



Prince Edward Island Social Studies Curriculum

Education and Early
Childhood Development
English Programs

Social Studies

Geography 421A
Geography of
Canada

CURRICULUM



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GEO421A
Geography of Canada

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Introduction

Background

The undertaking of renewal in curriculum documents is a process that typically involves many people, along with much deliberation, discussion, research, and time. The renewal of GEO421A—Geography of Canada was based upon the need for an updated approach to the study of geography that would reflect current pedagogical theory and practice as well as developments and revisions in geography content and skills. The course is based upon the premises and principles that are set out in the *Foundation for the Atlantic Canada Social Studies Curriculum* (1999). The aim of GEO421A is to introduce students to the nature of geographic study and to some of the basics found within it. Students will also learn about physical, cultural, and economic aspects of Canadian geography. Canada's global connections and implications for the future will also be part of this course.

Aims of Social Studies

The vision for the Atlantic Canada social studies curriculum is for it to enable and encourage students to examine issues, respond critically and creatively, and make informed decisions as individuals and as citizens of Canada and an increasingly interdependent world.

An effective social studies curriculum prepares students to achieve all essential graduation learnings. In particular, social studies, more than any other curriculum area, is vital to developing active citizenship at all levels of study: local, national, and global. Social studies embodies many more principles and areas of study than is often recognized. While most people traditionally think of geography and history as social studies, there are many other aspects that are, by nature, part of the realm of social studies. Civics, philosophy, ethics, law, economics, religion, governance, environment, and many more areas may form a part of any study of a region or the world.

The GEO421A—Geography of Canada outcomes set out in this document encourage students to think critically and creatively about specific aspects and geographic issues related to Canada and our global world. Students will discover that their world is an increasingly interconnected one with the rest of the globe and there are implications that will affect them as a result. Students may also discover that the study of geography may well have new meaning for them as they prepare to enter the world as young, responsible adults.

Principles Underlying the Social Studies Curriculum

Empowering and effective social studies is meaningful, significant, challenging, active, integrative, and issues based.

- Meaningful social studies encourages students to learn through purposeful experiences designed around stimulating ideas, social issues, and themes, and discourages the memorization of disconnected pieces of information.
- Significant social studies is student centred and age appropriate. Superficial coverage of topics is replaced by emphasis on the truly significant events, concepts, and principles that students need to know and be able to apply in their lives.
- Challenging social studies requires that teachers model high expectations for their students and themselves, promote a thoughtful approach to inquiry, and demand well-reasoned arguments.
- Active social studies encourages students to assume increasing responsibility for managing their own learning. Exploration, investigation, critical and creative thinking, problem solving, discussion and debate, decision making, and reflection are essential elements of this principle. This active process of constructing meaning encourages lifelong learning.
- Integrative social studies crosses disciplinary borders to explore issues and events while using and reinforcing informational, technological, and application skills. This approach facilitates the study of the physical and cultural environment by making appropriate, meaningful, and evident connections to the human disciplines and to the concepts of time, space, continuity, and change.
- Issues-based social studies considers the ethical dimensions of issues and addresses controversial topics. It encourages consideration of opposing points of view, respect for well-supported positions, sensitivity to cultural similarities and differences, and a commitment to social responsibility and action.

Purpose of the GEO421A Curriculum Guide

The overall purpose of any social studies curriculum guide is to advance social studies education and to improve social studies teaching and learning, and, at the same time, to recognize and validate effective practices that already exist in many classrooms.

More specifically, the GEO421A—Geography of Canada curriculum guide

- informs both educators and members of the general public about the philosophy and assumptions underlying the study of geography in Prince Edward Island senior high schools;
- provides specific curriculum outcomes with elaborations to which educators and others can refer when making decisions about learning experiences, instructional techniques, and assessment strategies for GEO421A—Geography of Canada
- promotes effective learning practices for students of GEO421A—Geography of Canada

Contexts for Learning and Teaching

The Social Studies Learning Environment

With the accelerating pace and scope of change, today's students cannot prepare for life by merely learning isolated facts. Problem solving, critical and creative thinking, and informed decision making are essential for success in the future. The social studies learning environment can contribute significantly to the development of these essential attributes.

The Effective Social Studies Classroom

An effective instructional environment incorporates principles and strategies that recognize and accommodate the varied learning styles, multiple intelligences, and diverse abilities that students bring to the classroom. Teaching approaches and strategies foster a wide variety of experiences to actively engage all students in the learning process. The nature and scope of social studies provide unique opportunities to do this.

To meet these challenges, the social studies program reflects a wide range of characteristics.

Respectful of diversity

Students come to the classroom from backgrounds that represent Canada's diversity in terms of social identity, socio-economic status, race, ethnicity, and gender. The social studies learning environment attempts to affirm the positive aspects of this diversity and foster an understanding and appreciation of the multiple perspectives that this diversity can lend to the classroom. Regardless of their backgrounds, students should be given equal access to educational opportunities and can be successful at them.

Inclusive and inviting

The social studies classroom should be a psychologically safe place in which to learn. It should be free from bias and unfair practices that may arise from perceptions related to ability, race, ethnicity, culture, gender, or socio-economic status. Students do come with different attitudes, levels of knowledge, and points of view, but rather than being obstacles, these differences should offer for students opportunities to rise above stereotypes and develop positive self-images. Students should be provided collaborative learning contexts in which they can become aware of and transcend their own stereotypical attitudes and behaviours.

Engaging and interactive

If classrooms are to be places where there is respect for diversity and where learning is engaging and interactive, then students will be expected to participate in inquiry and problem-solving situations. Students will be provided with direct and vicarious experiences in which they can purposefully apply social studies skills, strategies, and processes. Rather than assuming passive roles, students bring their critical faculties to knowledge to shape it into meaningful patterns.

Relevant and significant

Since the senior high learner naturally challenges what the adult world represents, it is necessary for the social studies curriculum to be convincing and relevant. Consequently, it must provide learning situations that arouse student interest while encouraging students to question what they already know: their assumptions and attitudes. In so doing, they will come to more deeply understand and appreciate their own heritage and culture.

Equity and Diversity

The provincial social studies curriculum is designed to meet the needs and interests of all students. Prince Edward Island's society, like that of all of Canada, reflects diversity in race, ethnicity, gender, ability, values, lifestyles, and languages. Schools should foster the understanding of such diversity. Social studies curriculum promotes a commitment to equity by valuing, appreciating, and accepting the diverse and multicultural nature of our society and by fostering awareness and critical analysis of individual and systemic discrimination. All students are entitled to be respected and valued and, in turn, are responsible for respecting and valuing all other people. They are entitled to a school setting characterized by mutual trust, acceptance, and respect, and to an educational system that affirms diverse gender, racial, ethnic, and cultural identity and promotes the development of a positive self-image. Educators should ensure that classroom practices and resources positively and accurately reflect diverse perspectives and reject prejudiced attitudes and discriminatory behaviours.

Social Studies for EAL Learners

The Prince Edward Island social studies curriculum is committed to the principle that learners of English as an additional language (EAL) should be full participants in all aspects of social studies education. English language proficiencies and cultural differences must not be barriers to full participation. All students should study a comprehensive social studies curriculum with high-quality instruction and co-ordinated assessment.

Students, and EAL learners in particular, need to be given opportunities, encouragement, and support for speaking, writing, reading, listening, interpreting, analysing, and expressing ideas and information in social studies classes. Such efforts have the potential to help EAL learners overcome barriers that will facilitate their participation as active citizens in Canadian society. The Prince Edward Island social studies curriculum provides, and is supported by, resource materials that include and reflect the reality of Canada's diversity while fostering respect of cultural differences as an essential and valued component.

To this end,

- schools should provide EAL learners with support in their dominant language and English language while learning social studies;
- teachers, counsellors, and other professionals should consider the English-language proficiency level of EAL learners as well as their prior course work in social studies;
- the social studies proficiency level of EAL learners should be based solely on their prior academic record and not on other factors;
- social studies teaching, curriculum, and assessment strategies should be based on best practices and build on the prior knowledge and experiences of students and on their cultural heritage;
- the importance of social studies and the nature of the social studies program should be communicated with appropriate language support to both students and parents;
- educators should verify that barriers have been removed by monitoring enrolment and achievement data to determine whether EAL learners have gained access to, and are succeeding in, social studies courses.

Introduction to Inquiry-Based Learning and Geographic Thinking

Inquiry-Based Learning (IBL) allows students to explore, investigate, and construct new meaning from prior knowledge and from new information that is retrieved from other sources. It is not linear in nature, but promotes a continual looping back and forth throughout the process as students gather and process new information, redirect their inquiries, and continue through the process. Geographic inquiry follows the same principle of other inquiry processes by using geography-specific data that may include field study results, graphs, maps, text, and other primary, secondary, or tertiary sources. The geographic process requires students to practise and refine their critical thinking skills and to use geographical thinking concepts to find answers to their questions.

Asking students to think geographically will require teachers to teach geography differently. The traditional approach to the study of geography is generally based on factual recall of discrete pieces of information. Teaching geography through geographic thinking requires a different approach—problematizing geography. In other words, it is no longer a search for a specific set of answers to a particular set of questions but a search for plausible or possible answers to open-ended questions. Students will be required to use multiple sources (evidence) to collect and then analyse data in order to arrive at a conclusion that they can defend. They will also be required to consider multiple perspectives in their inquiries and realize that a variety of views may exist. Teaching students to think geographically also means adjusting assessment practices and shifting the focus of assessment from rote memoriation of geographic facts to assessing a student's ability to use geographic evidence to back up a conclusion to an open-ended inquiry question.

Geographical thinking concepts are also referred to as portals to thinking about geography. Six portals have been identified to help students practise geographic thinking—1) Geographical Importance; 2) Evidence and Interpretation; 3) Patterns and Trends; 4) Interactions and Associations; 5) Sense of Place; and 6) Geographical Value Judgments. In order for students of GEO421A—Geography of Canada to become fully engaged in the geographic inquiry process, they will need to approach geographic queries as problems and not simply as fact-finding tasks. While it will be necessary to collect data to solve a problem, the collection process should not become the focus but a means to reaching a plausible conclusion regarding the inquiry.

Inquiry-Based Learning that incorporates geographic thinking provides a natural scaffolding to Project-Based Learning (PBL). Furthermore, a project based upon geographic-related issues may fulfil the active citizenship outcome in Unit 7 of the GEO421A course. There is little difference between a geographic inquiry question and a driving question that propels a project. For example, a student might ask, “How can we prepare for a natural disaster in our area?” which can lead to discovery of practices in other jurisdictions, public education initiatives, and planned action steps.

Portals to Geographic Thinking

Adapted from Babahani and Huynh, *Teaching about Geographical Thinking*. (2008) Vancouver: The Thinking Consortium (TC2).

The six portals to geographic thinking provide a pathway to making the study of geography more meaningful for students and teachers. The portals challenge students to think in new ways about geographic topics or information. The following brief introduction to each of the geographic portals will help teachers to form new ideas around teaching geographic content and engaging students in a real-life inquiries.

Geographic Importance

What makes a particular geographic location important or significant? Are there special geographic features in Canada such as fragile sand dune systems or cultural structures such as historic buildings? Is the place important as an agricultural, economic, or cultural base? Does everyone share this view or are there differing views? How is British Columbia's rain forest viewed by a multinational logging company? by a conservationist lobby group?

Evidence and Interpretation

Geographic evidence is gathered from primary—field notes, photos, first-hand descriptions, secondary—prepared charts, maps, graphs, articles based upon primary evidence, and tertiary—information that has been created from secondary sources such as maps drawn to interpret other maps. Interpretation of information (and the margin for error within that interpretation) is a key concept in this portal.

Patterns and Trends

Similar to change and continuity in historical studies, this portal addresses the changes that may (or may not have) occurred over time and/or across space. These are measured by rate, distribution, and pattern. The impact of change is integral to this portal.

Interactions and Associations

This portal examines “cause and effect” (although that is a simplified description.) Interactions, relationships, and associations present complex geographic questions. Factors may be contributing, causal, or counteracting. They may be external or internal. Effects may be direct and indirect and the impact of certain interactions or associations may be either positive and negative.

Sense of Place

Geographical perspective-taking is the focus of this portal. How do we get a sense of place for an region with which we are not familiar? What evidence can be gathered to help us develop a sense of place? What are the commonalities and differences between two or more regions?

Geographical Value Judgments

Value judgments refer to moral decisions about what should or should not take place. Criteria is an integral component of this concept and must include diverse perspectives. Judgments should be made on solid evidence and fact not personal emotion or opinion. Should Canada export drinking water?

Guided Inquiry

Guided inquiry draws upon the expertise of teachers and teacher-librarians in directing students to find a variety of sources to address an inquiry, solve a problem, or increase understanding of an issue. This type of ongoing mentoring of students requires careful planning and ongoing assessment. However, the rewards of a guided inquiry approach are many. Students are more engaged when they are grappling with a question of their own making, and they develop more competencies as they work through the process of finding relevant information, evaluating that information, and analysing their findings. Using the guided inquiry approach in GEO421A–Geography of Canada can lead to richer learning, deeper thinking, and more creative approaches to solving geographic problems or addressing issues. One model of inquiry is provided in the appendix D: *A Student's Guide to the Inquiry Process*. Teachers may wish to take this step-by-step approach to conducting an inquiry for outcome 5.2 in Unit 5–Economic Connections.

Habits of Mind for Inquiry

Students grow as independent inquirers and critical thinkers by developing and refining learned inquiry skills, and by practising positive dispositions that support their inquiry. Habits of mind for inquiry are the attitudes or dispositions that allow a person to set aside personal bias or self-limiting beliefs that may interfere with the ability to reach newer levels of understanding. To achieve deeper understanding in any inquiry, students need to practise being

- 1) open-minded (willing to consider evidence that may oppose their own views)
- 2) fair-minded (willing to consider others' viewpoints)
- 3) independent-minded (willing to stand up for firmly held beliefs)
- 4) critical thinkers (willing and able to question for clarity and validity).

Additional habits of mind that lead to a successful inquiry include persistence, adaptability, and the ability to collaborate. These habits of mind enable a student to deal with common obstacles that arise during an inquiry process. Persistence in pursuing information, despite challenges, will ensure a broad range of information on which to base new meaning. Adaptability allows a student to deal with possible changes related to focus questions, resources, or strategies. A willingness and ability to collaborate with others will enrich the inquiry process and lead to a broader and deeper understanding of new information for all involved.

Adapted from *Active Citizenship: Student Action Projects* (2004) and *Standards for the 21st-Century Learner*, (2007), AASL.

Resource-Based Learning

Effective social studies teaching and learning actively involves students, teachers, and library staff in the effective use of a wide range of print, non-print, and human resources. Resource-based learning fosters students' development by accommodating their diverse backgrounds, learning styles, needs, and abilities.

Resource-based learning supports students as they develop information literacy: more specifically, accessing, interpreting, evaluating, organizing, selecting, producing, and communicating information in and through a variety of media, technologies, and contexts. When students engage in their own research with appropriate guidance, they are more likely to take responsibility for their learning, and to retain information.

In a resource-based learning environment, students and teachers make decisions about appropriate sources of information and tools for learning, and how to access them. A resource-based approach raises the issues of selecting and evaluating information sources. Developing the critical skills needed for these tasks is essential to social studies.

The range of possible resources for studying Canadian geography include the following:

- print—books, magazines, newspapers, documents, and other publications
- visuals—maps, illustrations, photographs, charts, and graphs
- artifacts—concrete objects and primary source documents
- individual and community—interviews, field work, community sites
- multimedia—films, audio and video tapes, television and radio, simulations
- information technology—computer software, databases, CD-ROMs, DVDs, GPS, GIS, live-streaming broadcasts, podcasts, and locational technologies
- communication technology—Internet sites, blogs, e-mail, and social media

Resource-based learning takes place in the social studies classroom through a variety of means. The prescribed text book, although a principal source of information for the student, is only one of many resources available. As a tertiary resource, it contains bias of its own and must be treated accordingly. Students in a Canadian geography class will make use of many other sources of information, including atlases, magazines, news articles, Internet Web sites, government publications, and social science agencies. For a fully enriched learning experience, students should be encouraged to explore and engage in as many diverse sources of information as possible.

Literacy through Social Studies

Literacy has always been an important component of social studies education. In recent years, however, through the promotion of research in critical theory, the meaning of literacy has broadened to encompass all forms of communication. In today's social studies classrooms, learners are encouraged to examine, compose, and decode spoken, written, and visual texts to aid in their understanding of content and concepts, and to better prepare them for full and effective participation in their community. Additionally, the goals of literacy include not only language development, but also critical engagement with text, visuals, and auditory information. These goals have implications for the role of the social studies teacher.

The ability to read is critical for success in school. Therefore, it is vital that social studies teachers develop and use strategies that specifically promote students' abilities to read, comprehend, and compose text, no matter what form that text might take. Similarly, writing as a process should be stressed as a means that allows students to communicate effectively what they have learned and to raise the questions they need to ask.

Critical literacy in social studies curriculum addresses several goals. Through the implementation of various strategies, teachers will develop students' awareness of stereotyping, cultural bias, author's intent, hidden agendas, silent voices, and omissions. Students are encouraged to be aware that authors construct texts with specific purposes in mind. Further, critical literacy helps students comprehend texts at a deeper level by encouraging them to view content and ideas from a variety of perspectives, and to interpret the various levels of meaning in a given text, both explicit and implicit.

In this regard, the level and focus of questioning becomes very important. The depth of a student's response will often be determined by the depth of questioning and inquiry. Teachers need to pose high-level, open-ended questions that allow students to use their prior knowledge and experiences, providing opportunity for a sustained engagement before, during, and after reading or viewing text.

Strategies that promote literacy through social studies include helping students comprehend the meaning of words, symbols, pictures, diagrams, and maps in a variety of ways. It means engaging students in many learning opportunities which are designed to challenge and enhance their communication in a variety of modes, such as writing, debating, persuading, and explaining, and in a variety of media, such as the artistic and technological. In the social studies classroom, all literacy strands—reading, writing, speaking, listening, viewing, and representing—are significant.

In the context of social studies, literacy also addresses the promotion of citizenship. Literacy for active citizenship involves understanding different perspectives on key democratic struggles, learning how to investigate current issues, and participating creatively and critically

in community problem solving and decision making. Exercising civic rights and responsibilities is a practical expression of important social values and requires specific personal, interpersonal, and advocacy skills. Through this important focus, the social studies program will help students become more culturally sensitive and effective cross-cultural communicators in a world of increasing cultural and linguistic diversity.

Developing literacy in the world geography classroom involves all of the same strategies used in any other classroom. Some students may face specific challenges in comprehending meaning or decoding passages or texts. Teachers may wish to refer to specific cross-curricular reading strategies such as those in appendix C - “Reading Strategies.”

Integration of Technology in Social Studies

Technology, including communication and information technology (CIT), plays a major role in social studies learning and teaching. Computers and related technologies are valuable classroom tools for acquiring, analysing, and presenting information. These technologies provide further opportunity for communication and collaboration and allow students to become more active participants in research and learning.

CIT and related technologies (digital video and digital cameras, scanners, CD-ROMs, word-processing software, graphics software, video-editing software, HTML editors, and the Internet — including the World Wide Web, databases, electronic discussions, e-mail, and audio and video conferencing) afford numerous possibilities for enhancing learning. Computers and other technologies are intended to enhance social studies learning. In that context, technological resources can provide a variety of opportunities.

- The Internet and CD-ROMs give teachers and students quick and easy access to extensive and current information. Information acquisition skills are key to efficient use of these resources. Questions of validity, accuracy, bias, and interpretation must still be applied to information available on the Internet and in CD-ROMs.
- Interactions and conversations via e-mail, video and audio conferencing, student-created Web sites, on-line discussion groups, and other social media provide connections between students and people from cultures around the world. This exposure to first-hand information will enable students to directly employ inquiry skills.

- Students present what they have learned in a wide variety of forms (e.g., graphs, maps, text, graphic organizers, Web sites, multimedia presentations) that fit their learning styles. These presentations can be shared with others, both in their classroom and beyond.
- Students are actively involved in their learning through controlling information gathering, processing, and presentation. For example, Geographic Information Systems (GIS) software enables students to collect data about a community or region, plot the data using Global Positioning Systems (GPS), and analyse and present their findings by creating maps that demonstrate their learning.

Technology can open up a means of exploring up-to-date statistics, current environmental or human issues, real-time events, and other on-line information while enabling communication with other jurisdictions in the country. Technology can also provide students with a means for communicating new learning and sharing of ideas and research with classmates and teachers through the use of various presentation tools. Diverse learning styles and abilities are found in every classroom and technology enables a myriad of approaches to the study of issues within a global context.

Education for Sustainable Development

Education for Sustainable Development (ESD) involves incorporating the key themes of sustainable development—poverty alleviation, human rights, health, environmental protection, climate change—into the curriculum. ESD is a complex and evolving concept that requires learners to analyse the key themes from a social, cultural, environmental, and economic perspective, and explore how these factors are interrelated and interdependent. GEO421A provides an ideal opportunity to integrate sustainable development themes into its curriculum as it addresses issues within diverse regions of Canada and the world.

With this in mind, it is important that all teachers, particularly social studies teachers, make an effort to incorporate ESD themes into their classrooms. Teachers of GEO421A will find several opportunities to incorporate discussions about sustainability in their study of Canadian geography. An effective tool for ESD learners is the searchable on-line database, Resources for Rethinking, found at <http://r4r.ca/en>. It provides access to materials that integrate ecological, social, and economic spheres through active, relevant, interdisciplinary learning.

Assessing and Evaluating Student Learning

Introduction

Assessment is the systematic process of gathering data on student learning. Evaluation is the process of analysing patterns in the data, forming judgments about possible responses to these patterns, and making decisions about future actions.

An integral part of the planned instructional cycle is the evaluation *of learning for learning*. *Evaluation of learning* focusses on the degree to which students have achieved the intended outcomes and the extent to which the learning environment was effective toward that end. *Evaluation for learning*, depending upon what it reveals, focusses on designing future learning situations to meet the needs of the learners.

The quality of assessment and evaluation has a profound, well-established link to student performance. Regular monitoring and feedback are essential to improving student learning. What is assessed and evaluated, how it is assessed and evaluated, and how the results are communicated send clear messages to students and others in the community about what is really valued—what is worth learning, how it should be learned, what elements of quality of performance are most important, and how well students are expected to perform. To determine how well students are learning, assessment strategies are designed to systematically gather information on the achievement of curriculum outcomes. In planning assessments, teachers should use a broad range of data sources, appropriately balanced, to give students multiple opportunities to demonstrate their knowledge, skills, and attitudes.

Guiding Principles of Assessment

In order to provide accurate, useful information about the achievement and instructional needs of students, certain guiding principles for the development, administration, and use of assessments must be followed.

Principles for Fair Student Assessment Practices for Education in Canada (1993) articulates five basic assessment principles:

- Assessment strategies should be appropriate for and compatible with the purpose and context of the assessment.
- Students should be provided with sufficient opportunity to demonstrate the knowledge, skills, attitudes, or behaviours being assessed.
- Procedures for judging or scoring student performance should be appropriate for the assessment strategy used, and be consistently applied and monitored.
- Procedures for summarizing and interpreting assessment results should yield accurate and informative representations of a student's performance in relation to the curriculum outcomes for the reporting period.
- Assessment reports should be clear, accurate, and of practical value to the audience for whom they are intended.

These principles highlight the need for assessment that ensures that

- the best interests of the student are paramount
- assessment informs teaching and promotes learning
- assessment is an integral and ongoing part of the learning process and is clearly related to the curriculum outcomes
- assessment is fair and equitable to all students and involves multiple sources of information.

While assessments may be used for different purposes and audiences, all assessments must give each student optimal opportunity to demonstrate what he or she knows and can do. Many sources of assessment data can be used to gather such information. Some examples include, but are not limited to, the following:

formal and informal observation	interviews
work samples	rubrics
anecdotal records	simulations
conferences	checklists
teacher-made and other tests	questionnaires
portfolios	oral presentations
learning journals	roleplays
questioning	debates
essay writing	rating scales
performance assessments	case studies
peer- and self-assessments	panel discussions
multimedia presentations	graphical representations

Observation

This technique provides a way of gathering information fairly quickly while a lesson is in progress. When the technique is used formally, the student(s) is/are made aware of the observation and the criteria being assessed. Used informally, observation could be a frequent, but brief, check on a given criterion. Observation may offer information about a student’s level of participation or about his/her application of a given process. The results may be recorded in the form of checklists, rating scales, or brief written notes. It is important to plan so that specific criteria are identified, suitable recording forms are ready, and all students are observed in a reasonable period of time.

Performance

GEO421A–Geography of Canada curriculum encourages learning through active participation. There is a balance between process and content. It is important that assessment provide feedback on skill development throughout the course. Many activities referenced in this guide provide opportunities for students to reflect on their skill development, and for teachers to assess student skill development throughout the course.

Journal

Although not assessed in a formal manner, journals provide opportunities for students to express thoughts and ideas, and to reflect on their transferrable skills. Recording feelings, perceptions of success, and responses to new concepts may help a student to identify his or her most effective learning style and skills. Knowing how to learn in an effective way is powerful information. Journal entries also give some indication of a student's developing attitudes; his or her understanding of concepts, processes, and skills; and ways in which these may be applied in the context of society. Self-assessment through a journal permits a student to consider strengths and weaknesses, attitudes, interests, and transferrable skills.

Interview

GEO421A curriculum promotes the understanding and application of many concepts. Interviewing a student allows the teacher to confirm that learning beyond factual recall has taken place. Discussion allows a student to display an ability to use information and clarify understanding. Interviews may be brief discussions between teacher and student, or they may be more extensive and include student, parent, and teacher. Such conferences allow a student to be proactive in displaying understanding. It is helpful for students to know which criteria will be used to assess formal interviews. The assessment technique provides an opportunity to students whose verbal presentation skills are stronger than their written skills.

Paper and Pencil

These techniques can be formative or summative. Several curriculum outcomes call for displaying ideas, plans, conclusions, and/or the results of research, and can be in written form for display or for direct teacher assessment. Whether it is a part of learning, or a final statement, students should know the expectations for the exercise and the rubric by which it will be assessed. Written assignments can be used to assess knowledge, understanding, and application of concepts. They are less effective for assessing skills, processes, and attitudes. The purpose of the assessment should determine what form of paper and pencil exercise is used.

Presentation

GEO421A curriculum includes outcomes that require students to analyse and interpret information, to identify relationships, to be able to work in teams, to critically reflect, and to communicate information. Many of these activities are best displayed and assessed through presentations, which can be given orally, in written/pictorial form, by project summary, or by using electronic systems such as video or computer software. Whatever the level of complexity or format used, it is important to consider the curriculum outcomes as a guide for assessing the presentation. The outcomes indicate the process, concepts, and context for which and about which a presentation is made.

Portfolio

Portfolios offer another option for assessing student progress in meeting curriculum outcomes over a more extended period of time. This form of assessment allows the student to be central in the process. Decisions about the portfolio and its contents can be made by the student. What is placed in the portfolio, the criteria for selection, how the portfolio is used, how and where it is stored, and how it is evaluated are some of the questions to consider when planning to collect and display work in this way. The portfolio should provide a long-term record of growth in learning and skills. This record of growth is important for individual reflection and self-assessment, but it is also important to share with others. For many students it is exciting to review a portfolio and see the record of development over time.

Evaluation

Evaluation is a continuous, comprehensive, and systematic process. It brings interpretation, judgments, and decisions to the data collected during the assessment phase. Questions include the following: How valid and reliable is the data gathered? What does the data suggest about student achievement of course outcomes? Does student performance confirm the success of instructional practice or indicate the need to change it? Are students ready to move on to the next phase of the course, or is there need for remediation?

Teacher-developed assessments and the evaluations based on them have a variety of uses, including the following:

- providing feedback to improve student learning
- determining whether curriculum outcomes have been achieved
- certifying that students have achieved certain levels of performance
- setting goals for future student learning
- communicating with parents about their children's learning
- providing information to teachers on the effectiveness of their teaching, the program, and the learning environment
- meeting goals of guidance and administrative personnel

Evaluation is conducted within the context of the outcomes, which should be clearly understood by learners before teaching and evaluation take place. Students must understand what teachers expect of them and the basis on which they will be evaluated. The evaluation of a student's progress may be classified as pre-instructional, formative, or summative, depending on the purpose.

Pre-instructional evaluation is conducted before the introduction of unfamiliar subject matter, or when learners are experiencing difficulty. It gives an indication of *where students are* and is not a measure of what they are capable of doing. The purpose is to analyse.

Formative evaluation is conducted throughout instruction. Its primary purpose is to improve instruction and learning. It is an indication of *how things are going*. It identifies a student's strengths or weaknesses with respect to specific curriculum outcomes so necessary adaptations can be made.

Summative evaluation occurs at the end of a designated period of learning. It is used, along with data collected during the formative stage, to determine learner achievement. This assessment is used to report the degree to which curriculum outcomes have been achieved.

Planning, Assessing, Reporting, and Weighting in GEO421A

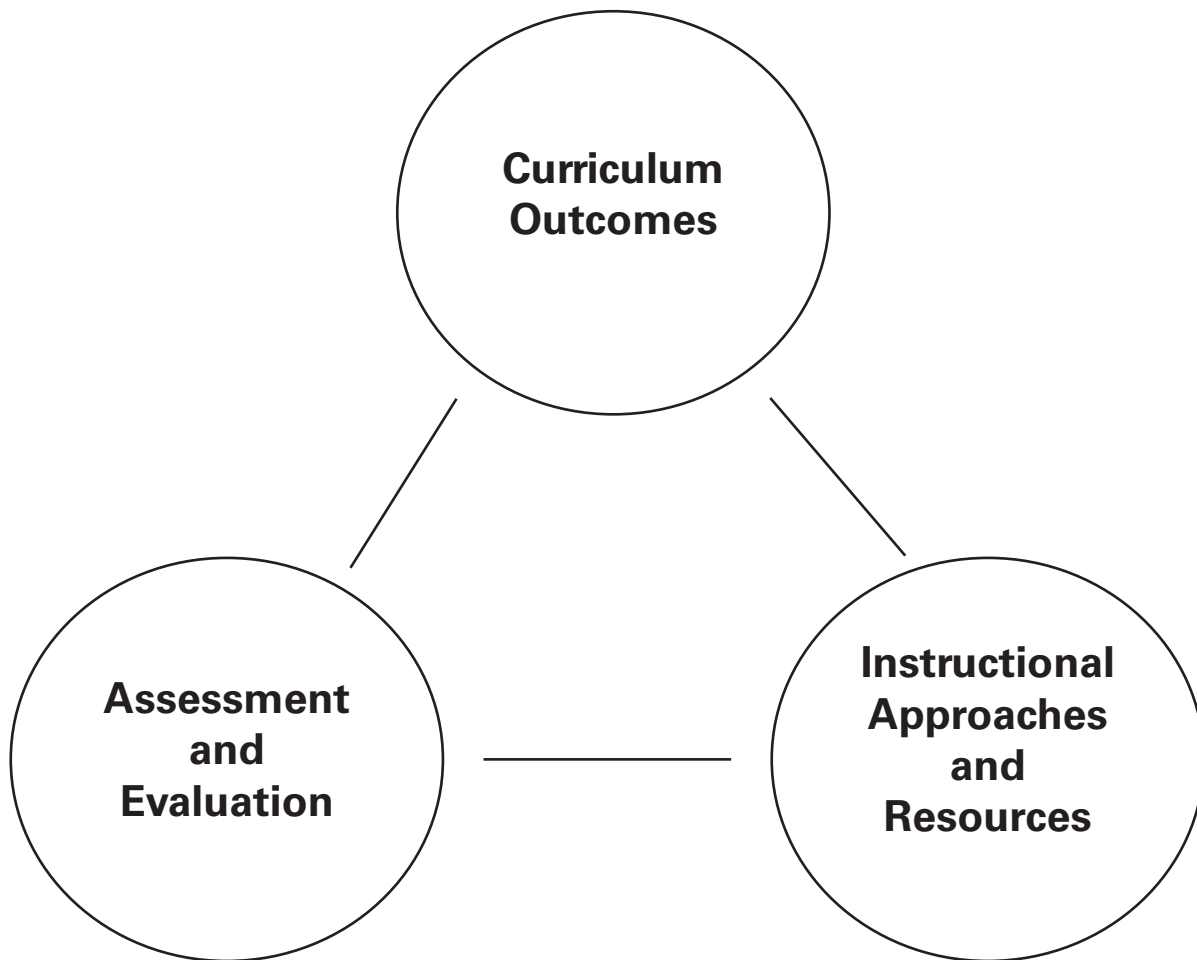
GEO421A—Geography of Canada is comprised of seven units. A suggested time allotment for each unit can be found on the opening page for each unit in this document and on the GEO421A Course Organization page. These suggested time allotments may act as a guide for assessment weighting purposes. Teachers should note that suggested time allowances are flexible. While the Geography of Canada course may be considered a content-dense study, teachers should plan carefully to ensure a balanced approach to developing assessment tools that measure both content and process (geographical thinking.) Assessing geographical thinking is more difficult than finding evidence of simple content (factual) recall. However, it is possible to assess thinking skills by developing the right questions and tools. It may be helpful for teachers to consult outside sources for assessment strategies or tools that are conducive to geographical thinking or other areas of critical thinking. If students are involved in project-based learning, specific assessments will measure their progress and inform teaching strategies throughout the course.

Reporting methods and weighting of assessments should be determined before the course is underway so that students are aware of expectations and responsibilities. Some schools or school boards may have specific policies related to final exams, major assignments, or other assessments. GEO421A is easily adaptable to a variety of assessment weightings. It is important to keep in mind that while content knowledge is important, the higher goal continues to be about learning how information creates meaning.

Assessing and Evaluating Student Learning in the Social Studies Classroom

There should be a congruence between what is taught, how it is taught, and what is emphasized in the evaluation process. Social Studies educators should recognize that “...quality programming and instruction are neither content-based nor process-based, but a wise and judicious mixture of both.” (Frost 1989, 11.)

The assessment of student learning must be aligned with the curriculum outcomes and the types of learning opportunities made available to students. A “backwards design” approach can help in determining the most effective way of measuring a student’s level of learning. An essential question that often helps to focus on this goal is, “What evidence will I have that shows me that the student has achieved the outcome”? Once the “evidence” or criteria (assessment tool) as been established, teachers can plan effective instructional approaches and gather supporting resources that will help students to reach this goal.

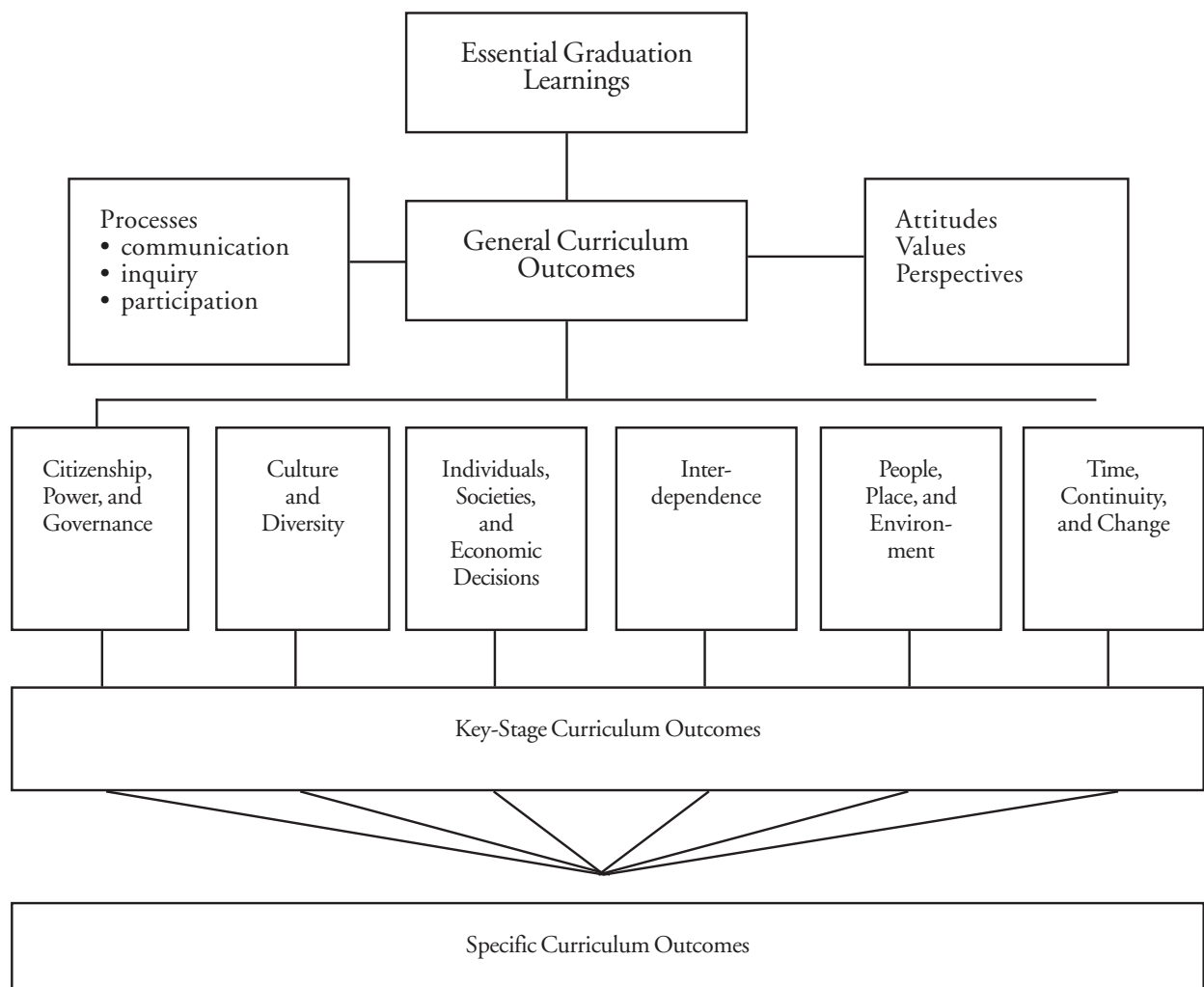


(Adapted from *The Evaluation of Students in the Classroom: A Handbook and Policy Guide*, Department of Education, Government of Newfoundland and Labrador, 1990)

Program Design and Outcomes

Overview

The GEO421A—Geography of Canada curriculum is based on the Foundation for the Atlantic Canada Social Studies Curriculum (1999). Specific curriculum outcomes (SCOs) have been developed to be congruent with key-stage curriculum outcomes (KSCOs), general curriculum outcomes (GCOs), and essential graduation learnings (EGLs). In addition, the processes, attitudes, values, and perspectives of social studies are embedded in the SCOs. Teachers may refer to the Social Studies Foundation Document for more information.



General Curriculum Outcomes for Social Studies

General Curriculum Outcomes for social studies are organized around six conceptual strands. Below are the six conceptual strands and samples of Specific Curriculum Outcomes (SCOs) from the GEO421A curriculum.

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.

- 4.3 assess the sustainability of current land use practices using either a local or national case study

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.

- 1.1 articulate their own understanding of Canadian geography

Individuals, Societies, and Economic Decisions

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

- 5.2 develop a geographic inquiry into one or more of Canada's economic sectors

Interdependence

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

- 6.2 assess Canada's current involvement in a global issue

People, Place, and Environment

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

- 6.1 analyse the economic, societal, and environmental connections between Canada and other countries

Time, Continuity, and Change

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

- 4.2 analyze how natural and human systems change over time and from place to place

How to Use the Four-Column Curriculum Layout

The curriculum guide has been organized into four columns to relate learning experiences to the outcomes by

- providing a range of strategies for learning and teaching associated with a specific outcome or cluster of outcomes
- demonstrating the relationship between outcomes and suggested assessment and learning strategies
- providing suggested supplementary resources to enhance the learning experience or to access differentiated learning applications.

Column 1: Outcomes

Column 1 contains specific curriculum outcomes for each unit, explaining what students are expected to know or be able to do within that particular task.

Column 2: Elaborations-Suggestions for Learning and Teaching

Column 2 contains elaborations for each specific curriculum outcome within the unit. Elaborations are intended to clarify the intent of the outcome as well as the intended scope of the knowledge content or skill within the outcome, where applicable. Suggested strategies for each outcome are offered, although teachers may elect to design their own strategies for any particular outcome, or modify the strategy suggested within this column.

GEOGRAPHY 421A: GEOGRAPHY OF CANADA	
Unit 1: Canadian Connections	
Outcomes	Elaborations - Strategies for Learning and Teaching
<p><i>Students will be expected to</i></p> <p>1.1 articulate their own understanding of Canadian geography</p>	<p>Students coming into this course will have formed some geographic conception(s) of their region and country through earlier studies. In grade 8, students explored the notion of "Canadian Identity" and how geographical and historical knowledge, concepts, and expressions are related. Students learned how settlement patterns developed across the country and why urban development grew in some areas but not in others. Students learned that geography—pathways and barriers—influenced, and continue to influence movement, settlement, politics, and economics. Grade 9 social studies focused more closely on the Atlantic region and how it forms a part of, and interacts with, a larger global world. A large part of that global world includes our own diverse country. The intent of this outcome is to draw out some of these earlier conceptions (or, misconceptions) mainly for two reasons: 1) for teachers to be able to gauge what students know and don't know about Canadian geography, and 2) for students to have an opportunity to refresh their knowledge and understanding of Canada in a geographical context so that they can process new information and interact with more mature concepts.</p> <p>Another significant reason to begin with this outcome is have students to think deeply about "geographic importance"—one of the main "portals of geographic thinking". This portal becomes an integral part of the entire course and presents an underlying question at many stages. If students are to become intellectually engaged with geographic inquiry, then they must experience geography as more than a compendium of facts to be memorized.</p> <p>Ideally, this outcome is best addressed with the use of visuals (maps, photos, satellite images) and other textual sources of geographic information such as atlases, course texts, or Web links that present many different kinds of data.</p> <p>"The term, "portals of geographic thinking" originates in the research of The Critical Thinking Consortium (TC2), a Canadian non-profit organization dedicated to the promotion of critical thinking throughout all school levels.</p>

**Column 3:
Suggestions for
Learning and Assessment**

This column provides suggestions for ongoing assessment that forms an integral part of the learning experience. These suggestions may refer to teaching and learning tools such as visual organizers that have been provided in appendix B.

**Column 4:
Resources and Links**

This column provides a quick reference to page links in the prescribed resource, *Making Connections—Canada’s Geography* (Pearson), or components of it, such as the Teacher’s Resource or other supplementary resources and Web links. Teachers may also wish to record their own notes and/or resources in this column.

GEOGRAPHY 421A: GEOGRAPHY OF CANADA	
Unit 1: Canadian Connections	
Tasks for Instruction and/or Assessment	Resources and Links
<p><i>Students may be invited to</i></p> <ul style="list-style-type: none"> • create mind maps (maps drawn from memory) to express what they recall about Canada’s size, shape, and its relation to other parts of the world. Share the maps with classmates and create a wall mural of multiple perspectives of Canada. • access visuals, music, and literature featuring different areas of Canada and compile these into a mini-presentation that depicts the geographic diversity of the country. • write a piece of poetry, prose, song lyrics, or create a visual to express their understanding of Canada’s geography. Refer to CBC’s Great Canadian Song Writers’ Contest for inspiration. • discuss a recent news article involving an event or issue of geographic interest (weather phenomenon, environmental issue, new discovery) and determine how this has meaning for people. An example may be a recent hurricane or tornado that damaged a region, an ongoing problem such as coastal erosion and efforts to mitigate the loss, an environmental battle between developers and activists. • select one or more of Canada’s fifteen natural or cultural UNESCO World Heritage sites. Research the criteria involved in designating these sites and present an argument or a position paper that focuses on how these designated sites are significant in the Canadian geographic narrative. 	<p><i>Making Connections: Canada’s Geography</i> (Pearson)</p> <p>Supplementary Resources</p> <p><i>Encounter Canada</i> (Oxford) (teacher resource)</p> <p>Bahbahai, K., and Huynh, N.T. (2008). <i>Teaching about Geographic Thinking</i>. Vancouver: The Critical Thinking Consortium (TC2).</p> <p><i>The Nystrom Atlas of Canada and the World</i>. (2003). Herff Jones Education Division. Chicago Illinois.</p>
PRINCE EDWARD ISLAND SOCIAL STUDIES CURRICULUM: GEOGRAPHY 421A	
31	

GEO421A Course Organization

GEO421A–Geography of Canada provides an opportunity for students to investigate the nature of geography, its methods and tools, and its part in making sense of the world around them. Students will explore the physical patterns that exist in Canada linking land, oceans, natural resources, and climate into similar or different ecozones. They will learn about cultural aspects of Canadian geography including demographic similarities and differences, sustainability issues related to human interaction with the environment, and predict the look of “smart urban growth”. Economic issues and global interdependence will also play an important part in GEO421A where students will be asked to analyse Canada’s involvement in a global issue. The course concludes with an active citizenship project that can be based upon a geographic inquiry that students conducted earlier, or alternatively, they may wish to focus on a different topic altogether. **During the introductory period of the course, teachers should make students aware of the active citizenship project so that they can be thinking and planning throughout the duration of the semester.** Taking time early in the course to explain the project and how to plan each step will ensure a better understanding and subsequent success for students. Teachers should check in regularly with students throughout the semester to monitor their progress with the project planning, and to guide students.

GEO421A–Geography of Canada is organized into seven units:

Unit 1–Canadian Connections (*Suggested time–5%*)

Students will be expected to

- 1.1 articulate their own understanding of Canadian geography

Unit 2–Methods of Geographic Inquiry (*Suggested time–10%*)

Students will be expected to

- 2.1 use methods and tools of geographic inquiry to locate, gather, evaluate, and organize information about Canada’s natural and human systems
- 2.2 analyse and interpret data gathered in inquiries about the geography of Canada, using a variety of methods and geotechnologies

Unit 3–Physical Connections: Canada’s Ecozones (*Suggested time–15%*)

Students will be expected to

- 3.1 explain internal and external physical forces that impact Canada’s landscape
- 3.2 identify components of ecozones
- 3.3 assess regional diversity by comparing at least two different ecozones within Canada
- 3.4 evaluate the use of ecozones in understanding interconnectedness

Unit 4–Cultural Connections (*Suggested time–20%*)

Students will be expected to

- 4.1 explain how population change is calculated and why this is important
- 4.2 analyze how natural and human systems change over time and from place to place
 - 4.2.1 describe factors that have contributed to current Aboriginal demographics
 - 4.2.2 identify and explain patterns and trends in Canadian migration
 - 4.2.3 identify and explain patterns and trends in rural/urban settlement
 - 4.2.4 describe changes in land use that have resulted in demographic changes
- 4.3 assess the sustainability of current land use practices using either a local or national case study
- 4.4 assess models of urban development to recommend a specific model

Unit 5–Economic Connections (*Suggested time–20%*)

Students will be expected to

- 5.1 identify and explain Canada's economic sectors and the importance of each sector
- 5.2 develop a geographic inquiry into one or more of Canada's economic sectors

Unit 6–Canada's Global Connections (*Suggested time–20%*)

Students will be expected to

- 6.1 analyse the economic, societal, and environmental connections between Canada and other countries
- 6.2 assess Canada's current involvement in a global issue

Unit 7–Future Connections (*Suggested time–10%*)

Students will be expected to

- 7.1 engage in an active citizenship project that is based upon a Canadian geographic inquiry

Unit 1: Canadian Connections

Unit 1: Canadian Connections Unit 1: Canadian Connections

Overview

Canada's geography, along with its history, defines the country. The great scope and diversity of land and water forms, ecozones, biospheres, urban and rural settlements, and cultures is what forms this great country. Students are invited to refresh and reformulate their understandings of the geography of Canada in this opening unit. Building on their prior knowledge of the country, they can construct new meanings as their learning matures and their knowledge base expands. This unit provides an optimal opportunity to engage students through the use of multiple visual representations as well as digital and textual information. Auditory and tactile connections through the use of music, voice, and relief maps will also strengthen the experience and reach students who do not have a dominant visual learning style. The unit is a natural entry point into the “portals” or concepts of geographic thinking, in particular, Geographic Importance and Sense of Place. See the front matter of this document for more information on the geographic portals. (Suggested time allowed—5% of total course time.)

Outcomes

Unit 1: Canadian Connections

Students will be expected to

- 1.1 articulate their own understanding of Canadian geography

Unit 1: Canadian Connections

Outcomes

Students will be expected to

1.1 articulate their own understanding of Canadian geography

Elaborations - Strategies for Learning and Teaching

Students coming into this course will have formed some geographic conception(s) of their region and country through earlier studies. In grade 8, students explored the notion of “Canadian Identity” and how geographical and historical knowledge, concepts, and expressions are related. Students learned how settlement patterns developed across the country and why urban development grew in some areas but not in others. Students learned that geography—pathways and barriers—influenced, and continue to influence movement, settlement, politics, and economics. Grade 9 social studies focused more closely on the Atlantic region and how it forms a part of, and interacts with, a larger global world. A large part of that global world includes our own diverse country. The intent of this outcome is to draw out some of these earlier conceptions (or, misconceptions) mainly for two reasons: 1) for teachers to be able to gauge what students know and don’t know about Canadian geography, and 2) for students to have an opportunity to refresh their knowledge and understanding of Canada in a geographical context so that they can process new information and interact with more mature concepts.

Another significant reason to begin with this outcome is have students to think deeply about “geographic importance”—one of the main “portals of geographic thinking*.” This portal becomes an integral part of the entire course and presents an underlying question at many stages. If students are to become intellectually engaged with geographic inquiry, then they must experience geography as more than a compendium of facts to be memorized.

Ideally, this outcome is best addressed with the use of visuals (maps, photos, satellite images) and other textual sources of geographic information such as atlases, course texts, or Web links that present many different kinds of data.

**The term, “portals of geographic thinking” originates in the research of The Critical Thinking Consortium (TC2), a Canadian non-profit organization dedicated to the promotion of critical thinking throughout all school levels.*

Unit 1: Canadian Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- create mind maps (maps drawn from memory) to express what they recall about Canada's size, shape, and its relation to other parts of the world. Share the maps with classmates and create a wall mural of multiple perspectives of Canada.
- access visuals, music, and literature featuring different areas of Canada and compile these into a mini-presentation that depicts the geographic diversity of the country.
- write a piece of poetry, prose, song lyrics, or create a visual to express their understanding of Canada's geography. Refer to CBC's Great Canadian Song Writers' Contest for inspiration.
- discuss a recent news article involving an event or issue of geographic interest (weather phenomenon, environmental issue, new discovery) and determine how this has meaning for people. An example may be a recent hurricane or tornado that damaged a region, an ongoing problem such as coastal erosion and efforts to mitigate the loss, an environmental battle between developers and activists.
- select one or more of Canada's fifteen natural or cultural UNESCO World Heritage sites. Research the criteria involved in designating these sites and present an argument or a position paper that focuses on how these designated sites are significant in the Canadian geographic narrative.

Resources and Links

Making Connections: Canada's Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

Bahbahai, K., and Huynh, N.T. (2008). *Teaching about Geographic Thinking*. Vancouver: The Critical Thinking Consortium (TC2).

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 2: Methods of Geographic Inquiry

Unit 2: Methods of Geographic Inquiry

Overview

Geographic inquiry involves a multitude of tools, technologies, and processes. This unit is intended to help develop student understanding of some of the current tools and methods employed in a geographic inquiry and an awareness of change and evolution of these tools. Students will combine knowledge content with hands-on experience within a context of inquiry. While it is neither feasible nor necessary to have all the physical artifacts (tools) in the classroom for students to learn, it is desirable to gather as many tools as possible such as maps and GPS units for a tactile experience. It may be possible to find many digital tools and simulations using the internet. (Suggested time allowed—10% of total course time.)

Outcomes

Unit 2: Methods of Geographic Inquiry

Students will be expected to

- 2.1 use methods and tools of geographic inquiry to locate, gather, evaluate, and organize information about Canada's natural and human systems

- 2.2 analyse and interpret data gathered during inquiries into the geography of Canada using a variety of methods and geotechnologies

Unit 2: Methods of Geographic Inquiry

Outcomes

Students will be expected to

2.1 use methods and tools of geographic inquiry to locate, gather, evaluate, and organize information about Canada's natural and human systems

Elaborations - Strategies for Learning and Teaching

The methods and tools of geographic inquiry are numerous and continually being refined. Maps and globes are among the most traditional tools of geographers. Early explorers and cartographers used technologies such as sextants and compasses to create maps, and these tools are still in use today. However, more recent advancements have brought about the introduction of locational technologies such as radar, sonar, Lidar, Global Positioning Systems (GPS), Global Information Systems (GIS), and satellite imagery. Obviously, students will not have access to all of these tools but they will learn the important roles that these tools play in modern geographic inquiry.

Using classroom atlases, maps, globes, and online resources such as GOOGLE Earth or government Web sites, students can explore Canada and gather infinite data about its geography, people, economics, or other aspects. For this outcome, students are asked to use common geographic tools to familiarize themselves with the basics of geographic tools within a Canadian geography context—shape, size, topography, global location, diverse regions, natural, political boundaries, and other attributes. Students will be expected to become familiar with different types of maps (topographic, thematic, political) and the nature of the data that is unique to each. In order to use maps and globes effectively, students will need to use the terminology of map usage—directions, scale, grid systems. Generally, newer technologies expand upon traditional systems such as grid systems. Therefore, it is important that students are able to grasp the basic concepts and terminology before they are introduced to more complex tools such as GPS, GIS or remote sensing.

Students should also be made aware that geographic information or data is not considered to be “geographic evidence” until it is applied to a particular problem. At that point, it becomes important to be able to validate the evidence as reliable and unbiased in much the same manner that historians validate primary and secondary sources. This outcome will lead to the next stage of geographic inquiry—how to use the gathered information (evidence) to analyze, interpret, and draw conclusions about geographic questions or problems that occur in real-life situations.

Unit 2: Methods of Geographic Inquiry

Tasks for Instruction and/or Assessment

Students may be invited to

- select the most appropriate geographic tool(s) to match an inquiry such as population changes over time within a region, vegetation within a specified ecozone, global location of a specific place, land use, resource depletion, or other query.
- use geographic tools and various sources of information to locate and transfer data related to a specific area into another format such as visual organizer, graph, or other representation.
- create a regional profile of an area within Canada using a variety of geographic tools and data sources. Include a summary that lists and describes the selected tools or sources used, and a brief description of the type of data contained within each one.

Resources and Links

Making Connections: Canada's Geography Pearson

Student Resource
Unit 2 pp 19-108

Teacher Resource
Unit 2 B-13 to B-52

Supplementary Resources

Encounter Canada Oxford (teacher resource)
Unit 1 GEOLAB pp 24-27, 39-43

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 2: Methods of Geographic Inquiry

Outcomes

Students will be expected to

2.2 analyse and interpret data gathered in inquiries about the geography of Canada, using a variety of methods and geotechnologies

Elaborations - Strategies for Learning and Teaching

If students are to understand the relevance and application(s) of geographic information, it is imperative that they have opportunities to do so in the classroom. Case studies may be the most logical way to incorporate the gathering, analysing, and conclusion-making of geographic data that is needed to complete the inquiry process. Students may work in pairs or groups to conduct their inquiry—preferably into an area that is of interest to them. Local scenarios provide a meaningful way to get started into the inquiry process and provide a valuable modelling opportunity for students.

Note: All examples will need to have criteria established before students can respond to the question.

Some local examples may include

Which part of Prince Edward Island is most deserving of federal funding to assist in the prevention or treatment of coastal erosion?

Where is the best location (within Area X) to construct a new fishing/recreational wharf that will withstand the elements and have easy access/facilities for visitors?

What is the best location to construct a new “eco-tourism” hotel that will incorporate a unique experience with vistas and easy access to facilities?

Some Canadian examples may include

What recommendation would you make regarding the shipping of oil (or other dangerous cargos) through relatively treacherous (but lucrative) routes such as the Northwest Passage?

Select a community or city that may be “twinned” to another location somewhere in the country based on common or complementary elements.

What is the best environmentally-sound—as well as economically-efficient—means of transporting farm produce from one part of the country to another?

Unit 2: Methods of Geographic Inquiry

Tasks for Instruction and/or Assessment

Students may be invited to

- compare two or more regions of Canada to select the best settlement area for newcomers based upon criteria that includes opportunities for employment, social connections, education, affordable housing, religious practices, and medical care.
- write a proposal for an area **not** selected in the above activity that explains what this region might do to attract more newcomers who will establish homes and professional lives to keep the region viable.
- develop a proposal to designate a World Heritage site somewhere in Canada and show evidence to support this location as the most appropriate site. Criteria for selecting a site must be determined beforehand.

Resources and Links

Making Connections: Canada's Geography Pearson

Student Resource
Unit 2 pp 19-108

Teacher Resource
Unit 2 B-13 to B-52

Supplementary Resources

Encounter Canada Oxford (teacher resource)

Unit 1 pp 2-32

Unit 1 GEOLAB pp 24-27, 39-43

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 3: Physical Connections: Canada's Ecozones

Unit 3: Physical Connections: Canada's Ecozones

Overview

This unit may be viewed as a scaffolding step to understanding the broader geographic issues that Canada currently faces and those that will be part of the future. Students will be given the opportunity to refresh their knowledge and perspectives on physical forces that shape the earth and, in particular, Canada. They will be introduced to the geographer's use of "ecozones" to be able to see how the various components of each ecozone contribute to a unique "regional" identity within Canada. Their study of ecozones will also provide students with an encompassing view of the diversity within the country, as well as the critical interaction between humans and their environment. An overall goal of the unit is to prepare students to see how humans are interconnected across the country and across the globe as we become more and more globalized. (Suggested time allowed—15% of total course time.)

Outcomes

Unit 3: Physical Connections: Canada's Ecozones

Students will be expected to

- 3.1 explain internal and external physical forces that impact Canada's landscape
- 3.2 identify components of ecozones
- 3.3 assess regional diversity by comparing at least two different ecozones within Canada
- 3.4 evaluate the use of ecozones in understanding interconnectedness

Unit 3: Physical Connections: Canada's Ecozones

Outcomes

Students will be expected to

3.1 explain internal and external physical forces that impact Canada's landscape**Elaborations - Strategies for Learning and Teaching**

Canada's landscape is diverse in its physical nature and features. Land and water form the two most distinct features of Canadian topography and are often depicted in artistic and musical expressions. The characteristics of landscape that are visible to the eye as we fly over Canada are a result of both internal and external forces. Students will already have some understanding of these internal and external forces through earlier studies in science. This outcome is meant to draw upon the prior knowledge of students and to reinforce or refresh their understanding of the physical forces that have shaped Canada. It should not be necessary to commit a significant amount of class time to the scientific details behind these concepts. The goal here is for students to gain a better understanding of how these physical forces have played a critical role in forming the landscape of the country and how that diversity in physical environment affects other aspects of Canadian life.

Internal forces refer to the geological shifts and movements (plate tectonics) of the earth's layers that resulted in our Canadian mountain ranges and rock formations—yet, it is only one part of the big picture. It may be explained as the geological platform of Canada, or the “building up” stage.

External forces, especially glaciation, has contributed to the “wearing down” stage where mountain tops become more rounded rather than jagged, rock faces are softened, and water drainage paths are created or blocked. Other external forces include weathering, erosion, and climate, all of which continue to contribute to the ever-changing face of Canada's landscape (albeit a gradual one that may not be visible for many millennia.)

This outcome is intended to provide a “big picture” view of Canada's diverse landscape and how it came about. Subsequent outcomes will address regions, commonalities and differences in physical makeup and climate.

Unit 3: Physical Connections: Canada's Ecozones

Tasks for Instruction and/or Assessment

Students may be invited to

- select an artistic representation or photograph of a Canadian region as an example of internal or external forces. Students then explain the forces behind the geographic features.
- create an animated computer model that shows the building up stages and/or the wearing down stages of Canadian land formation.
- create an artistic or technical drawing to show the various stages of building up or wearing down of landforms.
- create a 3-D model of Canada, or a particular region of Canada, showing its geographic features and the process that took place to create these features
- create a poem, piece of prose, news announcement, song, or other oral presentation to explain the forces that were responsible for the formation of specific features.

Resources and Links

Making Connections: Canada's Geography. Pearson. 2008

Chap 11 - Canada's Geologic History, pp 110-124.

Chap 12 - Canada's Landform Connections, pp 125-144.

Supplementary Resources

Encounter Canada Oxford (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois. "Continental Glaciation", p. 55.

Unit 3: Physical Connections: Canada's Ecozones

Outcomes

Students will be expected to

3.2 identify components of ecozones

Elaborations - Strategies for Learning and Teaching

Ecozone (ecological zone) is a relatively recent (1990s) term in the world of geography. Prior to using this term, geographers used “regions” as a way of organizing geographic data. Each region was qualified according to characteristic—vegetation, climate, soil, or other category. The downside of using “regions” was the separation of environment and the human activity that occurred within a geographic region. Altogether, the regional data created a broad picture (the same way that GIS layers create a database) but it was a great deal of work to pull all these together to get the big picture. Ecozones are comprised of eight components—landform, climate, soil, geological history, water features, vegetation, wildlife, and human activities. This way of looking at geographic regions enables us to understand the intricate relationships that exist within an area, and allow us to compare similar and different ecozones. A better understanding of individual regions enables us to comprehend the interconnectedness between and among other ecozones.

Within Canada, there are fifteen *terrestrial ecozones* (and five *marine ecozones*.) Some geographers suggest more or fewer ecozones, but fifteen terrestrial plus five marine is a generally accepted number of ecozones within the country. Coloured maps are the easiest way to view and understand the various ecozones. Students should be made aware that although the ecozones are delineated by borders, these divisions are not defined borders and there are blends or transition areas in all cases. It is also important to point out that ecozones are not confined within a country's borders. In Canada's case, the ecozones that are situated near the U.S./Canada border would continue southward until the next ecozone begins.

The intent of this outcome is for students to identify the criteria that creates an ecozone—the eight components that make up the broader picture of environmental traits and human interactions (with an environment) within a particular region. Using these components, students will be able to progress to comparing and analysing similarities and differences between and among various ecozones.

Unit 3: Physical Connections: Canada's Ecozones

Tasks for Instruction and/or Assessment

Students may be invited to

- create an “eco-classroom” organizer that mimics the process and components that are used to collect data about an ecozone. Students will need to create a criteria list that will serve as a basis for developing a database of pertinent information related to their classroom or school—building materials, furniture, technology, number of students. Expand this concept to a broader area such as the school property, the community, or more.
- create a visual organizer that may be used to collect data about a particular region. Using their organizer, students may select one ecozone and build a profile that could be used later for comparison purposes.
- participate in a “geographical importance” exercise by ranking the eight components of an ecozone from most to least important. This may be done in pairs or groups and comparisons made later. Choices must be accompanied with a rationale.

Resources and Links

Making Connections: Canada's Geography. Pearson. 2008

Chap 15 - Ecozones pp 172-181

Chap 13 - Canada's Climate Connections, pp 145-158

Chap 14 - Canada's Soil and Natural Vegetation Connections, pp 159-171

Supplementary Resources

Encounter Canada Oxford (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

“Physiographic Regions”, p. 56.

“Cross-section of Canada”, p.56.

“Natural Vegetation”, p. 57.

“Annual Precipitation and Growing Seasons”, p. 58.

“Soils”, p. 58.

“Agriculture and Other Land Use”, p.59

“Energy Resources”, p. 60.

Unit 3: Physical Connections: Canada's Ecozones

Outcomes

Students will be expected to

3.3 assess regional diversity by comparing at least two different ecozones within Canada**Elaborations - Strategies for Learning and Teaching**

Regional diversity is to be expected within a country the size of Canada. It is what makes Canada unique and united, yet it can also create tension for political decision-makers. For this outcome, students are required to assess the level of diversity between (at least) two different ecozones within Canada. They will need to use their knowledge of ecozone components to accurately compare and analyse the results in order to make an assessment statement.

In order to “assess regional diversity”, students will need to use higher-order thinking skills. It is not enough to simply create a comparison chart of two (or more) ecozones and to compile a list of similarities and differences although this is the obvious first step in working through this outcome. Once the comparison data is compiled and organized, students must be able to go one step further to analyze the information and to make reasonable inferences about what it may mean or how this data may help in decision-making.

Teachers can provide authentic tasks or problems that will require students to use the comparison data to arrive at a decision. In all cases, students will have to develop criteria on which they will base their decision. They may need some guidance in doing this if they are not familiar with the practice.

Unit 3: Physical Connections: Canada's Ecozones

Tasks for Instruction and/or Assessment

Students may be invited to

- create a brochure promoting travel and the “Canadian experience” by highlighting two specific regions that show marked regional diversity based upon the data contained within their ecozone profiles.
- decide the best location for a national/provincial park within one of these ecozones and provide rationale for decision
- select the most appropriate location for a new industry to locate to stimulate economic growth in an area
- protecting and promoting environmentally unique areas such as federal or provincial parks, or special natural features
- determine which ecozone has a more capacity to utilize alternative energy systems (e.g., solar, wind, tidal, hydrogen, other)

Resources and Links

Making Connections: Canada's Geography. Pearson. 2008

Ch 15 - Ecozones pp 172-181

Supplementary Resources

Encounter Canada Oxford (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

“Physiographic Regions”, p. 56.

“Cross-section of Canada”, pp.56-57.

“Natural Vegetation”, p. 57.

“Permafrost and Sea Ice”, p. 57

“Annual Precipitation and Growing Seasons”, p. 58.

“Soils”, p. 58.

“Agriculture and Other Land Use”, p.59

“Energy Resources”, p. 60.

“Minerals”, p. 60.

“Protected Areas”, p. 64.

Unit 3: Physical Connections: Canada's Ecozones

Outcomes

Students will be expected to

3.4 evaluate the use of ecozones in understanding interconnectedness**Elaborations - Strategies for Learning and Teaching**

Interconnectedness is a main theme in the GEO421A course. How we are connected as Canadians within our own country is an important part of how we connect with others as global citizens. If students understand the relationships that exist within and between ecozones within their own country, they will be in a better position to comprehend the existing (and potential) interrelationships within a global context.

The use of ecozones as a tool to understanding interconnectedness is very effective. It provides several layers of geographic data that may be synthesized into creating a “macro view” of a physical region. On the other hand, ecozones cannot provide a complete picture of a region because they do not take into account cultural differences and/or varying perspectives on issues, challenges, or problems within an ecozone.

This outcome is intended to have students evaluate the use the ecozone categorization system in understanding geographical interconnectedness. In this context, to “evaluate” means that students must appraise something by weighing the strengths and limitations against the desired outcome (understanding interconnectedness.) Teachers may elect to give students a data set from a fictional ecozone or, alternatively, data from an ecozone in another country/continent and then have students find its closest match to a Canadian ecozone. They can do this by building a profile of the new region and comparing it with an existing one. Students may also be asked to suggest some other types of information that would help them to construct a more complete profile of a region and add these into their ecozone profiles.

Unit 3: Physical Connections: Canada's Ecozones

Tasks for Instruction and/or Assessment

Students may be invited to

- examine the “human activities” component of each ecozone within Canada to relate environment, climate, and human activity. Students can create a concept map using the component headings to show the interconnectedness that exists among the fifteen ecozones.

Resources and Links

Making Connections: Canada's Geography. Pearson. 2008

Ch 15 - Ecozones pp 172-181

Supplementary Resources

Encounter Canada Oxford (teacher resource)

Bahbahani, K., Huynh, N. T. (2008). *Teaching about Geographical Thinking*. Vancouver: The Critical Thinking Consortium (TC2).

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 4: Cultural Connections

Unit 4: Cultural Connections

Overview

This unit focusses on the “people” aspect of Canada. Beginnings, patterns, trends, shifts in movement and settlement are all a part of Canadian demographics. Students will learn how and why population data is critical to the country’s development and sustainability. This unit provides an opportunity to access various databanks compiled by Statistics Canada to better understand why this information is important and the various applications of this data. Students will refresh their knowledge of Canada’s historic settlement patterns in order to understand how the past influences the present and the future of a country. They will also narrow their focus to a selected case study to assess the sustainability of a current practice involving land use. The land use theme will bring students to a study of planning and development practices for urban use. Students will be expected to gain an understanding of various models of urban development and to select one as their recommended choice. (Suggested time allowed—20% of total course time.)

Outcomes

Unit 4: Cultural Connections

Students will be expected to

- 4.1 explain how population change is calculated and why this is important
- 4.2 analyze how natural and human systems change over time and from place to place
 - 4.2.1 describe factors that have contributed to current Aboriginal demographics
 - 4.2.2 identify and explain patterns and trends in Canadian migration
 - 4.2.3 identify and explain patterns and trends in rural/urban settlement
 - 4.2.4 describe changes in land use that have resulted in demographic changes
- 4.3 assess the sustainability of current land use practices using either a local or national case study
- 4.4 assess models of urban development to recommend a specific model

Unit 4: Cultural Connections**Outcomes**

Students will be expected to

4.1 explain how population change is calculated and why this is important**Elaborations - Strategies for Learning and Teaching**

Demographics, or the study of population, opens up endless possibilities of inquiry for students. Understanding the physical make-up of the country is only one piece of the Canadian geography puzzle. The human factor is what makes geography even more interesting—how we interact with the physical environment in which we find ourselves. Monitoring and analysing population change over time is one way in which social scientists build databases and make predictions about future trends. This information is critical in planning for future needs or off-setting potential problems. It helps governments to prepare for challenges and entrepreneurs to plan for economic opportunities.

Students will be introduced to the terminology associated with demographics (e.g., birth and death rate, immigration/emigration rate, dependency load) as well as the concepts and calculations of populations (e.g., graphs, population pyramids) typically used in this area of study. Teachers may access more demographic information on the Statistics Canada site at <http://www.statcan.gc.ca> to provide more opportunities for students to work with statistical information related to population change.

The question of why it is important to monitor population change presents a multitude of potential geographic inquiries. One area that is often found in media reports is how future generations of Canadians will deal with the ageing dependency load as Canada's "baby-boomer" generation shifts into another stage. Another focus may include the need to welcome more newcomers to Canada to fill labour needs and to strengthen our population to balance out the effects of increasing seniors and decreasing birth rates.

Unit 4: Cultural Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- create a graph showing changes in Canada's population between their year of birth and the current year. Students can access data from online sources such as the Statistics Canada site. Students should be able to find information, or be able to speculate about the reasons for the changes, if there are any and to provide a summary analysis about why it is important to track this data.
- investigate the Statistics Canada web site to become more familiar with the categories of documented data. They may then write a position paper, or prepare a debate about whether it is, or is not, important to maintain (or, reinstate) a "long census" form in Canada. What are the pros and cons of each side?
- create a mock census form for their school or community to gather data that will serve as a basis for decisions or policies in the future. Students may be able to access school or community population numbers from the past to create population graphs, or to predict future enrollments, settlement.

Resources and Links

Making Connections: Canada's Geography (Pearson)
Unit 4: Cultural Connection
Chap 16: An Introduction to the Study of Population, pp.185-195

Supplementary Resources

Encounter Canada (Oxford) (teacher resource) Unit 4: The Human Landscape—Who We Are, pp. 154-181.

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.
"Population", p. 62
"Canada: Natural Population Growth", p. 62.
"Canada: Urban Population", pg. 62.
"Growth of Metropolitan Areas", p. 63.

Web Links

<http://www.statcan.gc.ca/start-debut-eng.html>

Unit 4: Cultural Connections

Outcomes

Students will be expected to

4.2 analyze how natural and human systems change over time and from place to place

4.2.1 describe factors that have contributed to current Aboriginal demographics

4.2.2 identify and explain patterns and trends in Canadian migration

4.2.3 identify and explain patterns and trends in rural/urban settlement

4.2.4 describe changes in land-use that have resulted in demographic changes

Elaborations - Strategies for Learning and Teaching

This outcome is broken down into four sub-parts in order to get at the underlying aspects of change over time and from place to place. In this sense, it becomes a chronological study of Canada's development concluding with a look at how land use has changed as a result of the historic trends across the country.

It would be impossible to understand how natural and human systems have changed within Canada without considering the historical factors that contributed to these changes. In the case of Aboriginal demographics, one must look to the displacement of Canada's first peoples during the colonization and expansion of western development in the country. The existing Aboriginal economy and way of life was changed forever as European colonists and developers took over more and more land. This part of the outcome will look at the how treaties, government policies, and calls for self-government have worked historically and have led Canada's Aboriginal population to where they are today.

The second part of this outcome moves beyond the Aboriginal population to the waves of immigrants that found their way to Canada and established lives within its developing borders. Students will learn of Canada's immigration history as well as the factors that lead people to becoming immigrants and Canada's immigration policies and settlement patterns.

Canada's agrarian beginnings slowly developed over time to evolve into more populated areas leading to the establishment of towns and cities. This part of the outcome examines some of the predominant rural settlement systems across the county (e.g., section, long lot, concession) and then looks at the factors leading to the rural/urban shift during the Industrial Age.

The final part of this outcome focuses on the changes in land-use within Canada's fifteen terrestrial ecozones as a result of demographic changes over time. Students will look at the patterns of urbanization that have evolved over time and the reasons for these patterns (availability of resources, services, opportunities).

Unit 4: Cultural Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- construct a timeline visual to illustrate the earliest beginnings of treaties through Canada's history to the present. Entries on the timeline should include specific notes to describe how treaty-making evolved over time, and how this process has had an impact on the current situation of Canada's Aboriginal communities.
- research a current issue related to Canada's Aboriginal peoples—unemployment, sub-standard infrastructure in reserve communities, poverty, low education (high drop-out) rates, health and wellness—to make a connection between past treatment of Aboriginal peoples and contemporary issues.
- compare historic “push and pull” factors to contemporary factors. Use a Venn diagram to illustrate the similarities and differences over time.
- compare countries of origin of immigrants to Canada in the past with current times. In small groups, use a placemat activity to discuss reasons for any changes and to select the most significant reason. Share with the class.
- compare destination provinces, regions, or cities in Canada for immigrants. Determine the most significant reasons for immigrants moving to, or settling in these areas. What is the impact on the destination area?
- find statistics about changes over time in rural communities and/or the decline of farms in their own province or area. Develop a hypothesis statement or essential question related to the rural-urban phenomenon.
- create a visual organizer to explain how their own lifestyles and choices either contribute to, or defy, the trend toward urbanization. What will this look like in another 20 years?
- create a mini-documentary or multimedia presentation that clearly illustrates how movement of people (emigration and immigration) over time within a region or a country have an impact on the natural and human environment.

Resources and Links

Making Connections: Canada's Geography (Pearson)

Making Connections: Canada's Geography (Pearson)

Unit 4: Cultural Connections

Chap 17: Canada's Aboriginal Population in the 21st Century pp 196-212.

Chap 18: Immigration: A Canadian Tradition pp 213-223.

Chap 19: Rural Settlement Patterns, pp 224-234.

Chap 20: Urban Settlement Patterns, pp. 235-246

Chap 21: Urban Land Use, pp.247-268.

Supplementary Resources

Encounter Canada Oxford (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

“Indigenous Peoples: Regions”, p. 55

“Indigenous Peoples: Present Settlements”, p 55

“Growth of Prairie Cities”, p. 47.

“Canada: urban Population”, p. 62.

“Growth of Metropolitan Areas”, p. 63

Web Links

<http://statscan.gc.ca>

Unit 4: Cultural Connections

Outcomes

Students will be expected to

4.3 assess the sustainability of current land use practices using either a local or national case study**Elaborations - Strategies for Learning and Teaching**

As urban sprawl continues to nudge into what were once Canada's wilderness areas, students are asked to consider some of the implications, issues, and ethics involved in this shift from rural to urban settlement. Students will be asked to assess current land practices in terms of sustainability. In order to do this, they will need to weigh the pluses and minuses (benefits and limitations) of various trends that have evolved out of changing demographics.

Students are asked to study a selected case to conduct their assessment of sustainability practices. The case study may be a local one—residential development of a particular area, a new industry being introduced, a re-development plan for a downtown sector—or a case from another province or territory.

Possible case studies may include:

- pesticide use in mixed residential/commercial areas
- failing infrastructure systems in older city sections
- ensuring recreational or green area development
- waterfront development of residential/commercial areas
- transportation issues with overburdened routes
- corporate policy regarding development in urban areas
- tourism in areas unprepared for high traffic influx, needs

Unit 4: Cultural Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- study a given list of “urban sprawl” scenarios or issues (or, brainstorm these as a class) to select one that is of particular interest to each pair or group. Students are responsible for collecting as much background data as possible so that they can draw valid conclusions. Students should be aware of bias and validity of information in their searches and be prepared to explain instances of this and how it affected their results.
- create a “sustainability” continuum line. Place the names of several current practices along the line according to how sustainable they feel it may be over a lengthy time period.
- scan local or national newspapers for stories about issues that relate to sustainable practices. Form study groups to represent the issues and report back to larger class by following a newspaper article format using the five Ws—What, Who, When, Where, Why—and a summary statement of how this practice might be may sustainable (if possible).

Resources and Links

Making Connections: Canada’s Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 4: Cultural Connections

Outcomes

Students will be expected to

4.4 assess models of urban development to recommend a specific model**Elaborations - Strategies for Learning and Teaching**

Urban development and urban sprawl may manifest itself in a variety of ways. It may just “happen” as more and more people move into areas that were sparsely populated, or it may be by design—intricately planned neighbourhoods or developments that seemingly consider every last detail of urban/suburban life, or as a result of efforts at “gentrification”—when depressed areas within cities are bought and remodelled creating a higher income environment (and possible displacement of poorer residents). In this outcome, students are asked to assess different models of development and to bring their own critical and creative thinking skills into this consideration.

Some areas to consider may include transportation, waste management, environmental protection, green space for recreational use, commercial space within residential areas, energy needs or any other “social need” that may arise within a developed area. Consider the use of policies such as Ontario’s “Smart Growth” plan and assess whether these policies address all possible aspects needed to be under consideration. Students may be asked to develop their own policy to recommend criteria for a specific model of a “Smart City” plan.

Unit 4: Cultural Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- contact City Hall or their local municipal office to collect information on development policies for their communities or province. How do these reflect other provincial policies?
- create a list of criteria for future developers to consider. Are any of these criteria used currently, or does the current list need to be updated?
- develop a position paper to support a particular model of development, citing the reasons for selecting this model as the best choice.

Resources and Links

Making Connections: Canada's Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 5: Economic Connections

Unit 5: Economic Connections

Overview

The global economy is often the focus of daily news analysis and predictions. The Canadian economy is influenced by global factors and usually reflects what is happening elsewhere. This unit will focus on a complex network of economic sectors that bear the influences of economic shifts across the globe. Students will learn about the various economic sectors (twenty in total) and the significance of each in the big picture of the country's economy. The classification system of these economic sectors will help students to understand how industry is organized and interconnected, and why it is important to track movement in these areas. Students will then be asked to conduct their own inquiries into one or more of the twenty economic sectors. (Suggested time allowed—20% of total course time.)

Overview

Unit 5: Economic Connections

Students will be expected to

- 5.1 identify and explain Canada's economic sectors and the importance of each sector
- 5.2 develop a geographic inquiry into one or more of Canada's economic sectors

Unit 5: Economic Connections

Outcomes

Students will be expected to

5.1 identify and explain Canada's economic sectors and the importance of each sector

Elaborations - Strategies for Learning and Teaching

Sectors of the Canadian Economy

According to the North American Industry Classification System (NAICS), the Canadian economy is divided into 20 sectors within two divisions—goods-producing industries and services-producing industries. The sectors of the economy can be regrouped to form five goods-producing industries and fifteen services-producing industries.

Goods-producing industries are primarily associated with the production of goods (e.g., growing of crops, generation of electricity, the manufacturing of computers), however, these sectors may also produce some services (e.g., pest control services, plumbing services, land subdivision, house-painting, support services for mining operations).

The 20 economic sectors specified by the North American Industry Classification System (NAICS) 2002 are listed below. See web link to Industry Canada (column 4) for more information.

Goods-producing industries

- Agriculture, Forestry, Fishing and Hunting (NAICS 11)
- Mining and Oil and Gas Extraction (NAICS 21)
- Utilities (NAICS 22)
- Construction (NAICS 23)
- Manufacturing (NAICS 31-33)

Services-producing Industries

- Wholesale Trade (NAICS 41)
- Retail Trade (NAICS 44-45)
- Transportation and Warehousing (NAICS 48-49)
- Information and Cultural Industries (NAICS 51)
- Finance and Insurance (NAICS 52)
- Real Estate and Rental and Leasing (NAICS 53)
- Professional, Scientific and Technical Services (NAICS 54)
- Management of Companies and Enterprises (NAICS 55)
- Administrative and Support, Waste Management and Remediation Services (NAICS 56)
- Educational Services (NAICS 61)
- Health Care and Social Assistance (NAICS 62)
- Arts, Entertainment and Recreation (NAICS 71)
- Accommodation and Food Services (NAICS 72)
- Other Services - except Public Administration (NAICS 81)
- Public Administration (NAICS 91)

http://www.ic.gc.ca/eic/site/cis-sic.nsf/eng/h_00006.html

Unit 5: Economic Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- create a concept map or other visual organizer to display Canada's twenty named industries according to the North American Industry Classification System. Designate (with colour or other means) those industries that are most prevalent or significant in their own province. Select one industry that is missing from the provincial list that could potentially become a viable industry. Write a letter to a provincial or federal government representative promoting this "new" industry (economic opportunity) for the province. Include a strong rationale for its adoption.
- use an ecozones map of Canada to match industries with specific ecozone. Summarize with a statement and a chart to illustrate which ecozone has the strongest and weakest economic make-ups of industry (or, least/greatest diversity of economic sectors). How can the weaker areas promote more (or, different) industries?
- use a jigsaw activity to divide the responsibilities of information gathering about Canada's economic sectors. Final sharing by groups should ensure that all students have a broad understanding of the work that is carried out in each of the twenty economic sectors.

Resources and Links

Making Connections: Canada's Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Web Links

http://www.ic.gc.ca/eic/site/cis-sic.nsf/eng/h_00006.html

Unit 5: Economic Connections**Outcomes**

Students will be expected to

5.2 develop a geographic inquiry into one or more of Canada's economic sectors**Elaborations - Strategies for Learning and Teaching**

For this outcome, students are asked to develop their own geographic inquiry related to one of Canada's economic sectors or industries. This task can present a plethora of information and students will need guidance in selecting a manageable topic or area. Geographic models may be perceived as very complex and it is advised to assist students in understanding what is expected of them in an inquiry task by breaking the process down into steps or stages. Models of geographic inquiry vary but essentially each follows a similar format or process:

- 1) asking geographic questions,
- 2) acquiring geographic information,
- 3) analysing geographic information,
- 4) interpret geographic information, and
- 5) communicate or act upon geographic information

Developing a geographic inquiry requires more than information retrieval. Students should learn that an inquiry is conducted to arrive at new information or conclusions, not simply a re-statement of someone else's factual information. While a necessary part of the inquiry process is to access and acquire information, students must learn to use this information to create new conclusions or understandings that do not currently exist for the student. In the case of inquiry aimed at the economic sectors of Canada, students may, for example, ask which of two selected sectors (or industries) currently contribute the most to the Canadian economy. In order to arrive at this conclusion, students must first develop criteria by which they will judge "contribution". Another example may be for students to compare three of Canada's economic sectors (e.g., forestry, mining, and fishing) to rank the three from "most invasive" to "least invasive" to the environment.

Unit 5: Economic Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- follow an established inquiry process such as described in the Elaboration (previous page) to answer a question/query related to one or more of Canada's economic sector. See appendix D.
- Students may start by scanning media sources for current topics or issues related to an economic sector—effect of climate change or other natural occurrence on specific farm crops or fisheries, impact of new technologies in the knowledge sector, impact of logging on a particular region, effect of increased access through Northwest Passage due to climate change.
- choose to present their inquiry findings in a variety of ways including multimedia presentation, mini-documentary, photo-essay, or traditional written report. For more ideas see Appendix D.

Resources and Links

Making Connections: Canada's Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 6: Canada's Global Connections

Unit 6: Canada's Global Connections

Overview

“Globalization” may be a 21st century term but the reality of globalization has existed for centuries. The exploratory and trading voyages of the 1400s, 1500s, and 1600s were some of the earliest manifestations of globalization. Canada’s role as a global participant has a long history and, now more than ever, Canada finds itself involved in many of the world’s ongoing issues and events. In this unit, students are invited to explore and analyse some of the connections that make Canada a global participant. Students should be encouraged to look at a range of globalizing connections by viewing these through economic, societal, and environmental lenses. They are then expected to assess one global issue from any of these areas that currently involves Canada. (Suggested time allowed—20% of total course time.)

Outcomes

Unit 6: Canada's Global Connections

Students will be expected to

- 6.1 analyse the economic, societal, and environmental connections between Canada and other countries

- 6.2 assess Canada’s current involvement in a global issue

Unit 6: Canada's Global Connections

Outcomes

Students will be expected to

6.1 analyse the economic, societal, and environmental connections between Canada and other countries

Elaborations - Strategies for Learning and Teaching

This outcome focuses on some of the economic, societal, and environmental connections that link Canada with the rest of the world. For this outcome, students will be expected to explore and learn about all three areas—economic, social, and environmental—so that they may have a diverse knowledge base from which they can discuss global interconnectedness, interdependence, and issues related to these areas. Ideally, students will make links back to what they have already learned in their studies about Canada's physical, cultural, and economic connections.

Unit 6: Canada's Global Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- brainstorm ideas about Canada's global connections by using a graphic organizer that clusters the links under three headings—economic, social, and environmental. Students may refer to their text or other sources for ideas to fill in the three columns.
- use a world map to connect Canada to other parts of the world via global interchanges or links. Use push pins and string to show the “web” of Canada-world links. Or, have students use a markable map and marker to draw linkages.
- compare their lists with other groups in the class to create a master list of global connections. Students may go one step further by ranking connections as “most significant” to “least significant” to Canadians.
- participate in group or class discussions about the importance and impact of Canada's involvement with the rest of the world. Students may contemplate how their lives might differ if Canada were a “closed society” such as Japan had once been. What would be some of the advantages and disadvantages of such a system? Students may wish to find out why, and at what point, did Japan decide to open their country to the rest of the world.
- create a chart, graphic, or presentation that illustrates how strongly Canada is connected to the global world via its economic, social, and environmental interactions. Is there one of the three sectors that is stronger than the other two? Why might that be?

Resources and Links

Making Connections: Canada's Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 6: Canada's Global Connections

Outcomes

Students will be expected to

6.2 assess Canada's current involvement in a global issue**Elaborations - Strategies for Learning and Teaching**

This outcome requires students to focus on one area in order to assess Canada's involvement in a global issue. Students may find a number of ways in which to analyse Canada's global connections. They may wish to focus on the contributions that Canadians make in areas such as culture, technology, peace and security, economic or international organizations (United Nations, World Health Organization, Asia-Pacific Economic Co-operation) or international agreements (North American Free Trade Agreement, Kyoto Protocol). Or, they may focus on trends or patterns that have been established in areas such as global economic consumption, environmental practices, humanitarian aid, response to climate change or other international disasters.

This outcome may lend itself well to pair or group work whereby study groups do their own research into a particular area and then present findings to the rest of the class or other audience. By assigning topics (or, allowing students to select a topic from a list) the presentations will offer variety and exposure to a number of areas.

Unit 6: Canada's Global Connections

Tasks for Instruction and/or Assessment

Students may be invited to

- draw upon knowledge gained in previous outcomes to assess one specific area of Canadian-global interdependence. Individually, or in groups, they can focus on any global issue in which Canada plays a role. Students can follow an inquiry model (see appendix D) to respond to the following questions: "To what extent is Canada involved in _____?" and "Should Canada be increasing or decreasing its efforts in this area?"

Resources and Links

Making Connections: Canada's Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Unit 7: Future Connections

Unit 7: Future Connections

Overview

Geographic Inquiry and Active Citizenship

The culminating outcome for GEO421A—Geography of Canada focusses on student engagement through active citizenship. Students will identify an issue based upon a geographic inquiry—such as an environmental issue—that has been conducted earlier in the course. They will then plan a project that addresses the issue by proposing a course of action. Teachers can assist students in this task by guiding them through a well-planned process that can be applied to other social action projects. Due to time constraints and the social nature of collaborative problem solving in this case, it is preferable that students form working groups or teams around shared interests.

The key to empowering students through active citizenship is having students understand that they can be active citizens in many ways and on many levels. Active citizenship may involve fund-raising for a particular cause, but there are also many other ways in which students can demonstrate social responsibility. Students need to understand that they can participate as active citizens simply by being engaged in and aware of social, environmental, or justice issues, and by being able to speak out about these issues. Students in GEO421A—Geography of Canada are nearing an age at which their voices will be heard through the democratic process of voting—another form of active citizenship. A broader goal of this outcome is to help students think more critically about current issues and the roots of issues—why does the issue or the problem exist in the first place? How can this be changed?

Resource note

This unit focusses on skill building and following a process to achieve an outcome. While the prescribed classroom resource will provide background knowledge and an entry point to the study of certain Canadian geographic issues, it may be necessary to access other resources for further information, and for support in planning and carrying out the action plan. Teachers are advised to refer to column 4 of the guide for suggested alternative resources. (Suggested time allowed—10% of total course time.)

Outcome

Unit 7: Future Connections

Students will be expected to

7.1 engage in an active citizenship project that is based upon a Canadian geographic inquiry

Active citizenship is a way of developing abilities and dispositions that are needed to effectively engage democratic citizenship, and are also of broader use. Projects teach students to carefully analyze complex problems, formulate thoughtful strategies, question assumptions, and only then to act responsibly on their beliefs.

Case, R., Falk, C., Smith, N., & Werner, W. (2004). *Active Citizenship: Student Action Projects*, Vancouver: The Critical Thinking Consortium (TC2)

Unit 7: Future Connections**Outcomes**

Students will be expected to

7.1 engage in an active citizenship project that is based upon a Canadian geographic inquiry**Elaborations - Strategies for Learning and Teaching****Getting Started with an Active Citizenship Plan**

The final outcome of GEO421A - Geography of Canada is intended as a step toward developing citizens who 1) are aware of geographic issues, 2) can analyse an issue, and 3) can react to an issue in a positive way. Active student citizenship may take many forms. A key point of this outcome is for students to learn that they can participate as active citizens on a multitude of levels.

Active citizenship projects may be coordinated with Project-Based Learning in GEO421A. For example,

Teachers may wish to draw students' attention to other resource materials which provide examples of active citizenship and practical advice in getting started on their projects. Students should be encouraged to explore a variety of options and reflect upon which plans might best suit their particular situations. The scope of the student plan should be monitored by the teacher, as some students may be overly ambitious in their efforts and find themselves burdened with an unrealistic plan. If a student's plan involves fund-raising, it may be necessary to ensure that all school or community regulations in this regard are respected, and that there is a viable plan in place for the security of funds.

Time may become an issue in carrying out an action plan if it is not well-planned and monitored regularly. Students will need class time to work through their plans. How, where, and when the plan is actually carried out should be agreed upon by students and teacher at the beginning of the project.

Unit 7: Future Connections

Tasks for Instruction and/or Assessment

Students may be invited to

A Model for Developing an Active Citizenship Plan

Active citizenship plans may vary in their target or scope, but the process of developing a plan will be similar. Planning is essential to the success of the project. One such problem-solving model proposes two preliminary tasks for teachers, followed by four tasks for students:

Teacher Tasks

1. Pre-plan for the project (consider time and logistics, anticipate various scenarios).
2. Introduce ideas to the student (generate interest, explore possibilities, tasks, responsibilities, and parameters).

Student Tasks

3. Clarify the problem (gather background information and discuss within working groups).
4. Agree on a sound solution (consider all options, select one).
5. Plan an effective course of action (consider challenges, avenues, resources, and time frame).
6. Implement and evaluate action plan (manage project, reflect, and debrief)

Direct vs. Indirect Action

Students will benefit from an introductory discussion on different types of action that they might pursue in this project. The TC2 model explains actions as follows:

Direct Action

What it means

Students themselves try to directly change some state of affairs.

Examples

Local—Participating in a community clean-up effort

Global—Raising funds to buy life-saving mosquito nets for a community in Kenya

Indirect Action

What it means

Students seek to influence or support others who are in a position to affect the desired change.

Examples

Local—Lobbying government officials to change legislation regarding preservation of local green areas

Global—Coordinating and carrying out an in-school public awareness campaign in your school about HIV AIDS in Guyana

(Adapted from *Active Citizenship: Student Action Projects*, TC2, 2004)

Resources and Links

Making Connections: Canada's Geography (Pearson)

Supplementary Resources

Encounter Canada (Oxford) (teacher resource)

The Nystrom Atlas of Canada and the World. (2003). Herff Jones Education Division. Chicago Illinois.

Case, R., Falk, C., Smith, N., & Werner, W. (2004). *Active Citizenship: Student Action Projects*, Vancouver: The Critical Thinking Consortium (TC2)

Web Links

Project-Based Learning
<http://www.bie.org>

Appendices

Appendix A

Teaching Strategies

A-1 Think-Pair-Share

A-2 Jigsaw

A-3 Place mat

Think-Pair-Share

Purpose

This strategy allows time for students to think and discuss ideas before having to share publicly. It is important for teachers to allow enough “think” time for students to come up with thoughts and ideas that are relevant and insightful. This strategy works well for inquiry type questions that require critical- and creative-thinking as well as questions regarding controversial subjects that may have many varied responses.

Method

Teacher poses a question such as What physical forces affect Earth? and asks students to pair up for a few minutes in order to brainstorm ideas and discuss briefly. Pairs will then be asked to share with the rest of the class to compare ideas and add to the class collection of ideas.

Variations**Think-Pair-Square**

Students pair up to discuss ideas but then instead of sharing with the entire class, each pair links up with another pair to create a “square” for sharing.

Sketch-Pair-Write-Pair-Share

This variation may be used to ask students to explore concepts that require a more visual means of expressing ideas, such as describing a sequence of events such as land formation or as a planning tool for a concept or mind map.

Jigsaw

Purpose

This strategy provides an efficient way to cover several concept areas in a certain amount of time by making each student responsible for becoming an “expert” in one particular area and then accountable by sharing with his or her “home” group so that the entire group can collect the “expertise” and form a collective understanding of new material.

Method

Students are divided into groups, usually four to five per group, depending upon the number of concepts to be presented. Explain to students that each will become an “expert” in one particular area and then must return to his or her home group to “teach” the concept to his or her group mates. The home group is then responsible for organizing the collected information into a cohesive presentation or system to be shared. Time allowed depends on the complexity of the concepts and the make-up of the class.

In the case of learning new material about Canada’s ecozones, for example, students may be divided into groups representing 1) Atlantic Maritime, 2) Mixedwood Plains, 3) Boreal Shield, 4) Prairie, and 5) Southern Arctic. If there are more than five or six concepts it is better to break the jigsaw up into two or more sessions in order to avoid information overload.

Example - Canada’s Ecozones

Class of 30 students =

6 “home” groups of 5 students: ABCDE

5 “expert” groups of 6 students (in this case, teachers may wish to break up larger groups into 2 smaller groups of 3 each studying the same material)

AAAAA expert group = Atlantic Maritime

BBBBB expert group = Mixedwood Plains

CCCCCC expert group = Boreal Shield

DDDDD expert group = Prairie

EEEEEE expert group = Southern Arctic

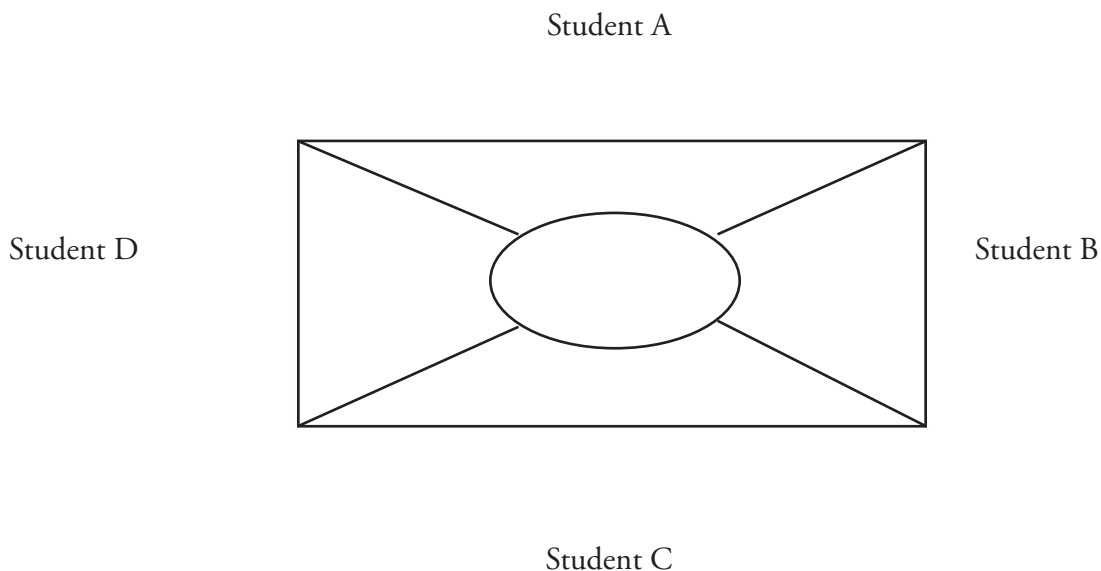
Place mat

Purpose

This teaching strategy encourages small group discussion while maintaining individual accountability. Similar to a Think-Pair-Share strategy in the sharing of ideas, the place mat strategy goes a step beyond in having students write down ideas and then critically analyse these in order to select the most appropriate ones to form the group's response. Groups can then share their responses with other groups within the classroom.

Method

Students are divided into groups of four at a table and provided with a "place mat" organizer (see below). Given a particular task such as selecting criteria used to determine sustainable land use practices, each student in the group of four jots his or her ideas within the 1/4 space allotted. When time is up (at the discretion of the teacher), students discuss the group's collective ideas and select the best ones to be recorded in the centre circle of the place mat. Structured comparisons with other groups may ensue, or a whole-class discussion.



Appendix B

Visual Organizers

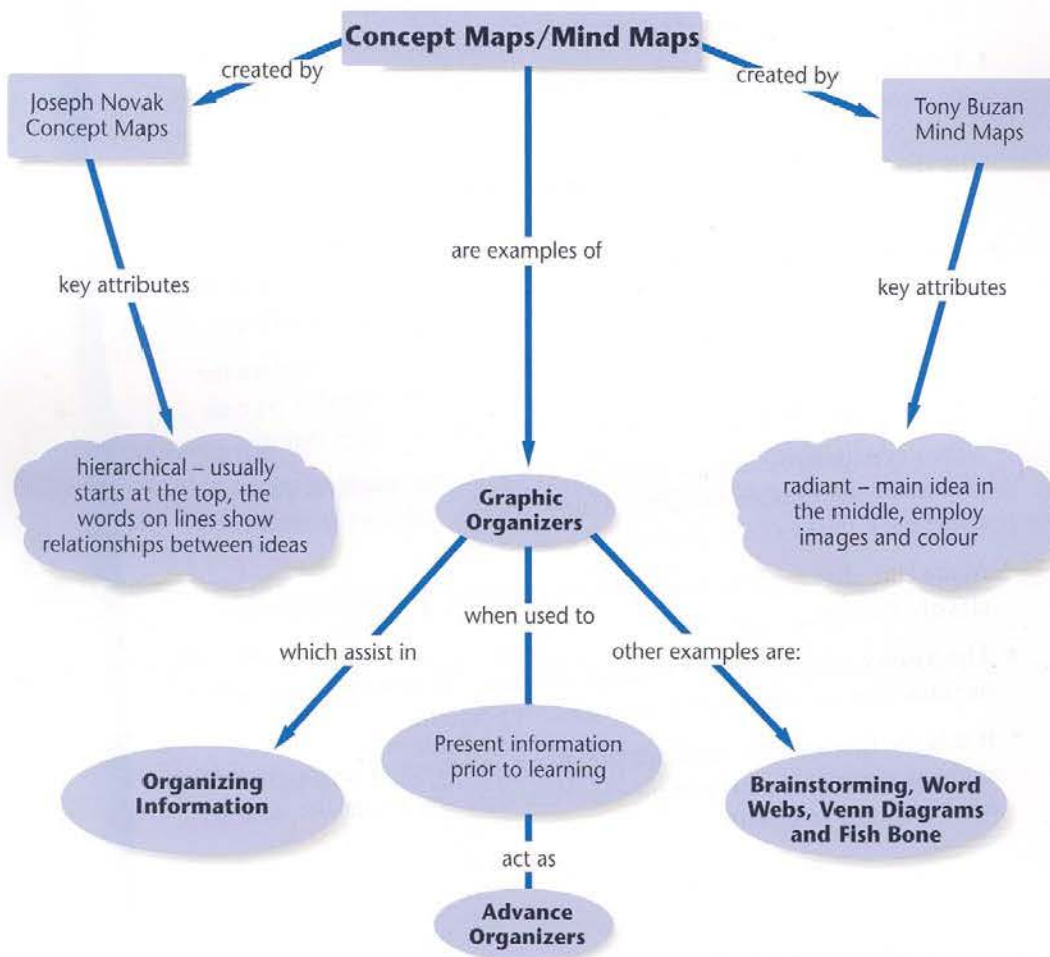
- B-1 Complex Organizers**
- B-2 Similarities and Differences**
- B-3 An Explanation of Mind Mapping**
- B-4 Steps for Creating a Basic Mind Map**
- B-5 Sample Rubric for Evaluating a Mind Map**
- B-6 Sample Mind Maps**
- B-7 An Explanation of Concept Mapping**
- B-8 Steps in Creating a Basic Concept Map**
- B-9 Sample Rubric for Evaluating a Concept Map**
- B-10 Sample Concept Maps**
- B-10a Sample Inspiration Concept Map—Canada’s Foreign Trade**
- B-11 T-Chart**
- B-12 Ranking Ladder**
- B-13 Continuum and KWL Chart**

N.B.

Visual organizers (B-1 to B-10) in Appendix B are used with permission from the following instructional resource: Bennett, B., & Rolheiser, C (2001). *Beyond Monet: The Artful Science of Instructional Integration*. Toronto: Bookation Inc. Check your school library or the professional development section of your school for the complete resource.

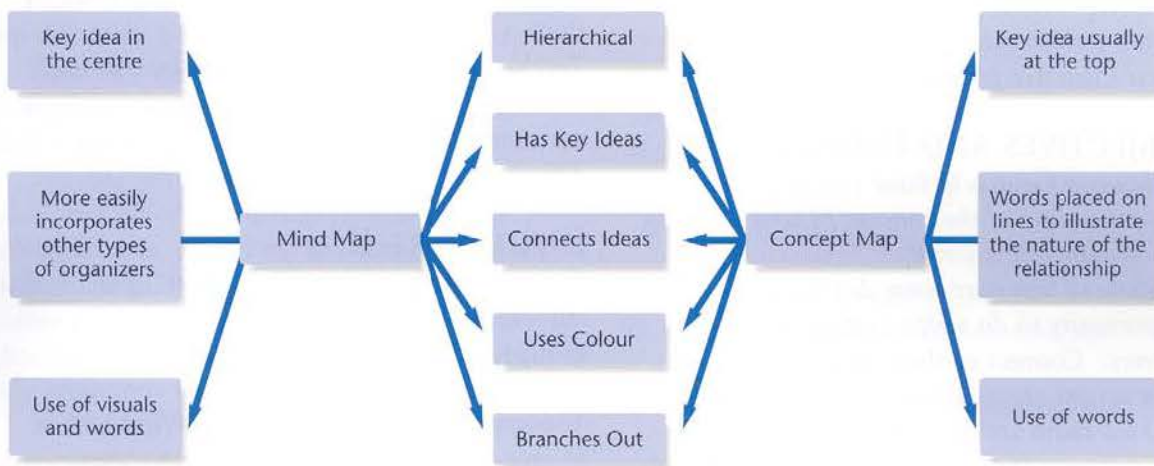
Chapter Ten

Complex Organizers: Mind Mapping and Concept Mapping





Mind Maps and Concept Maps: Similarities and Differences



On the following three pages are two lessons that incorporate one of each of these processes. You do not see the product; rather you see how the process is woven into the lesson.



An Explanation of Mind Mapping

We strongly recommend Tony Buzan's (1993) book, *The Mind Map Book: Radiant Thinking*. It is an excellent and colourful resource for taking you deeper into the Mind Mapping process. It also provides numerous examples of Mind Maps. Buzan makes connections to the literature related to brain research and learning. He sees Mind Mapping as a natural function of the human brain.

Another useful book is Nancy Margulies' (1991) book, *Mapping Inner Space*. This book illustrates practical ways to get started. The ideas provided in both are essential - Buzan's book provides an in-depth explanation of the process while Margulies' book provides a useful introduction regarding how to start.

Mind Mapping is an analytical process that involves creatively integrating a combination of visuals, colour, codes, words, and connectors. It can be employed as a method to take notes, to study before an exam, to brainstorm, or make connections between ideas. It can be extended with little effort to be an alternative way of applying Hilda Taba's Inductive Thinking model of teaching (see Chapter 9). Additionally, several high-school English teachers have students employ Mind Maps to collect and portray their arguments when involved in Academic Controversy (explained in Chapter 11).

Buzan states that Mind Maps have four essential characteristics and several non-essential characteristics. We would argue that

colour is also a critical attribute rather than non-essential. Our rationale is the mind processes and is intrigued by colour.

ESSENTIAL:

1. a central image that represents the subject being mapped
2. main themes that radiate like branches from that central image
3. those branches have a key image or key word printed on an associated line
4. the branches have a connected structure

NON-ESSENTIAL:

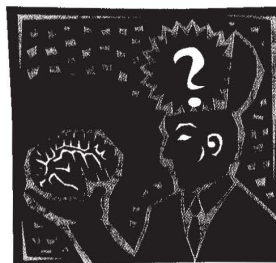
1. colour
2. codes

RATIONALE: Mind Maps enhance the brain's capacity to store and recall information.

Because it uses visuals and colours, it provides a novel and interesting way to make sense of

something the student is learning. It can be a motivating way for students to summarize a unit on a Friday afternoon when things are dragging and a bit of a "pick-me-up" is required. One enjoyable example of integration is to weave the Johnsons' Cooperative Learning process (explained in Chapter 7) with Buzan's Mind Mapping process to have a small group create a Mind Map. The lesson on heroes later in this chapter illustrates this integration.

Also, students can employ Cooperative Learning structures such as Gallery Tour and Three-Step-Interview to explain the major messages in their Mind Map.





Steps in Creating a Basic Mind Map

MATERIALS: Each student or group of students will need a sheet of paper and coloured pens or crayons. The size of paper will depend on the topic, the time, the amount students know, and what you are going to do with the Mind Maps. You can also have students cut and paste pictures from magazines instead of (or along with) their drawings.

SIZE: If the Mind Map is to be a poster for sharing, the size will be different than if it is to serve as notes and placed in a binder for review before a test. We saw a Mind Map that took up the complete wall of the classroom and evolved over the year—it served as an ongoing summary of the students' learning in a middle-school English class.

The following steps are only suggestions; feel free to add, adapt, or extend to make it responsive to your students' needs. Remember that when you do this with a partner, you are attending to five of the eight intelligences identified by Howard Gardner, as well as the brain's propensity for creating patterns and its need for talk.

1. **Select a topic** (for example “the heart” or “factoring” or “poetry” or “democracy”).
 - Think of a visual that captures the essence of that topic and place that visual in the centre of the paper using colours that will assist you to remember that idea. For example, in a kindergarten class, the students did a Mind Map of the story “The Billy Goats Gruff.” They put a picture of the bridge in the middle.



Steps in Creating a Basic Mind Map:

2. **Brainstorm for the key ideas related to that topic.**
 - Record all the ideas that come to you - this can be personal or group brainstorming. Now you can simply pick out the most important ideas that will branch out first or you can group those ideas into common categories - give each of those categories a label and then those become the first key ideas.
 - Draw a picture or symbol that represents each of the key ideas you brainstormed. Then position those visuals that make sense to you around the outside of the visual you placed in the centre of the map. Put in the key word and then connect the key words to the centre topic with a line or bubbles.
 - Flow with ideas radiating out from each of those key ideas; again, think of visuals that capture the essence of that idea and place them in a way that makes sense to you. Then, place the word by the visual. Again, connect with lines.
 - Continue until you have exhausted the topic, the space, the time, or your patience.
3. **Reflect with a partner or with small groups or with the class —perhaps a Three-Step-Interview or Gallery Tour.**
 - In your mind or with a partner, talk through the journey you took to conceptualize the key ideas related to the topic. Explore the relationships between different aspects of the map.

Beyond Monet / Barrie Bennett / Carol Rolheiser

Reproduced with permission of author



Sample Rubric for Evaluating a Mind Map

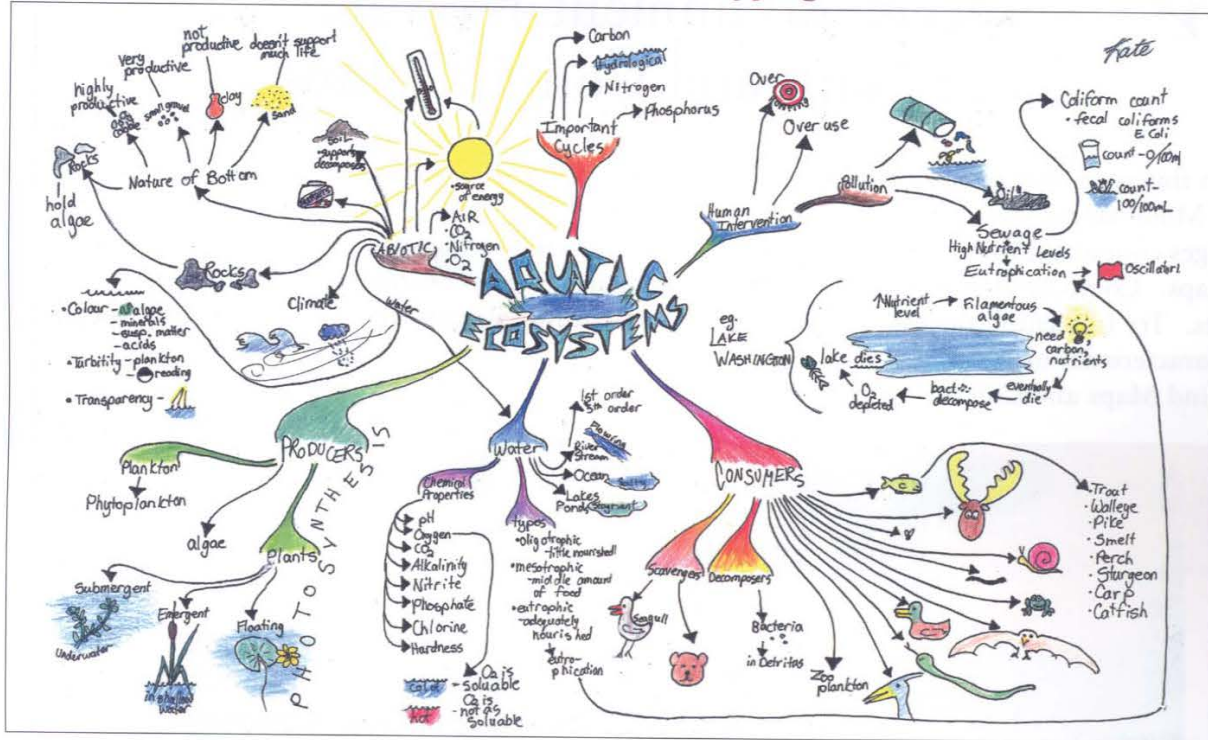
Rubric for Mind Map Performance Levels

CRITERIA	PERFORMANCE INDICATORS (Observable descriptors indicating extent to which a criterion is met.)			
	Level 1	Level 2	Level 3	Level 4
Central Image	Not clear; difficult to separate from other information	Present; not eye catching or memorable	Clear; use of picture or image that relates to key idea	Stands out; meaningfully grasps the key idea through metaphor or humour
Ideas radiate out from central image and from most to least complex	Little to no indication that ideas are connected to and radiating out from centre, from most to least complex	Ideas radiate out from centre, some confusion as you follow ideas moving from most to least complex	Ideas clearly connect to central image and ideas, and for the most part move from most to least complex	Ideas clearly connect to central image and ideas consistently and accurately shift from most to least complex
Ideas have key images or key words	Little to no evidence of key images. May have a few keywords or vice-versa	Images and keywords are evident, but either too few or imprecise	Images and key words clearly show an understanding of the content, although not that memorable	Dynamic use of images and keywords. They clearly connect to central image. See use of metaphor, humour, cut-outs from magazines, clipart, etc.
Colour or codes or links used to illustrate connections between ideas	Little to no use of colour, codes, or links to illustrate connections between ideas	Obvious attempt is made to use colour, codes or links to enhance clarity and memory. Still a bit confusing.	Clearly uses colour, codes, or links to clarify connections and to assist with memory for most aspects of Mind Map	Effectively uses colour, codes, or links to meaningfully clarify connections for all aspects of Mind Map
Depth of coverage	Insufficient coverage of content covered	Shows a basic level of coverage of key ideas but little extension of ideas	Shows a solid grasp of most of the content and shows extensions of most key ideas	Shows a solid grasp of all the content covered. Extensions of the key ideas show a deep understanding of that content

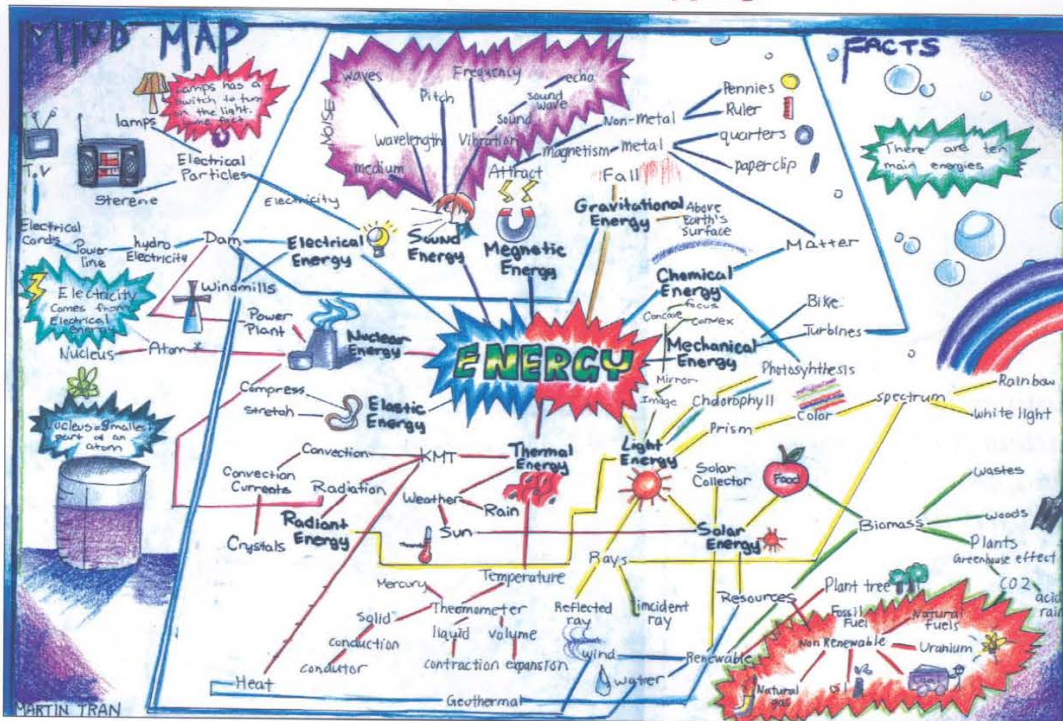
Note: this is one teacher's suggestion for evaluation – please feel free to design your own or adapt this one.

Appendix B-6: Visual Organizers

university student's second attempt at Mind Mapping



grade eight student's second attempt at Mind Mapping





An Explanation of Concept Mapping

Although we provide you with an introduction to Concept Mapping, as stated previously, we recommend that you read Novak's and Gowan's (1984) book, *Learning How to Learn*. As well, you may want to read articles related to Concept Mapping to assist you in taking the process deeper. Chapter Two in the book *Probing for Understanding* by Richard White and Richard Gunstone (1992) provides a useful and detailed explanation of the process with a number of student examples of Concept Maps.

EXPLANATION: A Concept Map is a visual representation that illustrates how one understands relationships between concepts. Those concepts could be any combination of things, people, ideas, arguments, solutions, places, etc. Concept mapping serves to move the learner from simply recalling facts to making the linkages or relationships between those facts. It encourages more complex and meaningful thinking. Below are the essential characteristics of a Concept Map.

ESSENTIAL:

1. Start with a major term or idea from which the next term or idea extends either in a hierarchical or radiating format — Concept Maps usually start at the top.
2. Shift is from a more complex to less complex idea or major idea to minor idea. It often ends with an example.
2. Connecting line is drawn between concepts.
3. Linking words are placed on the lines stating the relationship between concepts
4. Cross links between one segment of the concept hierarchy or classification and another

NON-ESSENTIAL:

1. Colour to clarify segment areas or ideas that relate. This is useful when the use of connecting lines makes it confusing to follow the relationships.
2. Examples of the concept being presented. This adds meaning, communicates that the student understands the concept and aids in retention of the information.

Who can use Concept Maps? Like Mind Maps, Concept Maps can be used by students of all ages (kindergarten to adult learners — although younger students will need more help). For more in-depth information on younger students, see Stice (1987). This educator examined the potential of using Concept Maps with kindergarten to grade five students. With older students, teachers often employ Concept Maps as alternatives to essays or as organizers for essays.

Like Mind Maps, Concept Maps (often called semantic maps) increase students' abilities to organize and represent their thoughts. Initially, Concept Mapping was associated primarily with metacognition and science. More recently, it has been applied to reading comprehension as it helps the learner activate and retrieve prior knowledge. In one of our doctoral classes (a research colloquium on current brain research) large concept maps were created to facilitate the synthesis of each book and to find connections and patterns between books.

Jeni Wilson (1987) in her article on Concept Mapping, argues that although Concept Maps are personal, peer discussion is extremely worthwhile for assisting students to verify, clarify, and extend their graphic representation.





Steps in Creating a Basic Concept Map

The steps are similar to those of Mind Mapping. Before we describe the steps, we will review the four major differences between Mind Maps and Concept Maps.

First, Concept Maps usually start at the top, but can begin at the bottom or sides or in the centre; whereas Mind Maps begin in the middle and radiate out.

Second, Concept Maps employ words on the lines between concepts to illustrate the link between those concepts. Mind Maps usually do not.

Third, Concept Maps seldom employ colour; Mind Maps usually employ colour.

Fourth, Concept Maps seldom employ visuals; Mind Maps employ visuals. You can see that these two processes can be easily integrated.

MATERIALS: Each student or group of students will need a sheet of paper and coloured pens or crayons. The size of paper will depend on the topic, the time, the amount you know, and what you are going to do with it.

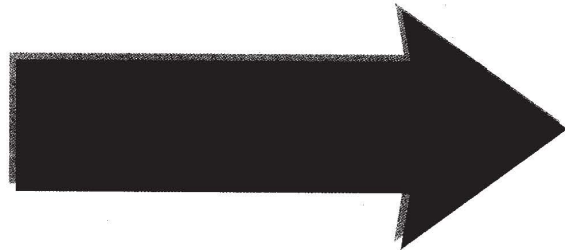
SIZE: If the Concept Map is to be a poster to be shared, the size will be different than if it is to serve as notes and placed in a binder for a review before a test.

The following steps are only suggestions, feel free to add, adapt, or extend to make Concept Mapping responsive to the students' needs. Remember that when you do this with a partner, you are attending to five of the eight intelligences identified by Howard Gardner, as well as the brain's propensity for creating patterns and its need for talk.



Steps in Creating a Concept Map:

1. Brainstorm (individually or in a group) the key ideas. So if you are studying energy, you might introduce the unit by creating a class Concept Map of the students' current understanding of energy. The result might be items such as: solar energy, nuclear energy, electrical energy, nuclear waste, global warming, sun, solar heating, gas, oil, pollution, fossil fuel, etc.
2. Students put the ideas onto cards or post-it notes. (Students enjoy manipulating the data.) Once the ideas are on cards, they can begin to sort and classify these cards, looking for relationships between ideas. If working alone, they can work for a few minutes, and then do a Walk-About to see how others are sorting the cards.
3. The students can now paste or transfer the ideas onto a piece of paper. They then draw lines between the concepts and place words on the lines that illustrate their thinking about the relationships between the concepts. They will have to decide whether they want to create a hierarchical Concept Map or a more radiant Concept Map (similar to Mind Mapping).
4. Students also look for cross links between different concepts.





Sample Rubric for Evaluating a Concept Map

Performance Levels

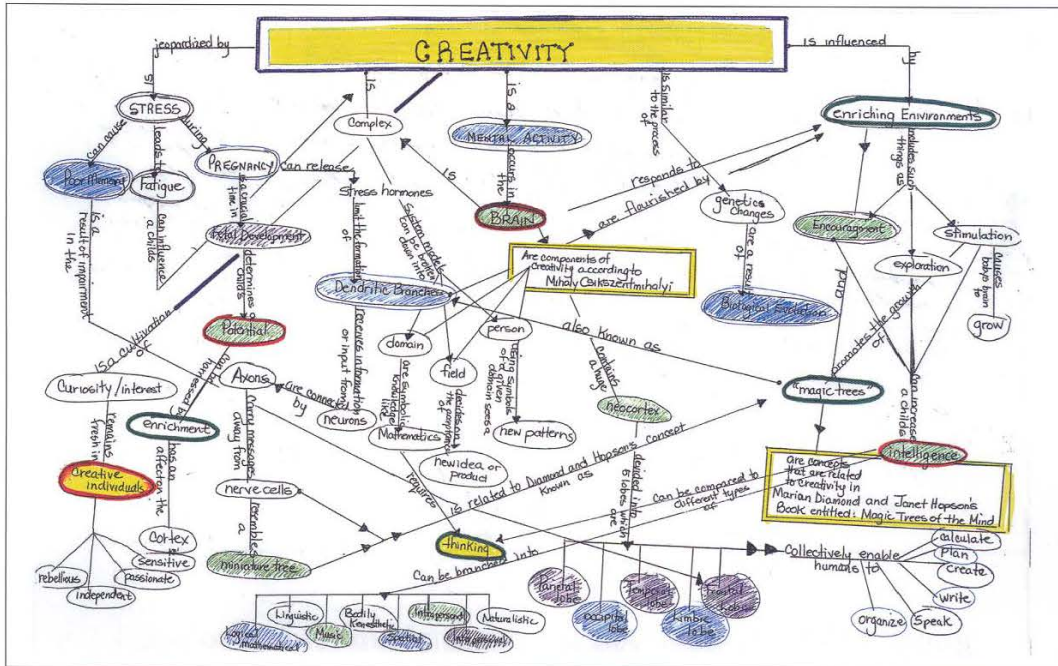
Performance Indicators	Level 1	Level 2	Level 3	Level 4
Concepts	<ul style="list-style-type: none"> Insufficient number of concepts selected relating to topic Arrangement of concepts illustrates no understanding of conceptual relationships 	<ul style="list-style-type: none"> Minimal but acceptable number of concepts selected, with some relationships to the topic Arrangement of concepts demonstrates simple understanding of subordinate conceptual relationships 	<ul style="list-style-type: none"> Most concepts relating to topic were selected Arrangement of concepts demonstrates an understanding of subordinate conceptual relationships 	<ul style="list-style-type: none"> Most concepts and all significant concepts selected and they clearly relate to the topic Arrangement of concepts demonstrates complete understanding of subordinate conceptual relationships
Hierarchical Structure	<ul style="list-style-type: none"> Concepts are displayed in a linear sequence. Little or no sense of hierarchical structure 	<ul style="list-style-type: none"> Limited hierarchical structure used 	<ul style="list-style-type: none"> Concepts connected in a hierarchical structure 	<ul style="list-style-type: none"> Concepts connected in a hierarchical structure leading to more specific concepts
Linkages	<ul style="list-style-type: none"> Some basic relationships indicated by connected lines Linking words are simple and repetitive 	<ul style="list-style-type: none"> Straightforward relationships connected with linking words Linking words show variety 	<ul style="list-style-type: none"> Most relationships indicated with a connecting line and labeled with linking words Linking words are accurate and varied 	<ul style="list-style-type: none"> All relationships indicated by a connecting line and accurately labeled with appropriate linking words Linking words are expressive and purposeful
Cross Links	<ul style="list-style-type: none"> Cross links not used 	<ul style="list-style-type: none"> Few cross links are used to illustrate minimal connections 	<ul style="list-style-type: none"> Cross links used to reflect straightforward connections 	<ul style="list-style-type: none"> Cross links show complex relationships between two or more distinct segments of the concept map

Designed by: Shirley Smith, Bev Elaschuk

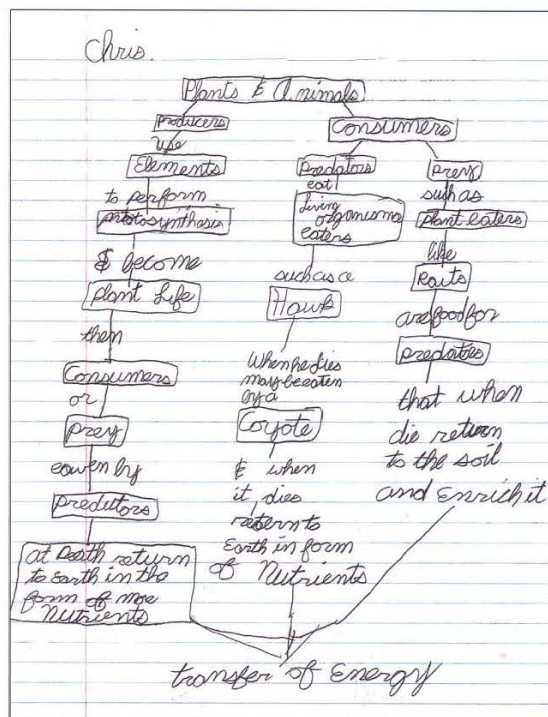
Feel free to adapt this rubric or create your own.

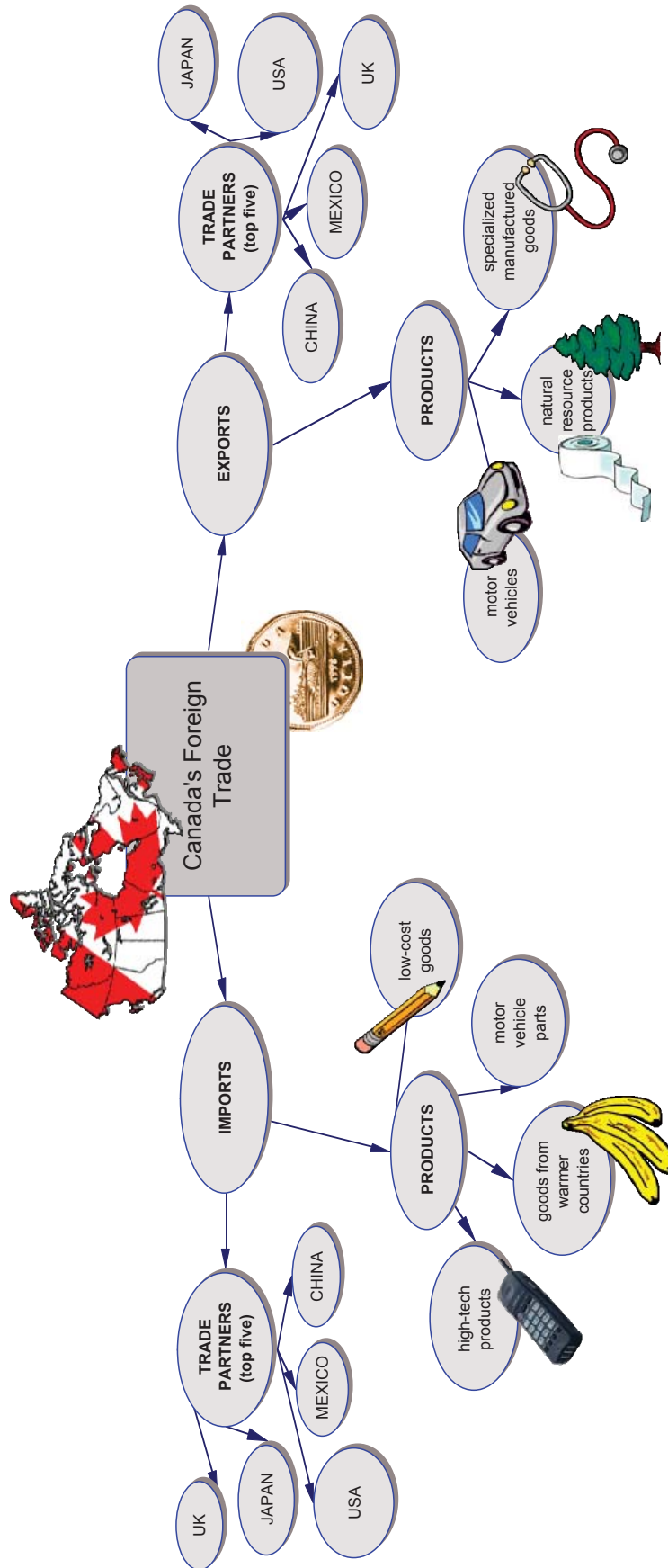
Concept Maps

university student's first attempt at a Concept Map



grade four's first attempt at a Concept Map



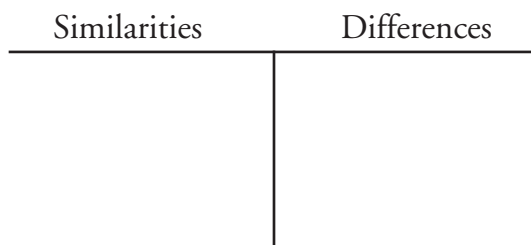
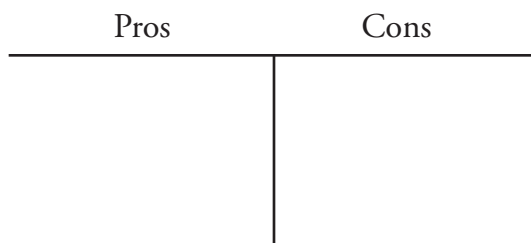


Appendix B-11: Visual Organizers

T-Chart

Purpose

This organizer is used to examine or compare dual sides of an issue or two aspects of a concept, such as similarities and differences.



Factors Contributing to Climate and Climate Change

Physical Factors

Surrounding waters

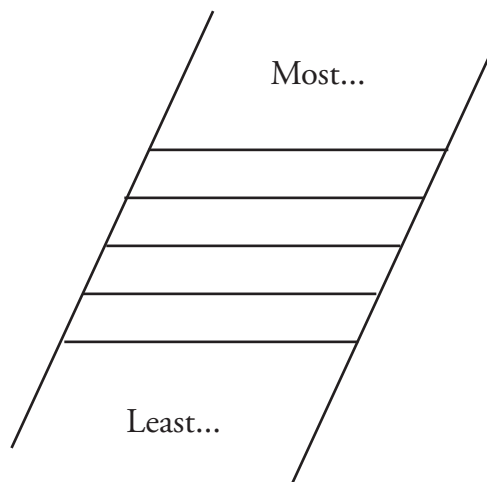
Human-Made Factors

Carbon emissions

Ranking Ladder

Purpose

This organizer provides a means of ranking ideas or concepts according to given criteria: importance, relevance, probability, significance, or other.

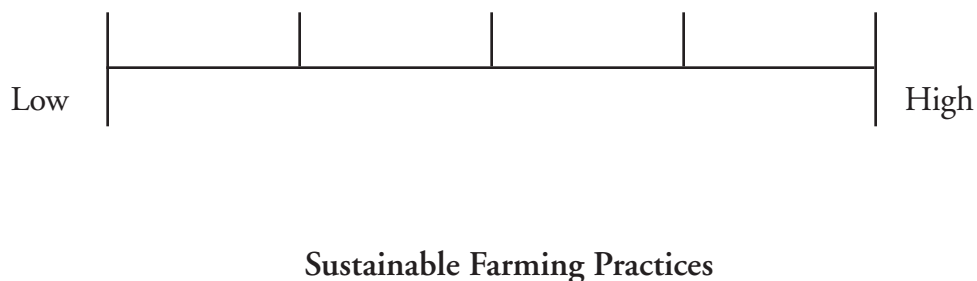


Appendix B-13: Visual Organizers

Continuum

Purpose

Similar to the ranking ladder, this organizer can be used in a variety of ways. It is useful in creating time lines, sequences, rating scales, or opinion scales. It is important to consider the criteria that will form the ends of the line.



KWL

Purpose

Use the KWL chart as a pre-lesson activity or as a diagnostic tool to determine the level of knowledge of a particular topic or concept. Students jot notes as to what they already KNOW, what they WANT to know, and later—what they have LEARNED about a particular area.

K	W	L

Appendix C

Reading Strategies

C-1 Sample—Anticipation Guide

C-2 Sample—Vocabulary Exercise

C-3 Sample—Text Reformulation Exercise

Sample Anticipation Guide Culture

Respond to each statement twice, once before reading the text and again after reading it. To respond write “Agree” or “Disagree” in the space provided. (*Making Connections: Canada’s Geography* pp. 455-464).

Response Before Reading

Canada’s Foreign Trade

Response After Reading

_____ Canada imports more goods than it exports. _____

_____ Trade “surplus” means that there are products left over from the normal trading procedures. _____

_____ Canada’s biggest trading partner is China. _____

_____ Trading globally is critical to Canada’s economy. _____

_____ Free trade agreements mean that there are no tariffs or charges on goods coming into the country. _____

Note:

- A strong anticipation guide statement is one with which some students agree and some disagree.
- Use two to four statements. Any more than that and you risk losing your audience.
- An anticipation guide helps struggling readers by establishing a **PURPOSE** for the reading. Now they have something specific to look for while they read. Giving weak readers the questions only after the text has been read is too late. They’re unlikely to reread in search of answers.

Adapted from *Cross Curricular Reading Tools, 2006*

Appendix C-2: Reading Strategies

Sample Vocabulary Exercise

Canada's Foreign Trade

From the New to the Known

This word is totally new to me.	I've seen or heard this word but I'm not sure what it means.

Word list

protectionism

free trade

tariff

bilateral trade

NAFTA

GATT

WTO

trade deficit

Procedure

- Either individually or in groups, students slot words into the graphic organizer.
- Students hold brief class discussion to establish which words create the most confusion.
- Students read the relevant text (see *Making Connections: Canada's Geography*, pp.456-463).
- Ask students to consider the context where the words appear.
- If you really want to help, **TEACH** them how to use context clues.

Adapted from Janet Allen's *Words, Words, Words* (Stenhouse, 1999)

Sample Text Reformulation Exercise

What is it?

- An after-reading strategy in which students turn one type of text into another type of text.

How does it work?

- Students change expository text into narrative, newspaper articles into poetry, case studies into story boards or news articles, and so on.

Why use it?

- Encourages students to reread the text for main ideas, themes, cause-and-effect relationships, and character motivation; and to think critically without becoming overwhelmed by the text.
- Provides a valid alternative to the overused read-and-answer-questions strategy.

Suggestions

- Model the strategy!
- Consider a variety of reformulation options. The book, *When Kids Can't Read*, by Kylene Beers, available in your school library, lists and explains a number of them (pp. 159-165).
- Allow students to choose the type of reformulation.
- Include text reformulation in group work, even as a bonus.

Examples of a limerick and a haiku using physical forces as a context:

Protectionism
There is a Canadian fee called a tariff,
whose goal it is to take care of
Canadian jobs and consumers
Amid the Free Trade rumours
Economies - we get our fair share of!

Free Trade
Trading 'round the world
Brings economic spin-offs
Stronger Canada

Limerick Rules

lines 1, 2, and 5 must rhyme
lines 3 and 4 are short and rhyme
sing-songy rhythm

Haiku Rules

line 1 is 5 syllables
line 2 is 7 syllables
line 3 is 5 syllables

Adapted from *When Kids Can't Read* by Kylene Beers

Appendix D

Student Guide
to the
Inquiry Process
for
GEO421A

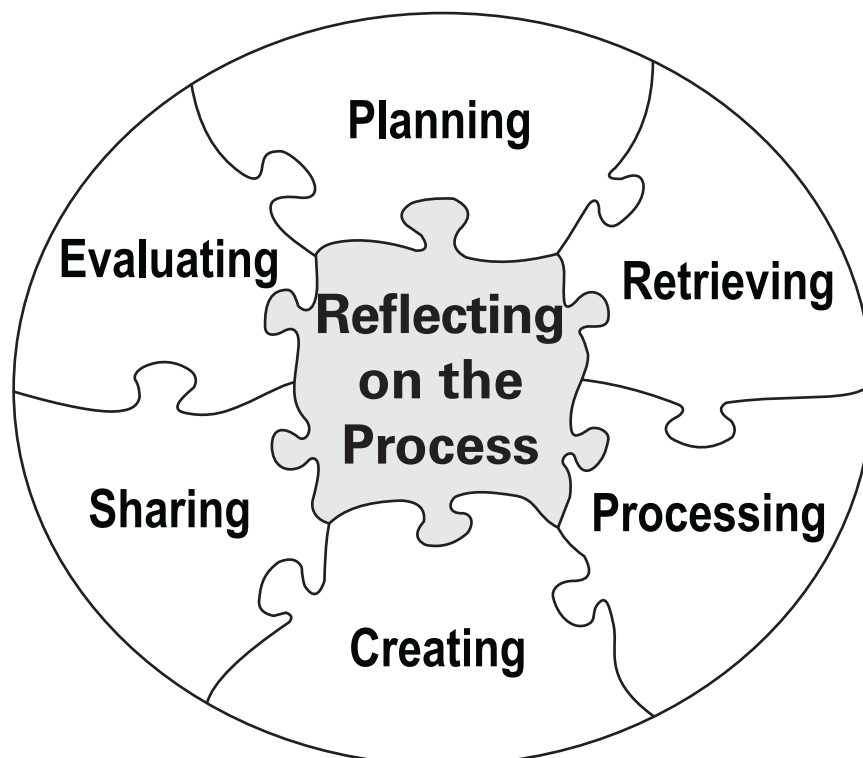
STUDENT GUIDE to the **INQUIRY PROCESS**

GEO421A

with

Tips, Guided Practice and
Student Project Planning

Inquiry Model



Guided Practice

Selecting a Topic and Planning for Inquiry

How do I select a topic and plan my inquiry?

Brainstorm ideas and ask questions that interest you. For example, if you want to know more about how climate change will affect Canada's resource industries, then you need to generate a number of questions that are of interest to you. This will help you narrow the focus to something that can be researched, and will answer a question that has not been asked before. Remember, you are trying to find information that answers **your** question, not simply researching someone else's answers. As you conduct your preliminary search for sources, your inquiry question may change or be refined several times. Start with an idea, talk to others, and look through sources (print and non-print) that might help you to formulate some narrower topics for your inquiry.

TIPS: Web Searches

GOOGLE is a search engine, not a Web-site or source that can be cited in your research. It is a good starting place to get ideas, but do not rely exclusively on it for your research. *Wikipedia* may be tempting to use for research, but it is not totally reliable as a source. It is known as an open-source site (anyone can add, delete, or edit the information) and therefore may lack the credibility that other sources possess. It should be viewed as a starting point where you can find ideas for additional sources in the bibliography at the end of each article. EBSCO is an online database that contains numerous resources—periodicals (magazines), newspapers, government reports, professional journals and more. Access to this database is simple, and once you know how to use the folder feature, you can organize the articles that you find and keep track of your research findings. Ask a teacher or your teacher-librarian for help.

Guided Practice:

Enter "child soldiers" into an online search engine. Note how many possible links there are—hence the need to narrow your topic!

Broad Topic:	climate change
Narrower Topics:	climate change and Canadian farmers rising global temperatures and Canadian fishers
Possible Inquiry Question:	What will be the crops of the future for Prairie farmers? How will warmer waters affect fish stocks in the Atlantic region?
Possible Sources:	potential Web-sites, encyclopedias, journals and other sources that can provide reliable information—a variety of formats
Audience:	class/teacher/community/other
Format of Presentation:	digital presentation, mini-documentary, photo-essay, research paper, oral presentation, talk show simulation
Evaluation Criteria:	teacher- and/or student-generated criteria to evaluate product AND process (including "learning to learn skills")

Project Planner

Selecting a Topic and Planning an Inquiry

What is my broad area of inquiry?

Narrowing the focus...

Some inquiry questions...

<p>Where can I find reliable information sources?</p>

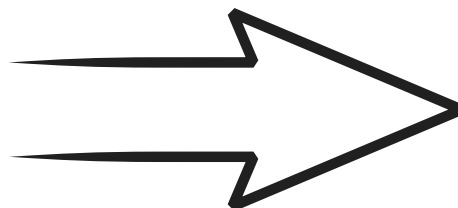
<p>Who will be the audience and what format will I make my presentation?</p>
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<p>How will I be evaluated on this inquiry project?</p>

What is my plan and schedule to accomplish this? Include checkpoints.

Start date

Completion date



Guided Practice

Retrieving Information

How do I go about retrieving information for my inquiry?

Searching for information can be a daunting job for even the most experienced of researchers. Stay organized and keep a record of your searches. You will likely need to find these sites again and you will need details for citing your sources. Start by planning out your search. You might assume that the World Wide Web is the best place to begin, but there are lots of alternative options to be explored. Online searches can be time-consuming and frustrating. Try out encyclopedias, texts, videos, periodicals and databases such as EBSCO, which are within reach at school, at home or in your local library. There are also community sources, such as government records or materials produced by community organizations. Don't forget to ask your teacher-librarian or teacher!

TIPS: Primary, Secondary, and Tertiary Sources in Geography

Primary sources are first-hand pieces of information such as soil and water samples, field notes, photographs, erosion reports, or eye-witness accounts of tornados, earthquakes, or other phenomenon. Secondary sources include all second-hand accounts or materials that have been interpreted by others—movies and books, encyclopedia articles, maps, charts, or diagrams prepared to interpret the primary information. Tertiary sources are often created to simplify information gathered or interpreted from secondary sources (which can often lead to errors or distortions). Tertiary sources may be confused sometimes with secondary sources which is why it is important to know the origin of the information. For example, if a map is created from a collection of other maps (secondary sources), there may be errors. Textbooks are often written using a multitude of secondary sources making them very susceptible to data errors in interpretation. Be a critical inquirer when it comes to sources.

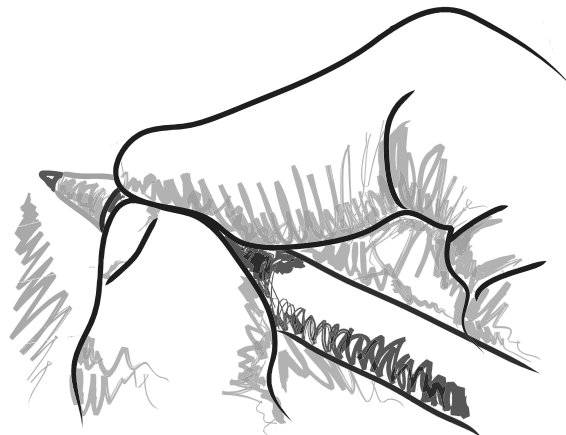
Guided Practice:

1. Make a checklist of all the sources where you might find information.
2. Keep detailed records of the sources you find that you intend to use. If a source is not a good match, discard the record to avoid confusion.
3. Look closely at the URL addresses of any websites that you may use—URLs hold clues to reliable sites or ones that may be biased. Enter “climate change” into a search engine such as GOOGLE and note the domain tags on the URLs (these are three-letter clues to the origin). For example, “.edu” refers to an educational organization/institution; “.org” refers to a (usually) non-profit or governmental organization; “.gov” refers to _____; and “.com” means the site is _____.
4. Scroll through the first 20-30 hits for “climate change” and see how many fit the four categories above: .edu ____; .gov ____; .org ____; .com ____.
5. Sign in to EBSCO and conduct a search for the same topic. Try using filters to see what sources might be suggested. To keep track of your search results, set up a folder system with key words from your search.

Project Planner

Retrieving Information from the Web

URL Note the domain tag and the country of origin: .ca- Canada; .uk - United Kingdom; .us - United States; .au - Australia, etc.	Author Is this an expert author or simply someone's personal view? Is there any information on the author at the end of the article or in other websites?	Audience Who is the intended audience of the article? For example, is it for educational purposes or intended to sell a product or a point of view?	Current Is the site current or dated? When was it last updated or how long has it existed?	Citation Is there a recommended way of citing material from the site?
Source #1				
Source #2				
Source #3				
Source #4				
Source #5				



Guided Practice

Retrieving Information

How do I know if it is a good source for my inquiry project?

While you may think that you will never find enough material to complete your project, it is often the complete opposite. Finding sources is one thing—finding **good** sources is a whole other thing. Just as it is important to know a bit about the author and the intended audience, it is essential that the information be relevant to your work.

TIPS: Citing Sources

Avoiding plagiarism can be tricky when you are selecting information. If you are using data, findings, arguments, or any other information from another person, you must give credit to the source. For example, if you are using statistics about climate change, or research results about the impact of climate change on Manitoba's polar bear population, you must cite the source. Common knowledge need not be cited (e.g., climate change will force us to adapt). If you are not sure, check with a teacher or teacher-librarian, or refer to a writing handbook for more guidelines.

Citing sources is done in two ways. The first is a reference to someone else's work that appears within the text of your writing—this is called an “in-text” citation. The second is a works cited page (also called a bibliography) at the end of your paper which lists all of the sources that you have used and referenced in your work. There are different “styles” of citing sources and it is best to check with your teacher and/or teacher-librarian to confirm which style you will be expected to follow. Since GEO421A is considered to be a social science, it will likely be the American Psychological Association (APA) style that you will use. Style guides and handbooks (either print or on-line) will help with the finer details of putting the information into the proper format. Depending on the source of the information (e.g., book, article, online database, encyclopedia) there may be differences in the formatting style. It is important to follow the format exactly and pay attention to detail.

The following is an example of how you would cite your textbook using APA style:

Works Cited or References:

Clark, B., & Wallace, J., & Earle, K. (2006). *Making connections: Canada's geography* (2nd ed.). Don Mills: Pearson.

In-Text Citations: (Consult a handbook or other guide for additional examples.)

1) Direct quotation:

Scientists now ask, “How might a long-term change in Earth's climate affect Canadians and people in other countries?” (Clark & Wallace & Earle, 2006, p. 491).

2) Author's name not given in text:

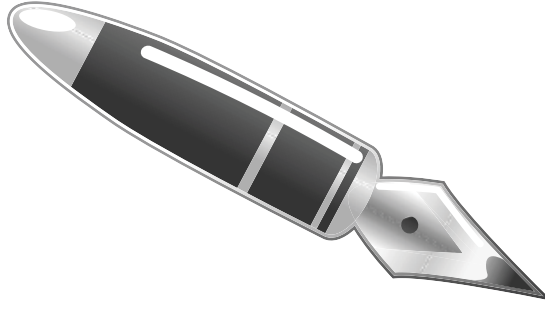
Some scientists believe that climate change is a result of natural changes in Earth, while others blame it on human activity. (Clark & Wallace & Earle, 2006), which can lead to heated debates.

Try citing a book or other information source in APA format using a style guide or website to help.

Project Planner

Retrieving Information (evaluating sources)

My topic: _____ Inquiry question: _____



Source: Designate as (P) Primary, (S) Secondary, or (T) Tertiary	Relevance Score 1-3	Reliability evidence	Timelines current/dated	Availability easy to find	Bias 1-3	Quantity

Guided Practice

Processing

Now what? How do I pull it all together?

By now, you have gathered numerous sources and quantities of information for your inquiry. You have done some weeding, sorted through materials, and already learned quite a bit. Now, it is time to finalize your focus and select the most pertinent information. You may find that you have shifted your focus a bit (or even a lot) as you came across new information or avenues of investigation. That is all part of the inquiry process, and shows that you are constantly evaluating and re-evaluating information. At this point, you may discover that you need to either narrow your focus more, or broaden it somewhat to capture what it is you want to find out about this topic.

TIPS: Note-Making

Being able to condense information and make good (not lengthy) notes are skills that will benefit you for a lifetime—but you need practice and patience. Some people like to use a note card system or some other means of organizing their information. Concept maps (see right) are a visual form of note-making and can be very detailed. There are several note-making frameworks that can help you to stay organized as you conduct your inquiry and again when it comes time to put all the pieces together into your own work. The main thing is that you stay organized and efficient.

Linear Note-Making

- shopping list style
- quick, traditional method
- may be more difficult to connect related concepts and ideas
- works well for “real-time” information such as a lecture, speech
- can get wordy, long
- works best in a framework

Non-linear or Pattern Note-Making

- strong visual information
- replicates how brain thinks
- easy to connect related concepts
- provides immediate overview
- can look “messy”
- may be more challenging to transfer to linear writing task

Guided Practice: Note-Making Frameworks

1. Select a source of information on a topic such as climate change, or a variation of the topic and create a note-making framework that will help you to condense the main ideas into manageable pieces. Don't forget to use strategies such as SQ3R (survey, question, read, recite, and review) to help sort out the information. Ask your teacher and/or teacher-librarian about this and other literacy strategies that can help you be efficient in your inquiry efforts.
2. Using your selected framework, try to reduce the quantity of information by at least half by using key words for main ideas and selecting the most pertinent supporting details or references.
3. Share with a partner to evaluate how well you have summarized your information.

Project Planner

Processing (note-making)

Note-Making Frameworks

Example 1

<p><u>Topics: Effects of global warming on Canada's Wildlife</u></p>
<p><u>Source: Encounter Canada: Land, People, Environment (Oxford 2007)</u></p>
<p><u>Examples, supporting ideas, key words</u></p> <ul style="list-style-type: none"><u>• many animals are starting to migrate toward Canada's north</u><u>• competition for food has increased due to wildlife migration</u><u>• northward migration contributes to new diseases amongst wildlife</u>

Example 2

Topic: _____

Source: _____

Recall Column

- key words
- headings
- sub-headings
- dates
- references
- questions or doubts
- ideas for further study

Notes Column

- central ideas that relate directly to content area
- main ideas (use abbreviations and brief phrases)
- brief descriptions or explanations
- direct quotes
- rough diagrams that link to key words in recall column

“One of the advantages of being disorderly is that one is constantly making exciting discoveries.”

A.A. Milne, author of Winnie the Pooh

Guided Practice

Creating

How do I go from data collection to product creation?

Now it really starts to get interesting! You are ready to transform all the factual data that you've collected and started to organize into a product of your own creation. Chances are you've already decided on (or have been given) a particular format for your product. This is where the planning part helps immensely. Think about what components of your research will fit best into the introduction, the main body, and the conclusion. Physically move your written notes around, or use sticky notes to help organize your thoughts. Seeing the information fit together visually is often beneficial. Look for any gaps or areas that may need a bit more attention.

TIPS: Graphic Organizers and End Product

Using graphic organizers is a good way to sort and organize information that will go into your final product. There are numerous versions of graphic organizers, and it's simply a matter of deciding which one will do the best job for you. For example, if you plan to create a digital slideshow, you might use a storyboard to figure out the sequence of slides and select information for each slide. If you are doing a visual display, such as a photo-essay, you might choose to practise with a concept map. An oral presentation or newscast simulation may work better if you use a sequence chart to plan the script or interview. There are many other possibilities for end products:

- brochure, pamphlet, poster, chart
- report, research paper, essay, editorial, letter
- panel discussion, debate, speech, oral presentation, song/lyric
- drama, movie script, video, digital presentation, Web-page, audio
- map, painting, scrapbook, collage, exhibition

Guided Practice

You are planning to do your project on some aspect of or specific issue about climate change. Decide the format for your end product by thinking about your interests and strengths, and what might be the most effective means of communicating the information that you have gathered and analysed. Which type(s) of graphic organizers will help you? A good way to get organized for these final steps is to use a visual or graphic so that you can see all the pieces and parts together—the big picture, so to speak.

Find three or four examples of visual/graphic organizers that you think might be helpful in organizing your ideas into a final product. Which one seems best suited to your project and learning style?

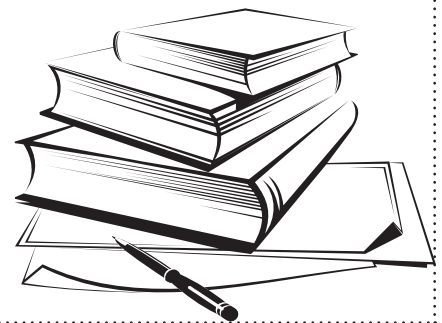
Project Planner

Creating

Checklist: Getting from data collection to end product.

- I have gathered sufficient data and kept records of my sources.
- I have analysed my data to ensure that it is relevant to my inquiry.
- I have used graphic organizers or some other system to help sort out my data and to analyse my findings.
- I have organized my data into an introduction, main body and conclusion.
- I know what I want to present as an end product, and how to get there.

Find examples of common graphic organizers online, or ask your teacher about some ideas for this. Select an effective graphic organizer and show how you would use it for your project.



Guided Practice

Sharing

How will I share my work?

Usually “sharing” work refers to an oral presentation of some sort—something that many people are uncomfortable doing in front of their peers. There are a few things that you can keep in mind to make a more effective presentation. It is not so important to include every written thought that you have put into your project—it is more effective and interesting to your audience if you summarize your findings and present the most important ideas discovered or conclusions reached during your inquiry. Body language is another important aspect of presenting. Try to keep eye contact with your audience as much as possible, and do not get fixated on one person or on one side of the room. Speak clearly and make sure you are not chewing gum!

TIPS: Rubrics

Rubrics are tools that help both students and teachers when it comes to big projects or small tasks. These are usually grids of three to five columns with descriptions of the criteria that are used to evaluate a task or a product. Obviously, it is most helpful to the presenter if he or she knows in advance which criteria will be used to evaluate the work and presentation. Students and teachers can create a rubric together at the beginning of a project or use a pre-existing one and adapt the criteria to fit. Rubrics do not have to be complicated, and can be designed to suit every circumstance—whether it is to evaluate part of the inquiry process, such as a group task, or an end product, such as a presentation or exhibit.

Guided Practice:

You are tasked with evaluating a poster product that has been created to raise awareness of the effects of global warming on Canada’s resource industries. With a partner, or in a small group, create an evaluation rubric that will measure the most significant features of the poster (message, clarity, visual appeal, accuracy of information, variety of sources). Use the template below to get started.

POSTER	Limited	Developing	Proficient	Advanced
References	provides fewer than 3 sources of relevant information, few or no citations	provides 4-6 sources of relevant information, limited variety, most citations accurate	provides 7-10 sources of information, varied, citations accurate	provides more than 10 sources, varied and relevant, all citations accurate
Visual Appeal				
Content/ Message				

Project Planner

Sharing

Use the following template to create a rubric for the end product that you have created to present your findings and conclusions. Add more rows if necessary, or make changes to the headings if you wish.

Product to be Evaluated	Limited	Developing	Proficient	Advanced
#1 Feature of product (e.g., clarity of message to viewers)				
#2 Feature of product				
#3 Feature of product				



Guided Practice

Evaluating

How do I self-evaluate and reflect on my work?

You have reached the finish line of your inquiry ... or have you? Not really, and that is because an inquiry process is cyclical rather than linear. It is all about thinking and then rethinking about the new information you have uncovered, putting it together with what you already know, and reaching new levels. Although you have learned a lot by the time you reach this stage, you have probably raised some new questions, too. Ask yourself about what you have learned, what more you would like to learn, and how you might proceed differently the next time. A good inquiry should lead to more inquiry!

TIPS: Self-Assessment

At this stage it is also important to think about how you learned as well as what you learned. If you worked independently, were you able to stay on task and meet the checkpoint deadlines? What were your strengths and weaknesses, and how can you work on improving some of these skills? If you worked in a group, what did you learn about how you work in that situation, or about the types of tasks that you like or dislike doing? How could you be more effective to the group? A project log is a good way to keep track of ideas and progress during a project and it allows you to reflect back on how far you have come from the launch of the project.

Guided Practice:

You have just completed a group project that involved researching and presenting information about climate change. Now it is time to think about how you contributed to the overall project. Fill in the following, according to how you think you would in a real-life situation (based upon your previous experience).

I contributed to the group project in the following ways:

1. _____
2. _____
3. _____

In this group, it was hard for me to _____

I can change this by _____

I could do the following to make the group more effective:

1. _____
2. _____

Project Planner

Evaluating (Reflecting)

End-of-Project Self-Assessment

Inquiry project topic:	During the project I completed a number of tasks including: • • •
As a result, I learned the following...	
Subject matter (name the three most important things you learned)	
Working in a group	
Following the inquiry process	
Presenting to an audience (sharing)	
Next time I would... (What would you have done differently next time or what new questions would have arisen from your inquiry?)	
How I like to learn	

SAMPLE RUBRIC for ASSESSMENT of INQUIRY PRODUCT

Assessment criteria for final product (bottom of grid) may be refined to reflect specific project formats (e.g., multimedia presentation, formal research paper, dramatization, visual presentation).

Inquiry Process Criteria		Exemplary	Proficient	Approaching Proficiency	Developing
Planning	Choosing topic, developing thesis, hypothesis, or driving question, and inquiry plan including presentation format and evaluation criteria	Independently explores a variety of topics and foci before deciding on a final selection. Develops a creative, original inquiry question or thesis statement. Inquiry plan is clear and detailed.	Demonstrates independence and critical thinking in selecting topic and narrowing focus. Completes inquiry plan including decisions around format and evaluation.	Requires minimal assistance in selection of topic and in focusing inquiry question. Completes plan and with assistance and is able to independently make most decisions regarding format and evaluation.	Requires significant guidance to select topic and to develop inquiry focus. Needs assistance to lay out plan and make decisions regarding format and evaluation criteria.
Retrieving	Locating and gathering sources, selecting relevant information, and evaluating for bias, validity and reliability	Independently locates a wide variety of sources, evaluates efficiently, and selects most relevant sources out of wide variety for use.	Locates a variety of sources on own. Minimal assistance required to evaluate source material. Uses most pertinent sources for inquiry.	Requires some assistance in locating sources. Variety of sources may be limited. Needs some assistance in evaluating source materials.	Requires significant assistance to locate sources. Selects only one type of source. Difficulty in evaluating source material.
Processing	Establishing a focus for inquiry, recording pertinent information, making connections and inferences, revising plan if necessary	Works independently and demonstrates analytical and high level critical thinking skills. Easily shifts direction if necessary and revises plan accordingly.	Demonstrates an average level of independence and critical thinking when analyzing information. Capable of revising inquiry plan if necessary.	Requires some guidance in recording, analyzing information and making connections. Hesitant to revise plan or unsure how to revise plan when obstacles occur.	Requires significant assistance in recording information, making connections, and in making inferences. Not sure how or when to edit or revise.
Creating	Organizing information, creating final product, editing and revising	Demonstrates high level of ability in organizing material and creating an innovative final product.	Demonstrates organizational ability and originality in clearly understood format and product. Edits and revises.	Requires moderate assistance in organizing new information into logical, engaging product Some editing and revising evident.	Requires significant assistance to organize information into new product. Edits are revisions are guided.
Sharing	Presenting new understandings, communicating with audience, demonstrating appropriate behaviour	Easily communicates new understandings using appropriate language and actions. Content knowledge is highly evident.	Demonstrates maturity, clarity of message, and content knowledge in sharing new understandings.	Mostly capable of communicating new understandings in a mature and focused manner. Practices appropriate behaviour.	Experiences difficulty in communicating new understandings or content knowledge. May not demonstrate appropriate actions.
Evaluating	Reflecting on process and product to gain new understanding of learning, transfer of new skills to other situations	Demonstrates high level of understanding of the metacognitive process and how learning transfers.	Uses reflection to critically evaluate learning process and understands how this will transfer to new situations.	Mostly uses reflection to understand how learning transpired and can see how these skills may be transferable to new situations.	Experiences difficulty in making connections between past learning and how this may apply or transfer to new situations.
Final product	Engaging topic, clear focus, original research or perspective-taking, innovative format, or efficient use of medium, meets goal of inquiry project	Product stands out as superior demonstrating high level of originality, creativity and critical thinking. Selected medium is innovative and engaging to audience.	Product reflects meaningful inquiry process. Evidence of new understandings is clear and focused. Use of medium is appropriate to communicating learning.	Product mostly reflects meaningful inquiry process and formation of new ideas. May need more creativity and originality in selection of medium and construction of product.	Product does not reflect meaningful inquiry process, or it is difficult to comprehend. Minimal evidence of creative or original thought in content or medium selection.