middle initial, last name, street)

File extension: alphanumeric characters located after the period at the end of a filename. This identifies the type of software than can open the file. (i.e. .mp3, .wpd, .gif, .html, etc.)

File management: process of organizing files into folders and sub-folders and selecting storage medium (i.e. hard disk, floppy disk, CD)

File properties: detailed information on the file. (i.e. size, date, extension)

File size: storage space taken by a file in the computer system (i.e. kilobytes - kb, megabytes - mb, gigabytes - gb)

Filter (graphic): graphical manipulation that applies special effects to images (i.e. blur, sharpen).

Filters: search criteria that allow particular emails to be located. Filters may be set with "rules" that provide directions on tasks to perform with selected emails.

Fixed/locked titles: feature in spreadsheet program to keep certain cells showing (i.e. headings) while scrolling

Flash: developed by Macromedia, Flash is a software used to create web content that interacts with the users by providing animations, audio, games, etc.

Flat database: is a single database table structure (i.e. Appleworks, MS-Works) Searches can be performed within this table but it is not capable of organizing complex applications.

Folder (Directory): an electronic storage area that can contain a group of files and/or other directories.

Font: the style of text characters. (Times New Roman, Arial, Garamond, etc.)

Footer: text placed automatically at the bottom of each page in a document

Frame: a webpage that has separate divisions (windows) within the web browser. The content for each frame area comes from a different .html file.

Freeware: software distributed by the creator free of charge under certain conditions.

Functions: pre-defined mathematical rules that are available in spreadsheet programs i.e. mean, round, standard deviation, exponents, payment amount, etc.

Graphics in layers: objects placed over other objects to create one image. This allows for easier editing and manipulation.

Group file sharing: a specific network folder that a workgroup member can share

Grouping: creating one single object made up of several other objects. This allows for resizing the object as a whole.

Hardware: all physical parts of a computer (i.e. monitor, mouse, keyboard, etc.).

Header: text placed automatically at the top of each page in a document

Hexadecimal: a numbering system with base of 16 includes only the digits 0 through 9 and the letters A, B, C, D, E, and F. Used to identify large numbers accurately i.e. identify colors, network addresses.

Hosting service: service that companies provide to store data on their server

HTML tags: Hypertext Markup Language tags are instructions within brackets < > that tell the web browser how to display the page information.

Image map: an alternative navigational structure whereby an image on a webpage has "programmed coordinates" that allow the user to navigate the site intuitively, using the mouse.

Import: to bring in external information

Insertion point: the insertion point is where the next character typed from the keyboard will appear. (i.e. "I beam")

Interactive syllabus: an electronic course outline

Java Script: a scripting language developed by Netscape to enhance the capability of HTML language

Justification: adjustment of text to ensure that margins will align throughout the document (i.e. left, center, right)

Layer: visualized as electronic "transparencies" which allow users to display and manipulate information separately.

Link (Hyperlink): a clickable link to another file (i.e. web page).

Lock cell: locking a cell will prevent any changes on its content. It doesn't hide the content of the cell.

Logical operators: used to compare variables such as greater (>) greater or equal (>=), equal (==), less or equal (<=) and less (<).

Macro: a group of repeated commands that are recorded and saved for later use.

Mail merge: a word processing feature that allows a user to create a "data records" database to record information about a number of people, and a form letter template. Based upon a search criteria, names, addresses and other recorded data are combined with fields found in the form letter. Completed forms may be displayed on the screen or sent directly to a printer.

Menu bar: a horizontal bar at the top of a window, below the title bar, that contains drop-down menus.

Microcat: PEI (English) school library database system

MLA: abbreviation of Modern Language Association. The MLA standard is used for quoting references for the humanities.

Multimedia: the use of several media to convey information (text, audio, graphics, animation, video).

Multiple logins: simultaneously logging into multiple computers on the same network using the same username.

Network: a communication system connecting two or more computers.

Notebook: another name for an individual spreadsheet.

Object alignment: positioning of an object with respect to other objects.

Panorama: a series of picture "stitched" together using software to create a picture wider than what the camera is normally capable of capturing. Some panorama can offer user a 360 degree view.

Plug-in: an auxiliary program that works within a browser to enhance its capability. The plug-in can be a third party product. (adobe reader for .pdf, Real Audio, Shockwave, etc.)

Pop-up ads: a form of online advertising that open a new window automatically to display advertisements.

Principles of design: five universally recognized principles are contrast, unity, pattern, movement, and rhythm. Used in combination these principles create a esthetically pleasing product.

Print queues: set of printing tasks waiting to be processed.

Publishing etiquette: acceptable guidelines for publishing. (i.e. non-biased, inclusive language).

Record: all fields relating to one "object" in a database (i.e. all information regarding one student)

Relational database: is the creation of multiple tables linked to each other through a common "key" such as a customer number. (i.e. a travel agency may have customer contact information in one table, airline reservations in a second, hotel and car reservations in a third. If any piece of information changes only one table needs to be updated.)

Relative: a cell reference that will automatically update itself in a formula when it is copied. (i.e. a formula =A6/B6 will update itself to =A7/B7, =A8/B8, etc. as it is copied downward in a column)

Rename: change the name of the file or folder to another name.

RGB: a color model that utilizes the additive model in which red, green, and blue light are combined in various ways to create other colors (i.e. pixels on a computer monitor). Colours created on the computer monitor sometimes may not be able to be reproduced when printed.

Rollover (mouse over): a "change of state" when the mouse is positioned above an object.(i.e. colour changes, cursor changes, image changes)

Row: horizontal section of a spreadsheet, identified by a number

Rule: a task to perform on emails that meet a particular criteria. (i.e. send a return message for all incoming emails, such as "on vacation until ..", delete message from particular sources, or automatically place mail in a particular folder)

Save as: same as "Save" but allows user to save a copy of current file under a new name or location.

Save: permanently record data to a storage medium such as a floppy disk or hard disk.

Screen capture: saving a portion of the current screen as an image file to be inserted into a document. Paintshop Pro includes a screen capture utility.

Search engine: a program designed to help find information on the Internet. (i.e. Google, Ask Jeeves, Yahooligans)

Server: the central computer in a network. (i.e. contains shared data, programs, etc.)

Shareware: trial version of any commercial software.(i.e 30 days) Shareware is also known as demoware, trialware and many other names.

Signature: text added automatically at the end of an email (i.e. name, position, return address, phone/fax number, email address)

Software: program or application that runs on a computer.

SPAM: acronym of the words: Stupid Pointless Annoying Messages. These messages are often advertising emails sent out massively on the internet.

Spreadsheet: a grid which helps you organize data in rows and columns. Calculations may be performed by inserting formulas. Charts or graphs may be generated from the data.

Spyware: computer software that gathers and reports information about the computer usage without the user's knowledge or consent.

Streaming video and audio: refers to a technique of transferring media over the Internet to the user's computer so that it is available without having to download the whole file. The media will begin to play once a predetermined amount of data is transferred to the computer "buffer"

Tab rulers: guides found in word processors allowing the user to graphically set and delete tab indents

Template (Master page): a model page that provides a basic structure for adding content

Text art: tool found in Word Perfect that allows the user to create text in 2D and 3D formats in a variety of shapes

Text wrap: word processing feature that automatically places the text on the next line

Touch keyboarding: the ability to type without looking at the keyboard.

Un-grouping: separating objects that were previously grouped.

Unlock cell: this allows modification be to performed on cells that were previously "locked"

Vector: mathematical representation of a graphic. The image is made from mathematical equations that represent the curves, lines, area, color, etc. This form of representation allows for small file sizes while maintaining detail when increasing picture size.

Virtual reality: an artificial environment created with computer technology

Virus: a virus is a program or piece of code that causes an unexpected, usually negative, event.

W3C accessibility guidelines: World Wide Web Consortium organization that provides standards for web page creation. These include accessibility issues (challenged users, slow line speeds, older processing equipment) and equipment compatibility.

Warm boot: restarting the computer using reset button, Ctrl+Alt+Del, etc.

Watermark: a graphic or text appearing in the background of a page (i.e. the word "Draft" or a graphic of a soldier in a Remembrance Day poem)

Web Server: a computer that stores data (i.e.: web sites) for the world wide web

Whiteboard: a whiteboard is a shared electronic workspace. Each participant can add text, make drawings or paste pictures on the whiteboard. Other participants can immediately see the result on their workstation.

Wireless connection: connection to another device without physically connecting a wire.

WYSIWYG: Acronym for"What You See Is What You Get". WYSIWYG is used to describe applications that let you see what documents will look like

Understanding Numeration Plus
Grade 3 Math Correlations

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GCO A: Students will demonstrate number sense and apply number theory concepts.

A1: compare and order whole numbers to thousands	**Comparing and Ordering**-Working with Whole Numbers Greater Than, Less Than, Equal To - Compare Numbers #2, D
A2: estimate the size of numbers to the nearest ten or hundred	**Place Value**- Model Numbers Grouped in Packages Ones and Groups of Ten, C
A3: use simple fractions to describe situations	**Counting**- Introduce Common Fractions... Parts of a Whole Fifths to Tenths #1, #2, C Introduce Fraction of a Set Fractions of a Set **Comparing and Ordering**- Comparing Fractions
A4: demonstrate an understanding of base 10 groupings (units, tens, hundreds, thousands)	**Place Value**- Identify Place Value Patterns (to 100) 2-Digit Numbers – Different Ways, D
A6: read numbers in several ways	**Comparing and Ordering**- All "C" & "D" Sections
A7: extend the place value system to model and record numbers involving tenths A8: order and compare decimals to tenths	**Place Value**- Introduce Decimals Tenths and Decimals, D Compare Decimals

GCO B: Students will demonstrate operation sense and apply operation principles and procedures in both numeric and algebraic situations.

B1: recognize several meanings for multiplication	**Operations**- Introduce Multiplication Concretely Grouping Chairs in Rows, C Grouping Eggs in Bowls, C Multiplication - Repeated Addition, C
B2: recognize several meanings for division	**Place Value**- Break Numbers into Groups Groups of Items, C
B3: recognize the relationship between multiplication and division	**Operations**- Introduction to Division How Many Groups, C Division Introduction, C
B4: solve and create problems involving addition and/or subtraction B5: solve and create problems involving multiplication and division with small numbers	**Problem Solving**- All Sections
B6: add and subtract with and without regrouping (up to and including three-digit numbers)	**Operations**- Addition With/Without Regrouping 2/3 Digit Numbers, C
B7: recognize principles of multiplication and division	**Operations**- Introduce Multiplication Concretely Grouping Chairs in Rows, C Grouping Eggs in Bowls, C Multiplication - Repeated Addition, C **Place Value**- Break Numbers into Groups Groups of Items, C

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GCO C: Students will explore, recognize, represent, and apply patterns and relationships, both informally and formally.	
C1: recognize the pattern implicit in the place-value system	**Place Value**- Identify Place Value Patterns (to 100) 2-Digit Numbers – Different Ways, D
C3: use and recognize the patterns in a multiplication table C4: record a repeated addition pattern using multiplicative notation	**Operations**- Introduction to Arrays Introduction to Arrays with Multiplication,C
GCO D Students will demonstrate an understanding of and apply concepts and skills associated with measurement.	
D7: read digital and analog clocks to the nearest five minutes	**Comparing and Ordering**- Describe Elapsed Time... Hours, 5 Minutes Time Goes By – Analog, D Time Goes By – Digital, D

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GCO D Students will demonstrate an understanding of and apply concepts and skills associated with measurement.	
D1: estimate and measure length in metres, decimetres, and centimetres	**Understanding Measurement and Geometry** Topic 1: An Introduction to Measurement Measurements with a Ruler Introduction to the Ruler Centimeters #1, Centimeters #2 Inches #1, Inches #2
D4: estimate and measure area in non-standard units and square centimetres	**Understanding Measurement and Geometry** Topic 2: Perimeter and Area of Polygons Amount of Surface . The Driveway .. An Introduction to Area
GCO E Students will demonstrate spatial sense and apply geometric concepts, properties, and relationships.	
E2: recognize and represent angles that are less than/more than right angles	**Understanding Measurement and Geometry** Topic 5: Angle and their Measure Angles…An Introduction

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E4: recognize, name, describe, and represent kite, and some concave, convex, and regular polygons	**Understanding Measurement and Geometry** Topic 2: Perimeter and Area of Polygons Polygons…What are They?
E5: recognize, name, describe, and represent different prisms and pyramids	**Understanding Measurement and Geometry** Topic 4: Solids…Volume and Surface Area Classifying Solids
E9: find the lines of reflective symmetry of polygons	**Understanding Graphing** Topic 4: Transformations Lines of Symmetry – An Introduction
GCO F Students will solve problems involving the collection, display, and analysis of data.	
F1: select appropriate strategies for collecting, recording, organizing, and describing relevant data	**Understanding Graphing** Topic 2: Statistics Data…What is it? Examples of Data Collecting Data
F2: interpret and create pictographs in which each symbol represents more than one item	**Understanding Graphing** Topic 2: Statistics Pictograph #1, #2
F3: create bar graphs using simple scales	**Understanding Graphing** Topic 2: Statistics Bar Graph #1, #2
GCO G Students will represent and solve problems involving uncertainty.	
G1: predict and record results in experiments using spinners, coins, dice, coloured cubes, and other simple equipment	**Understanding Probability** Topic 1: What's Possible? The Language of Chance Possible Outcomes…What are They?