APPLIED SKILLS 11

Integrated Resource Package 1995

Province of
British Columbia
Ministry of
Education
Curriculum Branch

IRP 001

PREFACE: USING THIS INTEGRATED RESOURCE PACKAGE

APPLIED SKILLS 11 INTRODUCTION

CONTEXT

LEARNING RESOURCES

THE APPLIED SKILLS 11 CURRICULUM

APPENDICES

Implementation of Applied Skills 11 will begin in September 1995. This Integrated Resource Package (IRP) provides some of the basic information that teachers will require in order to implement the Applied Skills 11 course. A list of the sections of the document, along with a description of how that section can be used, follows:

- The *Introduction* describes the Applied Skills 11 course, including special features and requirements.
- The *Rationale* for Applied Skills 11 discusses "why this subject is taught in schools."
- The *Graduation Requirements* outlines the applied skills graduation requirement and answers questions regarding the alternatives for fulfilling the applied skills requirement in Grades 11 and 12.
- The *Curriculum Organizers* describe the Prescribed Learning Outcomes for the course. The organizers can be used to focus the planning of activities for any delivery of Applied Skills 11. It is important to ensure that all the curriculum organizers and outcomes are addressed in any delivery model of Applied Skills 11.
- The provincially *Prescribed Learning Outcomes* for this course are listed under their appropriate curriculum organizer.

The main body of the document consists of a series of integrated context tables that contain the following:

The Provincially Prescribed Learning Outcomes for Applied Skills 11

The learning outcome statements are the content standards for the provincial curriculum. They set out the knowledge, skills, and attitudes for the course. The learning outcomes are statements of what students are expected to know and do in Applied Skills 11; they also comprise the prescribed curriculum. Learning outcomes are clearly stated, expressed in measurable terms, and complete the stem, "It is expected that students will ..." Outcome statements have been written to enable teachers to use their experience and professional judgment in planning and evaluating. The outcomes are standards that will be useful to teachers for establishing benchmarks for criterion-referenced assessment of student performance. It is expected that student performance will vary in relation to outcomes. Evaluation, reporting, and student placement with respect to these outcomes is dependent on the professional judgment of teachers, guided by provincial policy.

Suggested Instructional Strategies

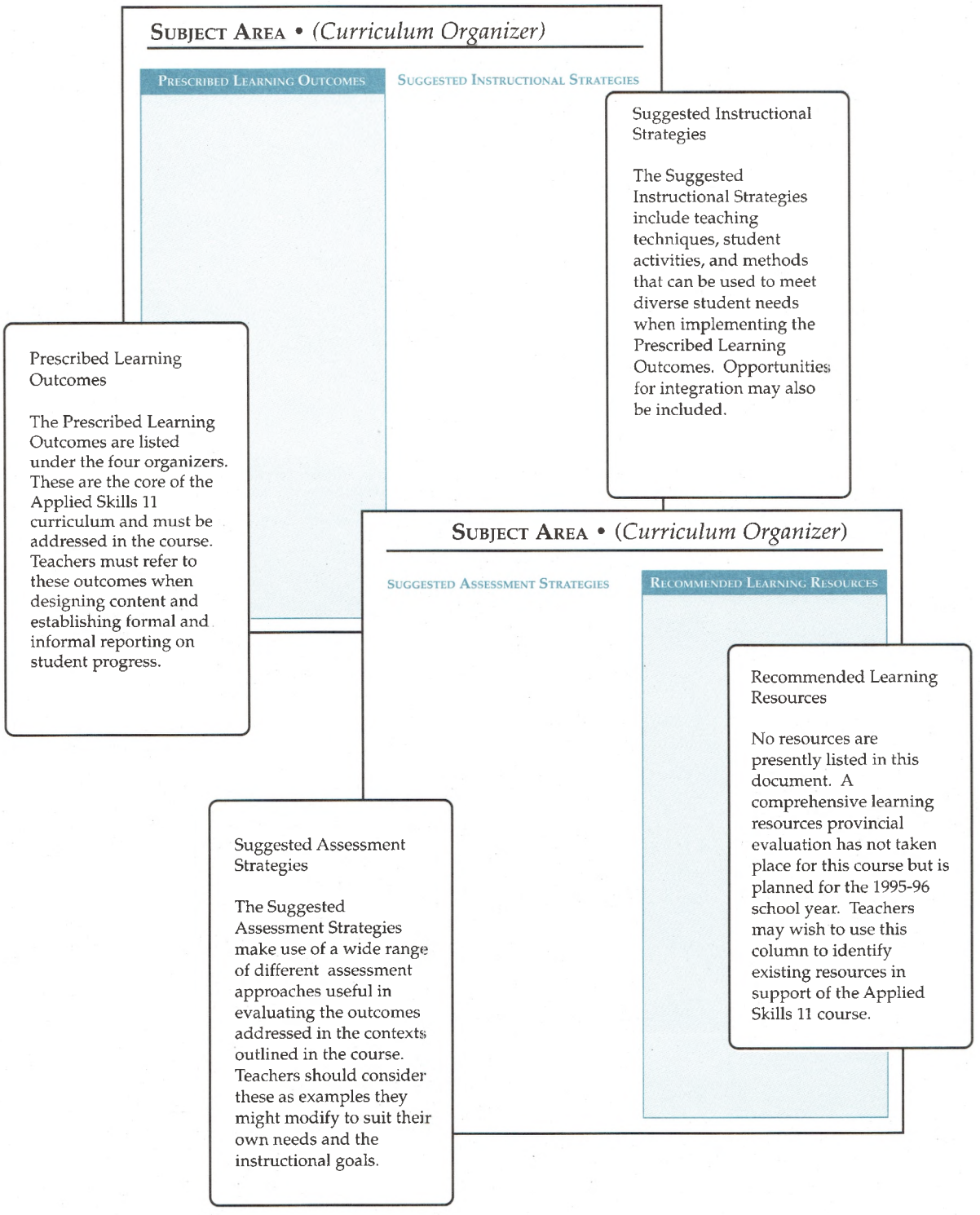
Instruction involves the selection of techniques, activities, and methods that can be used to meet diverse student needs and deliver the prescribed curriculum. Teachers are free to adapt and use the suggested instructional strategies or substitute others that they feel will enable their students to achieve the prescribed outcomes. These strategies have been developed by specialist and generalist teachers to assist their colleagues; they are suggestions only.

Suggested Assessment Strategies

The assessment strategies consist of a variety of ideas and methods to gather evidence of student performance. Some assessment strategies relate to specific activities; others are general and could apply to any activity. These strategies have also been developed by specialist and generalist teachers to assist their colleagues; they are suggestions only.

Provincially Recommended Learning Resources

No resources are presently listed in this document. As yet, a comprehensive provincial evaluation has not taken place for this course. A resources evaluation will take place during the 1995-96 school year. Many provincially recommended resources are available in each of the applied skills subjects and physical education. Any provincially Recommended or Authorized learning resource may be used for this course at the discretion of the teacher.


SUBJECT AREA • (Curriculum Organizer)
PRESCRIBED LEARNING OUTCOMES
SUGGESTED INSTRUCTIONAL STRATEGIES
Suggested Instructional Strategies
The Suggested Instructional Strategies include teaching techniques, student activities, and methods that can be used to meet diverse student needs when implementing the Prescribed Learning Outcomes. Opportunities for integration may also be included.
Prescribed Learning Outcomes
The Prescribed Learning Outcomes are listed under the four organizers. These are the core of the Applied Skills 11 curriculum and must be addressed in the course. Teachers must refer to these outcomes when designing content and establishing formal and informal reporting on student progress.
SUBJECT AREA • (Curriculum Organizer)
SUGGESTED ASSESSMENT STRATEGIES
RECOMMENDED LEARNING RESOURCES
Recommended Learning Resources
No resources are presently listed in this document. A comprehensive learning resources provincial evaluation has not taken place for this course but is planned for the 1995-96 school year. Teachers may wish to use this column to identify existing resources in support of the Applied Skills 11 course.
Suggested Assessment Strategies
The Suggested Assessment Strategies make use of a wide range of different assessment approaches useful in evaluating the outcomes addressed in the contexts outlined in the course. Teachers should consider these as examples they might modify to suit their own needs and the instructional goals.

To ensure that students receive a well-rounded education program, the new graduation requirements state that students must earn two credits in applied skills. The knowledge, skills, and attitudes developed in Applied Skills 11 are intended to help students develop an active, healthy lifestyle and to function effectively in a changing technological environment.

Applied Skills 11 is a two-credit provincial curriculum. It has been designed with participation and support from members of provincial specialist associations (Business Education, Home Economics, Technology Education, and Physical Education), the British Columbia Institute of Technology, the Technology Alliance of British Columbia, and the British Columbia Council for the Family. The course is an alternative to the currently available four-credit applied skills courses. This course is intended to focus on the relevant knowledge, skills, and attitudes shared by Business Education, Home Economics, Technology Education, and Physical Education. Applied Skills 11 should use technologies where appropriate in addressing one or more of the following: critical thinking and problem-solving skills (identifying, designing, testing, producing, evaluating); human needs such as food, shelter, clothing, and interpersonal relationships; applications from marketing, accounting, or office systems; and health and well being and their impact on lifestyles. This course can be implemented through the appropriate selection of existing curricula. This Integrated Resource Package (IRP) contains several examples of how this course may be implemented.

Graduation requirements

For more details, refer to Policy Circular No: 95-01 – Graduation Requirements

To satisfy the requirements for two credits of Applied Skills 11, students must select one of the following options:

1. An existing four-credit provincial course that meets the Applied Skills 11 requirement. Upon successful completion of the course, two credits are used by students to satisfy the Foundation Studies requirements, and two credits are used to satisfy the Selected Studies requirement.
2. A new Applied Skills 11 course (two credits) developed and offered by the school from existing curricula.
3. An approved four-credit provincial applied skills course that satisfies the requirement for both Fine Arts 11 and Applied Skills 11 by being restructured to ensure that it addresses the outcomes of both the Fine Arts 11 curriculum and the Applied Skills 11 curriculum.

Note: The learning outcomes listed in this document must be addressed if either option 2 or 3 is selected, or if two-credit courses are structured from existing provincial applied skills four-credit courses.

Rationale

Why Applied Skills 11 in B.C. Schools?

The aim of Applied Skills 11 is for students to apply knowledge, skills, and attitudes shared by Business Education, Home Economics, Technology Education, and Physical Education in meaningful contexts using problem-solving strategies.

British Columbia is moving from a resource-based economy to a knowledge-based

economy. Rapid and evolving technological changes are having an impact on our families, education system, workplace, community, and environment. We are challenged daily with the possibilities and pressures that rapid change brings. The skills required for living and working in our world continue to evolve.

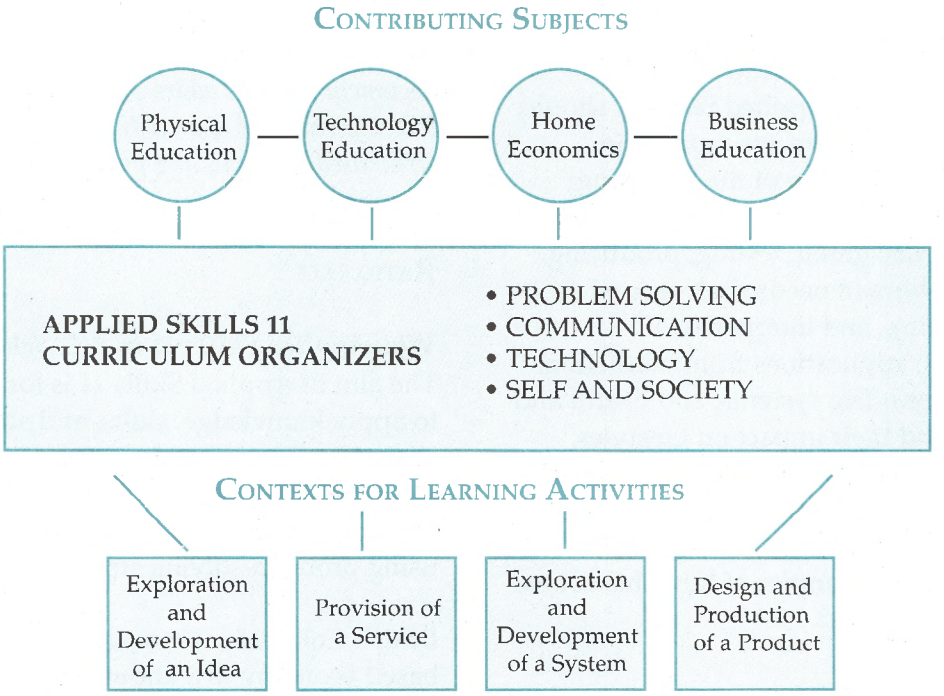
In Applied Skills 11, students are given opportunities to gain and practise the skills needed to enhance their ability to make personal and career choices. These opportunities allow students to develop critical thinking through problem-solving activities which have application in a variety of contexts.

Nature of Applied Skills

Changes in society have made it necessary to understand how theories and concepts can be applied in practice. Applied Skills 11 provides students with opportunities to focus on hands-on activities and problem solving in applied contexts. Through involvement in problem solving, the concepts, skills, and attitudes shared by Business Education, Home Economics, Technology Education, and Physical Education may be applied in a practical and meaningful way.

Curriculum Organizers

The Applied Skills 11 curriculum is defined by four curriculum organizers: Problem Solving, Communication, Technology, and Self and Society. These were derived from the knowledge, skills, and attitudes shared by Business Education, Home Economics, Technology Education, and Physical Education. Problem Solving, Communication, Technology, and Self and Society group the prescribed learning outcomes for the Applied Skills 11 course and provide a framework for organizing course content when a course is derived



from existing curricula. The learning outcomes state in measurable terms what students are expected to know and do. All learning outcomes complete the stem, "It is expected that students will." These outcomes should provide a basis for the development of learning activities, as well as a short description of each curriculum organizer and associated outcomes.

Problem Solving

Problem solving can occur in a variety of contexts, including designing and creating products or systems, providing services, and utilizing ideas. Problem solving occurs when students make choices and decisions; e.g., organizing a business, planning a program, designing a project, or understanding complex concepts.

Students should be provided with opportunities to work in problem-solving situations to develop critical thinking and to integrate the knowledge, skills, attitudes, and applications from the areas of Business Education, Home Economics, Technology Education, and Physical Education.

Learning Outcomes

It is expected that students will:

- use appropriate problem-solving models in the design of products, provision of services, development of systems, or utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate ideas, products, services, and systems.

Communication

Effective communication requires competence in reading, writing, speaking, listening, understanding non-verbal communication, and using electronically stored and transmitted communications.

Students should be provided with opportunities to seek and present information individually and with others.

Learning Outcomes

It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information-gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology

The effective use of appropriate technology provides students with opportunities to bring a technological perspective to practical problems and issues.

Students will develop and apply technological skills in managing their learning. Students should be provided with opportunities to explore ideas and gain practical experiences using appropriate technologies safely in a variety of applied contexts.

Learning Outcomes

It is expected that students will:
- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self and Society

Self and Society focuses on the development of individual and social responsibility. This curriculum organizer includes the fundamental principles of motivation and personal meaning, attitude and empowerment, and individual and group learning as they relate to lifestyle and career choices.

Students should be provided with opportunities to understand the impact of health, fitness, and safety on self and others, and to participate independently and interdependently in a productive environment.

Learning Outcomes

It is expected that students will:
- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

The Suggested Instructional Strategies have been guided by the principles of learning:
- learning requires the active participation of the student
- people learn in a variety of ways and at different rates
- learning is both an individual and a group process

The instructional activities suggested in the IRP include techniques, ideas, and methods that illustrate a variety of approaches useful in implementing the prescribed curriculum to a diverse population of students. The "strategies" place an emphasis on problem solving, critical thinking, individual and group processes, communication, and technological application. The instructional strategies suggest specific activities that are relevant to one or more prescribed learning outcomes. Further activities are provided in the extension section. The activities are intended to integrate the relevant knowledge, skills, and attitudes from Business Education, Home Economics, Technology Education, and Physical Education.

The "context" section of the Suggested Instructional Strategies describes the overriding focus or theme, relevant background information, and suggested time frame for the learning activities. The four contexts used as a framework for the learning activities are:

- Design and Production of a Product
- Provision of a Service
- Development of Systems
- Utlilization of Ideas

The following context charts are provided as on overview, including a brief description of the contexts, a summary of the activity focus, objectives, and suggested learning strategies.

CONTEXT: PRODUCT

The following activities integrate knowledge, skills, and attitudes from Business Education, Home Economics, Technology Education, and Physical Education. The focus is on the design and production of a **product.** A **product** may be an object, environment, program, or plan designed and created as a result of individual and group work. This context overview chart provides a summary of the activity focus, objectives, and suggested learning strategies.

ACTIVITY FOCUS	OBJECTIVES	STRATEGIES
Design and Production: A Functional Device	• to design and create a device that has utility • to apply problem-solving skills • to evaluate the utility of the device for a particular audience	• students work independently and/or with others, to research and design a prototype of a device • students build, test, and modify a protype • students present and evaluate their device
Design and Production: A Textile Product	• to explore the relationship between form and function while creating a textile product that addresses a specific need • to apply problem-solving skills • to apply the principles of art, design, and drawing	• students research characteristics of various textiles • students create original designs or modify existing designs • students practise construction techniques
Design and Production: A Healthy Living Program for Young Children	• to explore the relationship of nutrition and physical activity to health and well being • to understand the physical, emotional, and social characteristics of young children • to promote healthy eating habits and physical activity in young children	• students design and implement a plan of physical activity and nutritious snacks for young children • students create an advertisement or commercial aimed at young children to promote nutritious snacks and/or physical activity
Design and Production: An Individual Investment Portfolio	• to develop a personal investment portfolio as part of financial planning • to apply the concepts of economics, finance, and entrepreneurship	• students create a portfolio for an investment plan • students identify, research, and evaluate investment options such as GICs, bonds, and mutual funds • students use the "Rule of 72" to develop investment strategies

CONTEXT: PRODUCT

The following activities integrate knowledge, skills, and attitudes from Business Education, Home Economics, Technology Education, and Physical Education. The focus is on the design and production of a **product.** A **product** may be an object, environment, program, or plan created as a result of individual or group work. The context overview chart provides a summary of the activity focus, objectives, and suggested learning strategies.

ACTIVITY FOCUS	OBJECTIVES	STRATEGIES
Design and Production: A Nutrition and Exercise Program	• to identify how nutrition affects physical, mental, and emotional well being • to plan a nutrition and exercise program to meet personal needs and/or the needs of specific groups of people	• students research food habits and physical activity • students formulate activity and nutrition plans for self and others, e.g., diabetics, athletes, senior citizens • students research careers in fitness and nutrition areas

CONTEXT: SERVICE

The following activities integrate knowledge, skills and attitudes from Business Education, Home Economics, Technology Education, and Physical Education. The focus is on providing a **service**. A **service** involves an individual or group providing something useful or necessary to others. Providing a service is an ideal way for students to apply their learning. Some service applications suggested in this section include SuperHost, FoodSafe, first aid, coaching, and leadership. This context overview chart provides a summary of the activity focus, objectives, and suggested learning strategies.

ACTIVITY FOCUS	OBJECTIVES	STRATEGIES
Provision of Services: Using Certification or Equivalent	• to deliver a service using appropriate marketing strategies to a school or community group • to apply problem-solving and communication skills • to explore available communication technology • to develop methods to evaluate the delivery of the service	• students create a portfolio which includes a business plan for delivering a service • students practise presentation skills and self and peer evaluate the quality of the service • students research and develop methods to gather information from their clients about the quality of the service and record their reflections in the portfolio
Provision of Services: Training Others	• to develop the ability to communicate the knowledge, skills, and attitudes to train others in a particular service • to develop assessment tools to evaluate training sessions • to use available communication technology for presentations	• students train others in an area of competence or prior certification • students select an instructional design, assessment methods, and appropriate communication tools to use in presentations • students summarize and analyse results and feedback and prepare a written reflection with strengths and recommendations

CONTEXT: SYSTEM

The following activities integrate knowledge, skills, and attitudes from Business Education, Home Economics, Technology Education, and Physical Education. The focus is on exploration and development of a **system.** A **system** is considered to be a set of objects, processes, activities, principles, or rules that perform a function or show a plan. This context overview chart provides a summary of the activity focus, objectives, and suggested learning strategies.

ACTIVITY FOCUS	OBJECTIVES	STRATEGIES
Exploration of a System: The Internet	• to access information through electronic media • to apply problem-solving and critical thinking skills in a high-tech information environment • to identify and evaluate the impact of technology on the way information is gathered, and problems are solved	• students review or are introduced to basic computer skills and methods of connecting to remote access or commercial service provider (i.e., CLN, Schoolnet) • students develop a problem, access a service provider, conduct an electronic information search, download and print information
Exploration of a System: Management	• to analyse and evaluate different management systems • to practise business communication, organization of the workplace, coping skills, and protocol in managerial situations	• students research different management systems and list the responsiblities and qualities of a good manager • students practise skills using simulations • students outline and defend a management system for a selected work environment
Exploration of a System: Marketing	• to use creative thinking and problem solving to market a product, program, or idea • to develop a marketing plan • to present and evaluate a marketing plan • to implement a marketing plan where appropriate	• students select a product, program, or idea to market • students conduct market research, and develop a marketing plan • students present the plan and evaluate its success

CONTEXT: SYSTEM

The following activities integrate knowledge, skills, and attitudes from Business Education, Home Economics, Technology Education, and Physical Education. The focus is on exploration and development of a **system.** A **system** is considered to be a set of objects, processes, activities, principles, or rules that perform a function or show a plan. This context overview chart provides a summary of the activity focus, objectives, and suggested learning strategies.

ACTIVITY FOCUS	OBJECTIVES	STRATEGIES
Exploration of a System: Stress Management	• to recognize stress and its impact on one's life • to develop personal stress management strategies	• students conduct lifestyle inventories to determine the nature of the stress in their environment • students examine case studies and use role-play to identify stress causers and practise stress management strategies • students develop a personal stress management plan

CONTEXT: IDEA

The following activities integrate knowledge, skills, and attitudes from Business Education, Home Economics, Technology Education, and Physical Education. The focus is on exploration and development of **ideas**. An **idea** is a concept or opinion that is formed as a result of intellectual actions such as understanding, thinking, reasoning, and imagining. Students can demonstrate their understanding of ideas through their actions when they apply concepts/ideas in a practical setting. This context overview chart provides a summary of the activity focus, objectives, and suggested learning strategies.

ACTIVITY FOCUS	OBJECTIVES	STRATEGIES
Exploration of an Idea: Gender Equity	• to examine interactions in their environments for gender bias • to analyse the effects of gender bias on self-esteem, achievement, economics, and other opportunities	• students analyse their environments and activities at home, work, and school for gender bias • students identify discriminating behaviors, attitudes, policies, and procedures related to gender equity • students in work teams create plans for making environments more gender equitable
Exploration of an Idea: Safety in Environmental Pursuits	• to identify safety/survival skills needed to participate safely in environmental pursuits • to create a survival/safety plan for a selected activity	• students identify risk factors associated with a variety of environmental pursuits • students create a safety/survival plan for a selected activity in the environment • students work in groups to evaluate their safety and survival plans
Exploration of an Idea: Entrepreneurship	• to identify the qualities of a successful entrepreneur • to evaluate one's potential as an entrepreneur • to understand what is meant by entrepreneurial activity	• students create a list of skills and qualities of successful entrepreneurs • students conduct a self-evaluation with reference to characteristics of successful entrepreneurs • students organize a group entrepreneurial venture

Definition of Learning Resources

Learning resources are defined as information, represented and stored in a variety of media and formats, that assists student learning as defined by provincial or local curricula. This includes but is not limited to, materials in print, video, and software formats, as well as combinations of these formats intended for use by teachers and students.

Rationale for Learning Resource Evaluation

The Ministry promotes the establishment of a resource-rich learning environment through the selection of a wide variety of educationally appropriate materials to meet the needs of all learners and to satisfy various teaching styles. Resources are selected to support provincial programs and curricula through an evaluation process carried out using an "expert" model, that is, using practising master teachers as evaluators. It is expected that teachers will select resources chosen from those items that meet the selected criteria and that suit their particular pedagogical needs and audiences.

All usage of materials involves the teacher as mediator and facilitator of learning. However, students may be expected to have some choice in materials for specific purposes such as independent reading or research. It is expected that multiple resources will be utilized to support learning outcomes at any particular level. A multimedia approach integrating materials from different packages and media is encouraged.

A number of selected resources support cross-curricular integration by enabling various approaches to content or the inclusion of a variety of different types of content. The Ministry includes special needs audiences in the evaluation and annotation of learning resources. As well, special format versions of some selected resources (Braille and taped-book formats) are available.

Status of Learning Resources

Learning resources fall into one of three categories:

Recommended Materials

Materials evaluated through a formal evaluation process, approved through Minister's Order, and purchased using targeted learning resource funds. These resources are listed in the print and CD-ROM versions of the *Catalogue of Learning Resources.*

Authorized Materials

Materials selected prior to 1989 by curriculum committees and purchased through the Credit Allocation Plan. These resources are listed in the print and CD-ROM versions of the *Catalogue of Learning Resources.*

Locally Selected Materials

Materials evaluated through local (district/school) evaluation processes and approved for use according to district policy.

All learning resources used in schools must either have Recommended or Authorized designation or be approved through district evaluation and approval policies.

Appendix B of this Integrated Resource Package (IRP) includes a list of resource titles relevant for each subject area and an abbreviated description to clarify the main function of each resource. Items are organized by curriculum organizer followed by grade for ease of use.

More detailed descriptions of each resource are available in annotation sets regularly distributed by the Ministry of Education. These annotations, which will supplement the IRP information, are detailed descriptions of learning resources, including grade levels, lists of components, teaching comments and cautions, ordering information, and other details.

Resources often have application to more than one curricular or topic area. Obvious connections are identified in annotations, but teachers will make many more connections as they work with materials in the spirit of integration. The index in annotation documents help teachers organize materials by topic and cateogory.

Local Resource Evaluation

As previously indicated, districts that choose to evaluate materials locally for school use must have in place a district evaluation policy in accordance with section 182 (2) (e) of the *School Act* as outlined in Minister's Order #143. Users at the local level may select provincially Authorized or Recommended resources, or they may choose resources that are not on the Ministry's list. There is also the option to develop materials at the local level to support provincial or locally developed curricula.

Resource Selection

Currently, all Authorized or Recommended materials are listed in the *Catalogue of Learning Resources*, published periodically by the Ministry. The same information is available in a CD-ROM catalogue, which also includes an efficient search capability. This enables the rapid identification of resources that meet particular users' needs. Although the main purpose is to help teachers select classroom resources, it can also be useful for the ordering and management of resources. Both English and French discs are available in both Macintosh or MS-DOS format.

The flexiblity of selecting appropriate contexts for students makes determining specific learning resources at the provincial level difficult. However, many resources have been approved through past calls for resources for each of the applied skills subjects and Physical Education. In addition, some of the K to 10 materials reviewed in the spring may also be considered by teachers.

Teachers are reminded that all Recommended and Authorized learning resources may be used at the discretion of the teachers. A keyword search in the CD-ROM version of the *Catalogue of Learning Resources* can be used to find relevant resources.

A number of resources were suggested by the IRP development committee. Learning Resources Branch will have these suggested resources evaluated. Lists of the Recommended resources will be circulated to schools and will be added to the *Catalogue of Learning Resources*. As grade 11 and 12 courses for the applied skills subjects and physical education are developed in the future, there will be additional calls for resources. Teachers will be advised as soon as the selection has received Minister's Order.

The Applied Skills 11 Curriculum

Context: Product

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Designing and producing a device that can be used by others, allows students to engage in problem solving and develop critical thinking. This activity provides opportunities for students to apply their learning in a variety of ways. Students may choose to produce a functional device such as:

- an assistive device for persons with disabilities
- a gadget for the kitchen
- a safety product for home or shop
- a software program
- a T-shirt with logo for a team or an event

Suggested Time Frame: 10 - 25 hours

Strategies
Have students:

- review or introduce safety procedures, proper use of tools, machine operations, use of materials, and production procedures through teacher and peer demonstration
- establish a general problem statement that identifies the need (e.g., to design an eating utensil for a person with a disability)
- develop a design brief—a one-line statement of exactly what is to be designed (e.g., design and make a spoon for a person with crippling arthritis of the hands)
- conduct research on existing solutions to the problem
- collect information and/or samples, and place in an activity journal for reference
- develop design ideas (by sketching, drafting, CADD)
- present a plan to peers for input/suggestions
- refine plan as necessary
- assess appropriate production materials, construction needs, and techniques
- build a prototype
- produce a device that incorporates design changes
- present product to audience using appropriate multimedia technology
- be prepared to justify the solution and approach

Extensions

- Home Economics: textiles/materials; product could be a food container
- Physical Education: human motion (ergonomics, kinesiology)(product could have a recreational application or be appropriate to needs of persons with disabilities attending school)
- Business Education: entrepreneurship, marketing strategies

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Activity journal
- Peer assessment
- Self-assessment
- Checklist

Examples of Criteria

- Activity journal
  - records ideas, research, development, and production
  - demonstrates sequential development of ideas, uses a problem-solving model
  - includes reflective notes on ideas/concepts initially developed
- Assessment of safety procedures and conduct
  - safety demonstration by students
  - safety test (written and/or oral)
- Communication/presentation
  - clarity of message
  - skill in presentation
  - effective use of communication technologies
  - audience rapport
  - emphasis of key points
- Product assessment
  - complexity of manufacturing methods used
  - craftsmanship (quality of manufacturing)
  - suitability (does the device meet the requirements established in the design brief?)
- Peer assessment
  - idea development, product quality, product suitability, presentation of product
- Self-assessment
  - personal reflections on idea development, manufacturing process chosen, product quality, product suitability, presentation of product
- Evaluation by intended user

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:
- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:
- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:
- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:
- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context
Students demonstrate their understanding of the relationship between form and function by using appropriate design and production techniques to create textile products that address a specific need or activity. Examples include textile products that **address** a physical limitation, **protect** from the environment, **express** a culture or identity, or products that **protect** from injury. The products could be functional (carrying equipment or a household item), leisure-wear items (a swimsuit or tennis outfit), provide protection from the environment (clothing or headgear) or from injury (knee pads or a mask).
Suggested Time Frame: 25 - 40 hours

Strategies
Have students:
- research and investigate specific requirements for a need or activity, a physical limitation, protection in sports, or protection from natural elements
- research and investigate properties of various textile materials
- research existing designs through catalogues, field trips to specialty stores, computer software, commercial patterns for design, or construction guides
- research appropriate production and construction techniques
- develop ideas and transfer into print form
- produce a design for a prototype
- produce instructions for the creation of a prototype
- analyse and evaluate the design in terms of functional and aesthetic appeal
- create a sample using available and appropriate resources considering time, materials, and tools
- present the design or product and defend the design and its elements in terms of the objective
- evaluate the design or product and make revisions where necessary

Extensions
- Physical Education: physical movement, ergonomics
- Business Education: marketing strategies (see pages 20 and 21 for marketing), business plan, sale of the product produced
- Technology Education: design technology (by sketching, drafting, CADD)

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Activities journal
- Statement of design objectives
- Checklist of design steps
- Checklist of production steps
- Checklist of design standards
- Checklist of scale of production standards
- Rating (peer or consumer) of a product
- Portfolio
- Objective test
- Rating scale
- Written justification of design, material selection

Examples of Criteria

- Activity journal
  - completeness
  - sequential development
  - reflective notes

- Peer or consumer assessment
  - design
  - texture
  - cost
  - utility
  - visual appearance

- Portfolio
  - photographs of completed project
  - collection of design(s) and material(s)
  - instruction sheet

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Healthy living habits contribute to the development of self-esteem and positive body image. Nutrition and physical activity are the basis of healthy living. By identifying suitable activities that encourage young children to be physically active and nutritional foods that have snack appeal, students will come to understand the physical, emotional, and social characteristics of young children.

Suggested Time Frame: 20 - 30 hours

Strategies
Have students:

- research physical/social/emotional development of young children through interviews, observation, and use of appropriate resource materials
- observe and record activity schedules and existing programs available to young children in a school, day-care, or other setting
- analyse appropriateness of activities and associated safety aspects
- design an activity program for young children
- identify opportunities to implement approved activity plan; seek approval for any implementation
- evaluate an activity plan by interviewing or surveying children, parents, and staff
- present (text, pictures, video, computer simulation) activity program to peers
- conduct a survey to identify favorite snacks of young children
- observe the eating habits and dietary patterns of young children
- research the elements of good advertising to market a nutritional snack or one that needs to be made more appealing (see pages 20 and 21 for marketing)
- create an ad/jingle/poster/video to promote snack and/or healthy eating habits and/or physical activity
- present an ad/jingle/poster/video to young children and evaluate responses

Extensions

- Physical Education: physical movement, active living
- Business Education: day-care operation, advertising strategies and techniques
- Technology Education: tools, materials, and technology development for activities

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Presentation to class
  - teacher observation
  - peer evaluation
- Portfolios
- Journal/log
  - record of observations (eating habits)
- Test (theory development)
  - written
  - oral
  - conferencing
- Demonstration

Examples of Criteria

- Program for young children
  - variety
  - safety considerations
  - suitability to age group
  - creativity
  - clarity of rules/instructions
  - inclusion of resource lists
  - ease of implementation
  - fun and enjoyable
  - knowledge of physical, social, and emotional characteristics of young children

- Presentation of ad/jingle/poster/video
  - quality or appeal
  - elements of good advertising
  - completion of response survey
  - analysis of results
  - use of media and appropriate technologies

- Communication/presentation
  - clarity of message
  - skill in presentation
  - effective use of communication technology
  - response to questions
  - audience evaluation

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Students work on a project to develop a personal investment portfolio that they can present and defend to their peers. These activities provide opportunities to plan a financial future, to view and evaluate different investments like GICs, bonds, or mutual funds, and to realize the impact of compound interest over time. Students develop an understanding of the concepts of economics, finance, and entrepreneurship.

Suggested Time Frame: 10 - 20 hours

Strategies
Have students:

- prepare an investment portfolio that will include an investment strategy and rationale
- research, review, compare, and evaluate different tyes of investments
- invite guest speakers from the financial community
- research interest rates and the age at which to begin an investment
- determine fixed-rate level of financial contribution
- determine realistic variable-rate of financial contribution
- utilize compound interest formulas to project yearly gains and gains over time
- use the "Rule of 72" as a measure of doubling investments for developing investment plans
- use a calculator/computer to solve compound interest problems
- compute the difference in yield between fixed contributions begun at different ages and held to retirement age
- compare strategies to acquire one-quarter million dollars by a fixed age (e.g., age 55, 60, 65)
- present and evaluate investment portfolio

Extensions

- Technology Education: Internet links to financial markets; technology investment funds
- Home Economics: work and careers; family management; cultures/lifestyles (single vs. multiple incomes in family)
- Physical Education: active living; early retirement; personal and social responsibility

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Checklist for creating a portfolio of investments
- Written sequence of mathematical computations using a calculator
- Presentation to class
  - teacher observation
  - peer assessment
- Investment conference

Examples of Criteria

- Investment portfolio
  - thoroughness/completeness
  - strategies utilized
  - accuracy
  - nature of investments (conservative/risky)

- Presentation to a financial manager
  - articulation
  - knowledge of subject matter
  - appropriate use of media
  - audience rapport or evaluation
  - ability to answer questions

- Use of multimedia and print in presentation
  - number and mix of methods used
  - quality
  - selection and balance of appropriate media
  - impact (visual)
  - did the methods enhance the message or detract from it

- Assess longitudinal measurement of self-esteem
  - benchmarking
  - measuring change

- Investment conference

  An adult investor rates the student's work for:
  - how clearly the strategy is presented
  - the risk factors undertaken
  - completeness
  - balance of approaches
  - potential outcomes

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving

It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication

It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology

It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society

It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Nutrition and exercise contribute to the development of self-esteem and a healthy lifestyle. Students examine the role of food and nutrients in exercise, and design a nutrition and exercise program for themselves or a specific group of people, e.g., seniors, athletes, or diabetics. This activity can provide students with an experience related to careers such as nutritionist or sport/fitness consultant.

Suggested Time Frame: 5 - 20 hours

Strategies

Have students:

- record daily food intake and physical activity for one or two weeks
- analyse physical activities in terms of caloric expenditures, cardiovascular endurance, muscle strength/endurance, and muscle flexibility
- analyse food intake in terms of caloric intake, nutrient composition (% protein, % fat, % carbohydrates), types of fats and carbohydrates
- analyse food intake using the Guide to Healthy Eating (Canada Food Guide) to determine appropriate modifications
- research, discuss, and debate issues related to poor nutritional habits and good health (e.g., eating disorders, fad diets, weight loss programs, controversies around dietary fat, protein, and calcium)
- develop and conduct experiments to test the effects of prior consumption on various physical activities
- survey school or community group(s) to study their food habits and physical performance level
- solicit interested school or community groups to participate in an experimental study
- invite guest speakers from the health, athletic, and medical professions to address the role of nutrition in exercise
- design and assess a personal plan for themselves or others which addresses specific nutritional and activity needs
- explore and use tools (computer software, tables, charts) to record, maintain, update, and share their personal plans
- record and analyse for nutritional validity, cost, practicality, and effect on weight and self-esteem

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Activity journal/log
- Lab report of experiments
- Report and analysis of a survey
- Research paper on fad diets or fitness programs

Examples of Criteria

- Journal/log
  - completeness
  - sequential development
  - clarity
  - reflective notes
- Report of the experiment
  - control elements
  - foods selected are in a specific category (i.e., variables can be isolated)
  - experiment is designed to eliminate extraneous variables
  - subjects are bias-free/objective
  - observations and data are complete and accurate
- Presentation of survey results
  - selection of spreadsheets, tables, and graphs
  - clarity
  - impact of message
  - completeness
- Research paper
  - resources used
  - clarity
  - completeness
  - organization
  - impact

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

Context: Service

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:
- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:
- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:
- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:
- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context
Students determine background knowledge, skills, and attitudes that may provide a service to the community. Examples are:
- First Aid: Red Cross/St. John Ambulance; Sports Aider (sports injuries); cardiopulmonary resuscitation (CPR)
- Coaching: National Coaching Certificate Program (NCPP)
- Officiating
- Leadership: Canadian Intramural and Recreation Association (CIRA); fitness instructor; aquatics (lifeguard, small craft safety, boating, etc.); entry-level management

Suggested Time Frame: 15 - 60 hours (depending on the scope and depth of the project)

Strategies
Have students:
- create a personal porfolio
- review requirements to achieve certification
- develop a plan to deliver the service that considers audience, resources, advertising, assessment tools/evaluation, instruction
- identify the intended clients by surveying, advertising, and/or marketing the service they can offer, i.e., coaching a team in the school, managing the fund-raising activities for the student council, or providing fitness classes before or after school (see pages 20 and 21 for marketing)
- discuss resources needed to deliver the service (cost, facilities, equipment, etc.)
- outline how the service will be delivered and practise presentation skills (videotape - peer evaluation)
- maintain a journal and/or log outlining experiences, strengths, concerns, recommendations
- present results to class using available communication technology
- develop a method to survey clients about the quality of service they received
- evaluate plan and include a written reflection in a portfolio

Extensions
- Business Education: business communications, marketing plans, entrepreneurship
- Technology Education: using tools, equipment, materials, and appropriate technology required for delivery of service

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Checklist of business plan
- Journal/portfolio assessment
- Peer evaluation
- Videotaped final presentation

Examples of Criteria

- Business plan
  - checklist for completeness
  - clarity
  - evidence of organization
  - impact

- Activity plan
  - practicality/appropriateness
  - thoroughness
  - clarity
  - addresses safety issues directly

- Presentation skills
  - skill in presentation
  - technical considerations/graphics
  - use of graphics
  - sequencing
  - effective use of the technology

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:
- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:
- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:
- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:
- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context
This assignment requires students to train others using certification they have acquired in programs, such as National Coaching Certificate Program, SuperHost, FoodSafe, First Aid, Leadership Training, or WCB. The focus is on effective presentation techniques to ensure that others acquire the necessary information and apply it appropriately.

Suggested Time Frame: 15 - 25 hours

Strategies
Have students:
- review essential aspects of their certification program
- research, select, and develop instructional materials appropriate for presenting selected information and for modelling skills to be taught
- use multimedia and technologies to prepare materials for presentation(s), i.e., audio-visual aids, posters, overheads, video, computer software
- create plans for the presentation(s)
- select instructional design suited for the topic selected
- practise presentation(s)
- develop assessment tools to use in conjunction with the presentation(s)
- use peer, self, and/or teacher evaluations to reflect upon and assess the training session(s)
- summarize and analyse results of videotaped training sessions
- provide a written reflection of strengths and recommendations for improvement

Extensions
- peer mediation or tutoring techniques
- music or musical instruction
- clay or pottery skills
- negotiating strategies
- debate of rules of order

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Videotape of presentation
- Group assessment of presentation
- Observations
- Self evaluation
- Journal/portfolio assessment

Examples of Criteria

- Instructional design
  - clarity
  - coherence
  - thoroughness
  - appropriate modification of instructional materials
  - appropriate for audience
  - appropriate for instructional style

- Presentation skills
  - effective use of communication
  - quality, selection of media
  - visual impact
  - audience response

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

CONTEXT: SYSTEMS

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Students learn how to electronically access information in databases and to use data transfer technology within local area networks (LAN) and wide area networks (WAN) (e.g., Internet). They develop a problem requiring information access, conduct an information search, and incorporate information gathered into an existing project/ assignment.

Suggested Time Frame: 5 - 20 hours

Strategies
Have students:

- review and/or acquire basic computer skills
- identify a problem that requires information
- outline the steps for signing onto the Internet via free provider or commercial service provider
- download and print information
- use electronic mail (e-mail) to leave a message
- use file transfer protocol (FTP) to transfer a file from a Gopher site
- use a Mosaic browser to locate information on the World Wide Web (WWW)
- compare the information found on the Internet with that available in school or a local library
- use Internet skills to gather information for others
- facilitate a presentation about obtaining information on the Internet, e.g., to an elementary class, another class or school group, a community group
- select a topic to research, and use skills to access appropriate information

Extensions

Some examples of information search are:

- FTP to a Physical Education Gopher
- FTP to a Home Economics Gopher
- FTP to a Technology Education Gopher
- talk to a Scientist
- Internet across the curriculum
- use World Wide Web (WWW) to obtain a picture from the National Gallery or the Louvre
- use WWW to access a midi file
- use WWW to access KidTalk for children's art

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Portfolio of Internet activities
- Log of Internet connections
- List steps in making Internet connections
- Download appropriate information and print
- Flowchart of pathways on the Internet
- Develop an Internet dictionary

Examples of Criteria

- Internet portfolio
  - clarity
  - completeness
  - organizing strategy
  - accuracy
  - reflective notes and ideas

- Flow chart or schematic
  - clarity
  - visual impact
  - accuracy/completeness
  - utility as an explanatory device

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Young people are increasingly called upon to undertake management and supervisory roles in fast food, retail, tourism, and event marketing. They require information and skills in hiring, compensation, team building, evaluation, termination, and maintenance of work environments. In this activity students will develop an understanding of management systems and demonstrate this in simulations.

Suggested Time Frame: 15 - 30 hours

Strategies
Have students:

- research different management systems
- interview managers and list the advantages and disadvantages of different management systems
- research the responsibilities and qualities of a good manager
- invite guest speakers to talk about their management roles
- discuss hiring procedures, interviewing, employment equity standards, and salaries
- practise interviewing skills in small groups and make videotapes for analysis
- discuss teambuilding, communicating on the job, motivation strategies, leadership
- review evaluation procedures and associated standards used by different businesses, by professionals such as teachers or lawyers, or by trades training boards
- discuss causes and procedures for termination: progressive discipline, corrective action, severence pay
- brainstorm ways to create a safe and healthy work environment
- outline and defend a management system for a selected work environment
- conduct a simulation of an interview for hiring, employee evaluation, or terminating an employee

Extensions

- personal and social responsibility: coaching, refereeing, sponsoring sports days, sponsoring tournaments, sponsoring activities, employing group dynamics
- attitudes towards safe work and personal health, developing communication skills on the job

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Simulation
- Essay
- Videotape
- Peer evaluation
- Journal

Examples of Criteria

- Presentation skills
  - effective use of communication
  - quality, selection of media
  - visual impact
  - audience impact

- Management systems
  - recognizes interconnections between/among components of a management system
  - understands basic management concepts, e.g., employment equity, contract, progressive discipline
  - understands personality and character traits important in managing
  - demonstrates understanding and sensitivity in simulation

- System design
  - clarity
  - completeness
  - utility
  - use of media/appropriate aids

- Leadership style
  - select an assessment instrument
  - administer
  - score in accordance with handbook or manual
  - interpret results
  - compare

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving

It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication

It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology

It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society

It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

In this activity, students use creative thinking and problem solving to market a product, program, or idea. Examples might include a computer program, a new fashion item, a cultural item, an aboriginal design, a fad item like a "pet-rock," a fitness program, or other imaginative venture. By determining a target audience and test marketing, students gain a practical understanding of communication, economic principles, and entrepreneurship.

Suggested Time Frame: 15 - 30 hours

Strategies

Have students:

- research marketing techniques
- select a product, program, or idea to market, individually or in groups
- conduct market research by identifying need, interest groups, client, competition, limitations, trends
- research existing products or programs
- develop a marketing plan that incorporates production and labour costs, operating budget, and advertising costs
- conduct individual and group evaluation of potential products, programs, or ideas
- test mIt is expected that students will :arket the product, program, or idea
- determine target audience
- determine pricing (if applicable)
- establish advertising budget
- research location to market items
- evaluate success of marketing plan

Extensions

- market a textile product from a Home Economics class
- market a fitness or lifestyle product
- market an item produced in the technology centre at the school

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Group presentation
- Activity/journal log
- Written test
- Checklist for developing an advertising strategy

Examples of Criteria

- Market research checklist (use standard textbook checklist)
  - population and age
  - availability
  - competition
- Group presentation
  - variety of media
  - use of visuals
  - clarity
  - effective use of communications technology
  - audience impact
- Activity journal/log
  Complete documentation of
  - process
  - problems
  - possible resolutions

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

To recognize stress and its impact, students will develop a system for identifying stress in their lives. Students will learn to identify "stressors" in their environment, and acquire the skills to manage stress in their own lives.

Suggested Time Frame: 10 - 20 hours

Strategies
Have students:

- use case studies to identify stress causes and list possible strategies to manage stress
- define stress and the "stress causers" in their own lives, and record these in a journal
- discuss ways to minimize (if not prevent) stress, or relieve stress
- make a list and identify factors which may inhibit stress relief
- list the community resources available to minimize (prevent) and/or to relieve stress
- role-play scenarios and practise stress management strategies
- practise conflict resolution techniques in simulations
- keep a log and/or journal with a list of daily activities, food consumed, and time spent, e.g., homework, piano lessons, playing sports
- identify any conflicts or causes of stressful feelings after reviewing journal entries
- research current literature on stress management systems (use technologies when appropriate)
- analyse stress management systems and identify strategies that will meet personal needs
- develop a personal stress management plan (share in small groups)
- research literature on stress prevention

Extensions

- preparation for provincial examinations
- career and personal planning
- preparation for personal crises, e.g., accidents, death, job loss

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Activity journal/log
- Role-play/simulation
- Teacher/observer evaluation
- Self-evaluation

Examples of Criteria

- Journal
  - evidence of entries
  - evidence of analysis
  - application of learning
  - reflective notes
  - charting stressors in daily life
  - completing a stress test
  - checklist of stress management techniques

- Role-play/simulation
  - effective communication skills
  - uses appropriate strategies in response to situation(s)
  - identifies how to access appropriate resources for support

- Chart
  - clarity
  - visual impact
  - organization
  - completeness

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

Context: Idea

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

By taking a closer look at interactions in their environment, students develop an understanding of the concept of gender bias. Students focus on aspects such as the effects of gender bias on self-esteem, achievement, economic, and other opportunities.

Suggested Time Frame: 5 - 20 hours

Strategies
Have students:

- define gender bias (what it is, when it occurs, why it occurs)
- examine and record interactions at home, work, and school looking for gender bias in their journal
- research and examine visual evidence of gender bias in magazines, newspapers, articles, posters, television, movies, music videos, etc.
- identify discriminatory behaviors, attitudes, policies, and procedures
- select one or two gender issues and organize a debate or seminar
- debate or discuss the effects of gender bias on self-esteem, potential opportunities, development, and achievement
- research ways in which gender discrimination is perpetuated
- research gender issues in various cultures
- role-play case studies on specific behaviors of discrimination; role-play more appropriate behaviours
- examine cultural basis of gender inequities (Should they be accepted? Should they be changed?)
- design a code of ethics to support equity or a plan for making environments more gender equitable
- select or develop presentation materials using appropriate tools, materials, and computer-related technologies
- plan and make a presentation using appropriate technology
- obtain feedback through teacher and peer evaluation

Extensions

- make a videotape of a meeting, and analyse for gender biased behavior
- write and present a play that demonstrates issues related to gender bias

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Journal
- Written report
- Audio report
- Debate

Examples of Criteria

- Audio report
  - sound quality/production techniques
  - use of tone and pitch for emphasis
  - clarity
  - concise statements
  - audience impact

- Debate
  - debating forms
  - argumentation
  - logic
  - organization
  - clarity of delivery

- Presentation
  - effective techniques for presentation
  - innovative
  - logical progression of presentation

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Students demonstrate an understanding of the concept of safety in environmental pursuits by designing a process or plan to provide the skills necessary to participate safely in environmental pursuits.

Suggested Time Frame: 20 - 30 hours

Strategies
Have students:

- brainstorm ideas for environmental pursuits and prioritize for possible field work
- review basic safety, fitness, and survival skills required for environmental activities studied such as hiking, canoeing, rock climbing
- analyse requirements for safety and establish a survival plan
- establish activity-specific safety, fitness, and survival procedures for a particular activity
- identify and discuss risks associated with environmental pursuits with a focus on identifying strategies to minimize risks
- create an emergency plan for an environmental pursuit
- map an environment area (urban or rural) for the selected pursuit using appropriate technologies
- prepare a management plan for the recreational use of an environment area
- create a multimedia presentation so that others can evaluate the management plan for an environment area
- use simulation to carry out a plan

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Multimedia presentation
- Group log
- Journal
- Test based on current standards and norms
- Analysis of emergency plan
- Peer assessment
- Self assessment
- Presentation checklist

Examples of Criteria

- Group log
  - tasks and responsibilities
  - group processes
  - problem-solving models
- Journal
  - personal processing (ideas, tasks, feelings)
- Test based on current standards and norms
  - safety
  - fitness level
  - survival strategies
- Analysis of emergency plan
  - practicality
  - critical elements
  - sequencing
- Peer assessment
- Self assessment
  - presentations
  - personal contribution
  - activity
- Presentation checklist
  - effective presentation techniques
  - innovative
  - logical progression in presentation

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

PRESCRIBED LEARNING OUTCOMES

Problem Solving
It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the utilization of ideas
- analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts
- identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions
- use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas

Communication
It is expected that students will:

- use effective communication skills when gathering and sharing information independently and in groups
- select appropriate information gathering and communication tools when solving problems related to applied skills areas
- use appropriate multimedia and information technology in presentations

Technology
It is expected that students will:

- use appropriate technologies in a variety of applied contexts
- maintain an orderly and safe environment when engaged in a variety of activities
- identify and evaluate the impact of technology on the way information is gathered, problems are solved, and work is done

Self in Society
It is expected that students will:

- demonstrate an ability to assess the impact that acquiring applied skills can have on personal and career choices
- demonstrate a positive attitude toward lifelong health and well being
- demonstrate a willingness to participate independently and interdependently in a productive environment

SUGGESTED INSTRUCTIONAL STRATEGIES

Context

Students develop knowledge of the qualities involved in entrepreneurship. They assess their own potential as an entrepreneur and recognize the personal qualities and skills needed to engage in a successful entrepreneurial activity.

Suggested Time Frame: 10 - 20 hours

Strategies

Have students:

- define entrepreneurship and explore the meaning of entrepreneurial activity
- list personal entrepreneurial skills
- invite guest speakers to share their ideas about what makes a successful entrepreneur
- list the advantages and disadvantages of working for someone else versus owning one's own business
- discuss the motives that might encourage people to start their own businessess
- outline personal qualifications and skills needed to manage one's own business
- prepare questions to use in an interview with entrepreneurs and employees
- interview an entrepreneur and someone who works for someone else
- analyse interview responses
- evaluate their own potential for decision making, problem solving, creativity, and risk taking
- prepare a group entrepreneurial fund raising activity and carry out that activity to raise funds
- share relevant entrepreneural information and activities with other students

Extensions

- Internet links to financial markets
- technology investment funds
- work and careers
- family management
- cultures/lifestyles (single versus multiple incomes in family)
- group fund raising plan
- assign tasks based on skills and potentials
- self-assessment of entrepreneurial skills

SUGGESTED ASSESSMENT STRATEGIES

Suggested Strategies

- Activity journal or log
- Portfolio of entrepreneurial qualities
- Produce a chart of the characteristics
- Self-assessment: student maintains a double-entry journal that includes activities, assessment of entrepreneurial skills, and reflections on their grasp of entrepreneurship
- Performance assessment: written evaluation of characteristics of entrepreneurial behaviour; group reflection and evaluation of fund raising activity

Examples of Criteria

- work ethic
- innovative
- effective communication
- understand how entrepreneurs use multimedia and information technology
- provide examples of people who display successful entrepreneurial attitudes
- assessment of entrepreneurial qualities
  - select existing test
  - score
  - intepret the results
  - compare to standards and/or to group results

RECOMMENDED LEARNING RESOURCES

This column is provided for teachers to identify learning resources in support of the Applied Skills 11 curriculum. Recommended learning resources for this curriculum will be evaluated and added to the *Catalogue of Learning Resources* in the upcoming school year.

Applied Skills 11
Appendices

Appendix A
Learning Outcomes

Applied Problem-Solving	Communication
It is expected that students will: • select and use a problem-solving model in the design and production of a product or program • demonstrate an ability to manage limited resources (e.g., build products in a controlled budget environment; co-ordinate family member skills in meeting nutritional needs) • demonstrate an ability to be innovative and creative when responding to change (e.g., modify or adapt a design or product to meet new requirements)	*It is expected that students will:* • select and apply appropriate methods of communication when designing, investigating, and presenting information (e.g., interview a person for whom a product or service is to be designed to ensure clarification of needs and problem parameters) • use appropriate information gathering and communication tools to solve problems related to applied skills areas • use effective communication skills when planning, implementing, and evaluating projects (e.g., communicate and demonstrate how the project has met identified needs)

Technology	Self in Society
It is expected that students will: • select and use appropriate technologies in a variety of settings • identify the relationship between technology and the way problems are solved and work is done (e.g., relate the implications of technological change to specific careers) • use multimedia and information technology in presentations (e.g., present a product or service to a group of prospective users or buyers) • maintain an orderly and safe environment within a problem-solving context	*It is expected that students will:* • identify implications of applied skills areas for their own career choices (e.g., explain how technologies and business acumen contribute to self employment as a commercial artist) • evaluate health, fitness, and safety as they relate to self and others (e.g., evaluate safety in the home and work environments, the contribution of health to successful careers) • develop self-esteem and a positive attitude toward lifelong health and well being • seek opportunities for providing services, products, or processes in a career or voluntary setting (e.g., determine, organize, and deliver a service need to rest home residents such as a luncheon with entertainment)

Appendix B
Learning Resources

Selecting Learning Resources For The Classroom

Introduction

Selecting a learning resource means choosing locally appropriate materials from the list of Recommended resources or other lists of evaluated resources. The process of selection involves many of the same considerations as the process of evaluation, though not to the same level of detail. Content, instructional design, technical design, and social considerations may be included in the decision-making process, along with a number of other criteria.

The selection of learning resources should be an ongoing process to ensure a constant flow of new materials into the classroom. It is most effective as an exercise in group decision-making, co-ordinated at the school, district, and Ministry levels. To function efficiently and realize the maximum benefit from finite resources the process should operate in conjunction with an overall district and school learning resource implementation plan.

Teachers may choose to use provincially Recommended resources to support provincial or locally developed curricula; or they may choose resources that are not on the Ministry's list, or they may choose to develop their own. Resources that are not on the provincial Recommended list must be evaluated through a local, board-approved process.

Criteria for Selection

There are a number of factors to consider when selecting learning resources.

Content

Obviously, the foremost consideration for selection will be the curriculum to be taught. Prospective resources must adequately support the particular learning objectives that the teacher is attempting to address. Resources on the Ministry's Recommended list are not matched directly to learning outcomes, but they *are* linked to the appropriate curriculum organizers. It is the responsibility of the teacher to determine whether a resource will effectively support any given learning outcomes within a curriculum organizer. This can only be done by examining descriptive information regarding that resource; acquiring additional information about the material from the supplier, published reviews, or colleagues; and by examining the resource first hand.

Instructional Design

When selecting learning resources, teachers must keep in mind the individual learning styles and abilities of their students, as well as the students they may have in the future. Resources have been recommended to support a variety of special audiences, including gifted, learning disabled, mildly mentally handicapped, First Nations, and ESL students. The suitability of a resource for any of these audiences has been noted in the resource annotation.

The instructional design of a resource includes the organization and presentation techniques; the manner in which concepts are introduced, developed, and summarized; and the level of the vocabulary used. The suitability of all of these should be considered for the intended audience.

Teachers should also consider their own teaching styles and select resources that will complement them. The list of

Recommended resources contains materials that range from prescriptive or self-contained resources, to open-ended resources that require considerable teacher preparation. There are recommended materials for teachers with varying levels and experience with a particular subject, as well as those that support styles.

Technology Considerations

Although teachers are encouraged to embrace a variety of educational technologies in their classrooms, they will need to ensure the availability of the necessary hardware and equipment, and to familiarize themselves with the operation of the technology. If the equipment is not currently available, then the need must be incorporated into the school or District Technology Plan.

Social Considerations

All resources on the Ministry's Recommended list have been thoroughly screened for social concerns from a provincial perspective. However, teachers must consider the appropriateness of any resource from the perspective of the local community.

Media

When selecting resources, teachers should consider the advantages of various media. Some topics may be best taught using a specific medium. For example, video may be the most appropriate medium when teaching a particular, observable skill, since it provides a visual model that can be played over and over or viewed in slow motion for detailed analysis. Video can also bring otherwise unavailable experiences into the classroom and reveal "unseen worlds" to students. Software may be particularly useful when students are expected to develop critical thinking skills through the manipulation of a simulated model of reality, or where safety or repetition may be factors. Print resources or CD-ROM can best be used to provide extensive background information on a given topic. Once again, teachers must consider the needs of their individual students, some of whom may learn better from the use of one medium than another.

Funding

As part of the selection process, teachers should determine how much money is available to be spent on learning resources. This requires an awareness of school/district policies and procedures for learning resource funding. Teachers will need to know how funding is allocated in their district and how much is available for their needs. Learning resource selection should be viewed as an ongoing process that requires a determination of needs, as well as long term planning to reach goals and local priorities.

Existing Materials

Prior to selecting and purchasing new learning resources, an inventory of those resources that are already available in the school and the district resource centre should be established. This can be facilitated through the use of district and school resource management and tracking systems. Such systems usually involve a computer database program (and possibly bar-coding) to help keep track of a multitude of titles. Many school libraries already use such systems to manage their collections. If such a system is put "on-line," then teachers can check on the availability of a particular resource via a computer. Since few districts currently have this arrangement, teachers should consult with their school or district resource centre regarding the availability of particular resources.

SELECTION TOOLS

The Ministry of Education has developed a variety of tools to assist teachers with the selection of learning resources. These include:

- Integrated Resource Packages (IRPs) which contain curriculum information, teaching and assessment strategies, and Recommended learning resources
- learning resources information via catalogues, annotation sets, resource databases on floppy diskettes, the Learning Resources CD-ROM, and in the future: "on-line" access
- each year, sets of the most recently Recommended learning resources are provided to a number of host districts throughout the province to allow teachers to examine the materials first hand at regional displays
- sample sets of provincially Recommended resources are also available on loan to districts on request

A MODEL SELECTION PROCESS

The following series of steps are suggested to assist a school resource committee to select learning resources:

- identify a resource co-ordinator (e.g., a teacher-librarian)
- establish a learning resources committee made up of department heads or lead teachers
- develop a school vision and approach to resource-based learning
- identify existing learning resource and library materials, personnel, and infrastructures
- Identify the strengths and weaknesses of the existing systems
- examine the district Learning Resources Implementation Plan
- identify resource priorities
- apply criteria such as those found in *Selection and Challenge* to shortlist potential resources
- examine shortlisted resources first hand at a regional display or at a publishers' display, or borrow a set from the Learning Resources Branch
- make recommendations for purchase

FURTHER INFORMATION

For further information on evaluation and selection processes, catalogues, CD-ROM catalogues, annotation sets, or resource databases, please contact the Learning Resources Branch at 387-5331 or by fax at 387-1527.

Appendix C
Cross-Curricular Outlines

There are a number of cross-curricular areas that have been incorporated into the Applied Skills 11 Integrated Resource Package. These cross-curricular areas are represented in the prescribed learning outcomes or in one or more of the other components of the IRP.

- Applied Focus in Curriculum
- Career Development
- English as a Second Language (ESL)
- Environment and Sustainability
- First Nations Studies
- Gender Equity
- Information Technology
- Media Education
- Multiculturalism and Anti-Racism
- Science-Technology-Society
- Special Needs

A brief description of each cross-curricular area follows.

The three principles of learning described in the introduction of this IRP support the foundation of the K-12 Education Plan. They have guided all aspects of the development of this document, including the curriculum outcomes, instructional strategies, assessment strategies, and learning resource evaluations. In addition to the three principles, it is recognized that British Columbia's schools include young people of varied backgrounds, interests, abilities, and needs. In order to meet these needs and ensure equity and access for all learners, the development of each component of this document has also been guided by a series of cross-curricular outlines. It is expected that these principles and cross-curricular outlines will guide the users of this document as they engage in school and classroom organization and instructional planning and practice.

The following cross-curricular outlines have been used to focus the development and evaluation of the components of the IRP:

- Applied Focus in Curriculum
- Career Development
- English as a Second Language (ESL)
- Environment and Sustainability
- First Nations Studies
- Gender Equity
- Information Technology
- Media Education
- Multiculturalism and Anti-Racism
- Science-Technology-Society
- Special Needs

APPLIED FOCUS IN CURRICULUM

An applied focus in all subjects and courses promotes the use of practical applications to demonstrate theoretical knowledge. Using real world and workplace problems and situations as a context for the application of theory makes school more relevant to students' needs and goals. An applied focus strengthens the link between what students need to know to function effectively in the workplace or in post-secondary education and what they learn in Kindergarten through Grade 12.

Implementation of an applied approach involves working with a wide range of partners including universities, colleges, institutes, employers, community groups, parents, and government.

The applied focus in curriculum is consistent with the following statements in *The Kindergarten to Grade 12 Education Plan:*

> "All levels of the program are developed around a common core of learning to ensure that students learn to read, write, and do mathematics, solve problems, and use computer-based technology."

> "Employers expect graduates to be good learners, to think critically and solve problems, to communicate clearly, to be self-directed, and to work well with others. The new workplace also requires people to be knowledgeable about technology and able to search out and apply information from many sources."

Some examples of an applied focus in different subjects are:

Language Arts English - increasing emphasis on language used in everyday situations and in the workplace, such as job interviews, memos, letters, word processing, technical communication (including the ability to interpret technical reports, manuals, tables, charts, and graphics)

Mathematics - more emphasis on skills needed in the workplace, including probability and statistics, logic, measurement theory, and problem solving

Science - more practical applications and hands-on experience of science such as: reducing energy waste in school or at home; caring for a plant or animal in the classroom; using computers to produce tables and graphs, and for use of spreadsheets

Business Education - more emphasis on real world applications such as preparing résumés and personal portfolios, participating in groups to solve business communication problems, using computer software to keep records, and using technology to create and print marketing material

Visual Arts - real world applications such as working co-operatively to make images of social significance for their classroom, school or community; viewing and analysing objects and images from their community; and experimenting with a variety of materials to make images

This summary is from a review of the literature, *The Kindergarten to Grade 12 Education Plan* (September 1994), and curriculum documents from British Columbia and other jurisdictions.

Career Development

What is Career Development?

Career development is an ongoing process through which learners integrate their personal, family, school, work, and community experiences to facilitate career and lifestyle choices. The main emphases of career development are career awareness, career exploration, career preparation, career planning, and career work experience.

In the process of career development students develop:

- an open attitude toward a variety of occupations and types of work
- an understanding of the relationship between work and leisure, work and the family, and work and one's interests and abilities
- an understanding of the role of technology in the workplace and in daily life
- an understanding of the relationship between work and learning
- an understanding of the changes taking place in the economy, society, and job market
- an ability to construct learning plans and reflect on the importance of lifelong learning
- an ability to prepare for multiple roles throughout life

In the Primary Years

Career awareness promotes an open attitude towards a variety of career roles and types of work. Topics include:

- the role of work and leisure
- the relationships among work, the family, one's personal interests, and one's abilities

A variety of careers can be highlighted through the use of in-class learning activities focusing on the student themselves and on a range of role models, including non-traditional role models.

In Grades 4 to 8

The emphasis on self-awareness and career awareness is continued. Topics include:

- interests, aptitudes, and possible future goals
- technology in the workplace and in our daily lives
- social, family, and economic changes
- future education options
- career clusters (careers that are related to one another)
- lifestyles
- external influences on decision making

Games, role-playing, drama, and appropriate community volunteer experience can be used to help students actively explore the world of work. Field experiences in which students observe and interview workers in their occupational environments may also be appropriate. These learning activities will facilitate the development of interpersonal communications and group problem-solving skills needed in the workplace and in other life situations.

In Grades 9 and 10

The emphasis is on providing students with opportunities to prepare for and make appropriate and realistic decisions. In developing their Student Learning Plans, they will relate self-awareness to their goals and aspirations. They will also learn many basic skills and attitudes that are required for an effective transition into adulthood. This will assist in preparing them to be responsible and self-directed throughout their lives.

Topics include:

- entrepreneurial education
- employability skills (e.g., how to find and keep a job)
- the importance of lifelong education and career planning
- involvement in the community
- the many different roles that an individual can play throughout life
- the dynamics of the working world (e.g., unions, unemployment, supply/demand, Pacific Rim, free trade)

The examination of personal interests and skills through a variety of career exploration opportunities is emphasized at this level (e.g., job shadowing). Group discussion and individual consultation can be used to help students examine and confirm their personal values and beliefs.

In Grades 11 and 12

The emphasis of career development in Grades 11/12 is focused more specifically on issues related to the world of work. These include:

- dynamics of the changing workforce and changing influences on the job market (e.g., developing technology and economic trends)
- job keeping and advancement skills (interpersonal skills needed in the workplace, employment standards)
- occupational health issues and accessing health support services
- funding for further education
- alternate learning strategies and environments for different life stages
- mandatory work experience (minimum 30 hours)

Work Experience

Work experience provides students with opportunities to participate in a variety of workplace experiences that help prepare them for the transition to a work environment. Work experience will also provide students with opportunities to:

- connect what they learn in school with the skills and knowledge needed in the workplace and society in general
- experience both theoretical and applied learning which is part of a broad liberal education
- explore career directions identified in their Student Learning Plans

Descriptions of career development are drawn from the Ministry of Education's *Career Developer's Handbook, Guidelines for the Kindergarten to Grade 12 Education Plan, Implementation Resource, Part 1*, and the draft of the *Prescribed Provincial Curriculum for Personal Planning, Kindergarten to Grade 12*, January 1995.

ENVIRONMENT AND SUSTAINABILITY

What is Environmental Education?

Environmental education is defined as a way of understanding human relationships with the environment. It involves:

- students learning about their connections to the natural environment through all subjects
- students having direct experiences in the environment, both natural and human-built
- students making decisions and acting for the environment

The term *sustainability* helps to describe societies that "promote diversity and do not compromise the natural world for any species in the future."

Why Integrate Environment and Sustainability Themes into the Curriculum?

These themes facilitate individuals having a responsible attitude toward caring for the earth that integrates environment studies and sustainability themes. Studies that integrate environment and sustainability themes provide students with opportunities to identify their beliefs and opinions, reflect on a range of views, and ultimately make informed and responsible choices.

The **guiding principles** which should be interwoven in subjects from K to 12 are:

- direct experience is the basis of human learning
- analysis of interactions help humans make sense of their environment
- responsible action is both integral to and a consequence of environmental education

Some organizing principles are:

- human survival depends on complex natural and human-built systems
- human decisions and actions have environmental consequences
- students should be provided opportunities to develop an aesthetic appreciation of the environment

Sample theme study units could be: Consumerism, School Operating Systems, Pollution, and Endangered Species

This summary is derived from *Environmental Education/ Sustainable Societies - A Conceptual Framework*, Curriculum Branch, 1994.

ENGLISH AS A SECOND LANGUAGE (ESL)

What is English as a Second Language (ESL)?

ESL assistance is provided to students whose "use of English is sufficiently different from standard English to prevent reaching his or her potential." Many students learning English speak it quite fluently and seem to be proficient. School, however, demands a more sophisticated variety of English, both read and written. Thus, even fluent speakers could require ESL to provide them with the appropriate language experience that is unavailable outside the classroom. ESL is a transitional service rather than a subject. Students are in the process of learning the language of instruction and in many cases, the content matter of subjects appropriate to their grade level. Thus ESL does not have a specific curriculum. The provincial curriculum forms the basis of a great deal of the instruction and is used to teach English as well as individual subject areas. It is the methodology, the focus, and the level of engagement with the curriculum that differentiates ESL services from other school activities.

Who are the students in ESL?

Nearly 10 per cent of the British Columbia school population is designated as ESL. These students come from a great diversity of backgrounds. Most are recent immigrants to British Columbia. Some are Canadian-born but have not had the opportunity to learn English before entering the primary grades. The majority of ESL students have a well-developed language system and have had similar schooling to that of British Columbia-born students. A small number, because of previous experiences, are in need of basic support such as literacy training, academic upgrading, and trauma counselling.

Teachers may have ESL students at any level in their classes. Many ESL students are placed in subject area classes primarily for the purpose of contact with English-speaking peers and experience with the subject and language. Other ESL students are wholly integrated into subject areas. A successful integration takes place when the student has reached a level of English proficiency and background knowledge in a subject to be successful with a minimum of extra support.

How Can ESL Students Learn Best?

The guiding principle for ESL support is the provision of a learning environment where the language and the concepts can be understood by the students.

Good practices to enhance the learning of students include:

- using real objects and simple language at the beginning level
- taking into consideration other cultural backgrounds and learning styles at any level
- providing adapted (language-reduced) learning materials
- respecting a student's "silent period" when expression does not reflect the level of comprehension
- allowing students to practise and internalize information before giving detailed answers
- differentiating between form and content in student writing
- keeping in mind the level of demand placed on students

This summary is drawn from *Supporting Learners of English; Information for School and District Administrators*, RB0032, 1993, and *ESL Policy Discussion Paper (Draft)*, Social Equity Branch, December 1994.

FIRST NATIONS STUDIES

What are First Nations Studies?

First Nations studies focus on the richness and diversity of First Nations cultures and languages. These cultures and languages are examined within their own unique contexts, and within historical, contemporary, and future realities. First Nations studies are based on a holistic perspective that integrates the past, present, and future. First Nations peoples are the original inhabitants of North America and lived in sophisticated, organized, and self-sufficient societies. The First Nations constitute a cultural mosaic as rich and diverse as Western Europe. There are many groups of people with differences in culture (e.g., Nisga'a, KwaKwaka'Wakw, Nlaka'pamux, Secwepemc, Skomish, Tsimshian). Each is unique and has a reason to be featured in the school system. The First Nations of British Columbia constitute an important part of the historical and contemporary fabric of the province.

Why Integrate First Nations Studies into the Curriculum?

- First Nations values and beliefs are durable and relevant today.
- There is a need to validate and substantiate First Nations identity.
- First Nations peoples have strong, dynamic, evolving cultures that have adapted to changing world events and trends.
- There is a need to understand similarities and differences among cultures to create tolerance, acceptance, and mutual respect.
- There is a need for informed, reasonable discussions and decisions regarding First Nations issues based on accurate, reliable information (for example, as modern treaties are negotiated by Canada, British Columbia, and First Nations).

In studying First Nations, it is expected that the students will:

- demonstrate an understanding and appreciation for the values, customs, and traditions of First Nations peoples
- demonstrate an understanding and appreciation for unique First Nations communications systems
- demonstrate a recognition of the importance of the relationship between First Nations peoples and the natural world
- point out dimensions of First Nations art as a total cultural expression
- give examples of the diversity and functioning of the social, economic, and political systems of First Nations peoples in traditional and contemporary contexts
- describe the evolution of human rights and freedoms as they pertain to First Nations peoples

Some examples of the integration of First Nations material into subject curricula are:

Visual Arts - students may compare the artistic styles of two or more First Nations cultures

Language Arts English - students may analyse portrayals and images of First Nations peoples in various works of literature

Home Economics - students may identify forms of food, clothing, and shelter in past and contemporary First Nations cultures

Technology Education - students may describe the sophistication of traditional First Nations technologies (bentwood or kerfed boxes, weaving, fishing gear)

Physical Education - students may participate in and develop an appreciation for First Nations games and dances

This summary is derived from *First Nations Studies - Curriculum Assessment Framework (Primary through Graduation)*, published by the Aboriginal Education Branch in 1992; and from the *B.C. First Nations Studies 12 Curriculum*, published by the Aboriginal Education Branch in 1994.

GENDER EQUITY

Gender equitable education involves the inclusion of the experiences, perceptions, and perspectives of girls and women, as well as boys and men, in all aspects of education. It will initially focus on girls in order to redress historical inequities. Generally, the inclusive strategies, which promote the participation of girls, also reach males who are excluded by more traditional teaching styles and curriculum content.

Principles of gender equity in education are:

- all students have the right to a learning environment that is gender equitable
- all education programs and career decisions should be based on a student's interest and ability, regardless of gender
- gender equity incorporates a consideration of social class, culture, ethnicity, religion, sexual orientation, and age
- gender equity requires sensitivity, determination, commitment, and vigilance over time
- the foundation of gender equity is co-operation and collaboration among students, educators, education organizations, families, and members of communities

Research suggests the following general strategies for gender equitable teaching:

- be committed to learning about and practising equitable teaching
- create a supportive environment for all students, regardless of factors such as gender, abilities, or cultural background
- highlight the social aspects and usefulness of activities, skills, and knowledge
- model non-biased behaviour - use inclusive, parallel, or gender sensitive language
- teach male and female students strategies to recognize and eliminate the inequities they observe
- move around the classroom, create mixed seating plans, and/or group the desks in a variety of ways - this will provide more opportunity to focus on quiet students
- ensure that all resources in the classroom are free of gender bias
- observe your questioning techniques - On whom do you call most often and why? Do you commonly ask leading or probing questions of both boys and girls?
- provide specific strategies, special opportunities, and resources to encourage students to excel in areas of study in which they are typically under-represented
- modify content, teaching style, and assessment practices to make non-traditional subjects more relevant and interesting for boys and girls
- be aware of accepted gender bias practices in physical activity - team sport, funding for athletes, and choices in physical education programs
- ensure consistent standards of achievement, courtesy, behaviour, and dress
- design lessons to explore many perspectives and to use different sources of information - refer to female and male "experts"
- allow more time for students to respond to questions - faster pace typically favours males, who are more likely to jump into classroom discussions
- share information and build a network of colleagues with a strong commitment to equity
- have colleagues observe your teaching and discuss any bias they may observe
- be consistent over time

This summary is from the preliminary *Report of the Gender Equity Advisory Committee*, received by the Ministry of Education in February 1994, and from a review of related material.

Information Technology

What is Information Technology?

Information technology is the use of tools and electronic devices that allow us to create, explore, transform, and express information.

Why Integrate Information Technology into the Curriculum?

As Canada moves from an agricultural and industrial economy to the information age, students must develop new knowledge, skills, and attitudes. The information technology curriculum has been developed to be integrated into all new curricula to ensure that students know how to use computers and gain the technological literacy demanded in the workplace.

Overall, students will acquire skills in analysing and evaluating information, word processing, database analysis, information management, graphics, and multimedia applications. Students will also identify ethical and social issues arising from the use of information technology.

With information technology integrated into the curriculum, students will be expected to:

- demonstrate basic skills in handling information technology tools
- demonstrate an understanding of information technology structure and concepts
- relate information technology to personal and social issues
- define a problem and develop strategies for solving it
- apply search criteria to locate or send information
- transfer information from external sources
- evaluate information for authenticity and relevance
- arrange information in different patterns to create new meaning
- modify, revise, and transform information
- apply principles of design affecting appearance of information
- deliver a message to an audience using information technology

The curriculum organizers are: Foundations, Explorations, Transformations, and Expressions

Foundations: the basic physical skills, intellectual, and personal understandings required to use information technology, as well as self-directed learning skills and socially responsible attitudes

Explorations: defining a problem to establish a clear purpose for search strategies and retrieval skills

Transformations: filtering, organizing, and processing information

Expressions: designing, integrating, and presenting a message using text, audio and visual information, and message delivery

This information is derived from the draft *Information Technology Curriculum K-12* currently under development.

Media Education

What is Media Education?

Media education is a multidisciplinary and interdisciplinary approach to the study of media. Media education deals with key media concepts, and focuses on broad issues such as the history and role of media in different societies, and the social, political, economic, and cultural issues related to the media. Instead of addressing the concepts in depth, as one would in media studies, media

education deals with most of the central media concepts as they relate to a variety of subjects.

Why Media Education in B.C. Schools?

Popular music, television, film, radio, magazines, computer games, and information services, media, and media messages are pervasive in the lives of students today. Media education develops students' ability to think critically and independently about issues that affect them. Media education encourages students to identify and examine the values contained in media messages. It also cultivates the understanding that these messages are produced by others to inform, persuade, and entertain for a variety of purposes. Media education helps students understand the distortions that may result from the use of particular media practices and techniques. There are learning opportunities for media education in all curriculum areas. Media education is not taught as a separate curriculum.

The **key concepts** for media education are:

- analysis of media products (purpose, values, representation, codes, conventions, characteristics, and production)
- audience interpretation and influence (interpretation, influence of media on audience, influence of audience on media)
- media and society (control, scope)

Examples of integrating key concepts are:

Language Arts English - students critique advertising and examine points of view

Visual Arts - students analyse the appeal of an image by age, gender, status, etc., of the designated audience

Drama - students critically view professional and amateur theatre productions, dramatic films, and television programs to identify purpose

Social Studies - students compare the depiction of First Nations in the media over time

This summary is derived from *A Cross-Curriculur Planning Guide for Media Education* prepared by the Canadian Association for Media Education for the Curriculum Branch in 1994.

MULTICULTURALISM AND ANTI-RACISM EDUCATION

What is Multiculturalism Education?

Multiculturalism education stresses the promotion of understanding, respect, and acceptance of cultural diversity within our society.

Multiculturalism education involves:

- recognizing that everyone belongs to a cultural group
- accepting and appreciating cultural diversity as a positive feature of our society
- affirming that all ethnocultural groups have equality of status within our society
- understanding multiculturalism education is for all students
- recognizing that most cultures have much in common and similarities across cultures are much greater than differences, and recognizing cultural pluralism as a positive aspect in our society
- affirming and enhancing self-esteem through pride in heritage, and providing opportunities for individuals to appreciate the cultural heritages of others
- promoting cross-cultural understanding, citizenship, and racial harmony
- students examine the influence of the media on body concepts and healthy lifestyle choices

What is Anti-Racism Education?

Anti-racism education promotes the elimination of racism through the identifying and changing of institutional policies and practices, as well as the identifying of individual attitudes and behaviours that contribute to racism.

Anti-racism education involves:

- proposing the need to reflect about one's own attitudes on race and anti-racism
- understanding what causes racism in order to achieve equality
- identifying and addressing racism at both the personal and institutional level
- acknowledging the need to take individual responsibility for eliminating racism
- working towards removing systemic barriers that marginalize groups of people
- providing opportunities for individuals to take action for eliminating all forms of racism, including stereotypes, prejudice, and discrimination

Why Multiculturalism and Anti-Racism Education in B.C. Schools?

Multiculturalism and anti-racism education will contribute to quality education through learning experiences that promote strength through diversity, and social, economic, political, and cultural equity. Multiculturalism and anti-racism education will also provide students with learning experiences that are intended to enhance their social, emotional, aesthetic, artistic, physical, and intellectual development. It will also provide learners with the tools of social literacy and skills for effective cross-cultural interaction with diverse cultures. It also recognizes the importance of collaboration among students, parents, educators, and communities working towards social justice in the education system.

The key concepts for multiculturalism and anti-racism education are:

- enhance understanding of and respect for cultural diversity
- increase creative intercultural communication in a pluralistic society
- provide equal access to quality programs for educational achievement for all learners regardless of culture, national origin, religion, or social class
- develop self-worth, respect for oneself and others, and social responsibility
- combat and eliminate stereotyping, prejudice, discrimination, and other forms of racism
- include the experiences of all students in school curricula

Examples of integration with subjects could be:

Fine Arts - students identify ways in which the Fine Arts portray cultural experiences

Humanities - students identify similarities and differences within cultural groups' lifestyles, histories, values, and beliefs

Mathematics/Science - students recognize that individuals and cultural groups have used both diverse and common methods to compute, to record numerical facts, and to measure

Physical Education - students can develop an appreciation for games and dances from diverse cultural groups

This summary is derived from *Multicultural and Anti-Racism Education - Planning Guide (Draft)*, developed in the Social Equity Branch in 1994.

SCIENCE-TECHNOLOGY-SOCIETY

What is Science-Technology-Society?

Science-Technology-Society (STS) addresses our understanding of inventions and discoveries and how science and technology affect the well being of individuals and our global society.

The study of STS includes:

- the contributions of technology to scientific knowledge and vice versa
- the notion that science and technology are expressions of history, culture, and a range of personal factors
- the processes of science and technology such as experimentation, innovation, and invention
- the development of a conscious awareness of ethics, choices, and participation in science and technology

Why Integrate STS into the Curriculum?

The aim of STS is to enable learners to investigate, analyse, understand, and experience the dynamic interconnectedness among science, technology, and human and natural systems.

The study of STS in a variety of subjects give students opportunities to:

- discover knowledge and develop skills to foster critical and responsive attitudes towards innovation
- apply tools, processes, and strategies for actively challenging emerging issues
- identify and consider the evolution of scientific discovery, technological change, and human understanding over time, in the context of many societal and individual factors
- develop a conscious awareness of personal values, decisions, and responsible actions about science and technology
- explore scientific processes and technological solutions
- contribute to responsible and creative solutions using science and technology

The **organizing principles** of STS are: Human and Natural Systems, Inventions and Discoveries, Tools and Processes, Society and Change

Each organizer may be developed through a variety of contexts, such as the economy, environment, ethics, social structures, culture, politics, and education. Each context provides a unique perspective for exploring the critical relationships that exist, and the challenges we face as individuals and as a global society.

Examples of linkages with subjects are:

Visual Arts - the demands generated by visual artists have led to the development of new technologies and processes, e.g., new permanent pigments, fritted glazes, drawing instruments

Language Arts English - many technologies have recently influenced listening, speaking writing, e.g., CDs, voice mail, computer-generated speech

Physical Education - how technology has effected our understanding of the relationship between activity and well being

This summary is derived from *Science-Technology-Society--A Conceptual Framework*, Curriculum Branch, 1994.

Special Needs

Students with special needs are those with intellectual, physical, sensory, learning, behavioural, or emotional disabilities; students who are gifted or talented; and students who require special services and adaptations in order to reach their individual potential.

All students can benefit from an inclusive learning environment that is enriched by the diversity of the people within it. Opportunities for success are enhanced when provincial learning outcomes and resources are developed with regard for a wide range of student needs, learning styles, and modes of expression.

Educators can assist in creating more inclusive learning environments by attending to the following:

- activities that focus on development and mastery of foundational skills (basic literacy)
- a range of co-operative learning activities and experiences in the school and community; and application of practical, hands-on skills in a variety of settings
- references to specialized learning resources, equipment, and technology
- examples of ways to accommodate for special needs (e.g., incorporating adaptations/extensions to content, process, product, pacing, and learning environment; suggesting alternate methodologies or strategies; making references to special services)
- a variety of ways for students to demonstrate learning, not just through paper and pencil tasks (e.g., dramatizing events to demonstrate understanding of a poem, recording observations in science by drawing, composing/performing a music piece)
- promotion of the capabilities and contributions of children and adults with special needs
- participating in physical activity

All students can work toward achievement of the provincial learning outcomes. Many students with special needs learn what all students are expected to learn. In some cases, the student's needs and abilities require that education programs be adapted or modified. A student's program may include regular instruction in some subjects, some subjects that are modified, and some subjects that are adapted. Adaptations and modifications are specified in the student's Individual Education Plan (IEP).

An Adapted Program addresses the learning outcomes of the prescribed curriculum, but provides adaptations so the student can participate in the program. These adaptations can include alternate formats for resources (e.g., Braille, books-on-tape), instructional strategies (e.g., use of interpreters, visual cues, and learning aids), and assessment procedures (e.g., oral exams, additional time). Adaptations may also be made in areas such as skill sequence, pacing, methodology, materials, technology, equipment, services, and setting. Students on adapted programs are assessed using the curriculum standards and can receive full credit.

A Modified Program has learning outcomes which are substantially different from the prescribed curriculum, and specifically selected to meet the student's special needs. For example, a Grade 5 student in language arts could be working on recognizing common signs and using the telephone. In

this case, the learning outcomes are substantially different from those that most other students are working on. A student on a modified program is assessed in relation to the goals and objectives established in the student's IEP.

Ministry Publications to Support Teachers of Students with Special Needs

The following publications are currently available from the Learning Resources Branch, or are under development and will be made available soon:

The Universal Playground: A Planning Guide (Ministry of Education, 1991, FCG 129)

Hard of Hearing and Deaf Students—A Resource Guide to Support Classroom Teachers (Ministry of Education, 1994, RB0033)

Special Education Services—A Manual of Policies, Procedures and Guidelines (Ministry of Education, Response Draft-December 1994)

I.E.P. Planning Resource (Ministry of Education, 1995)

Students with Visual Impairments—A Resource Guide to Support Classroom Teachers (Ministry of Education, 1995)

Gifted Students—A Resource Guide to Support Classroom Teachers (Ministry of Education, 1995)

Foundation Studies Supplement: Essential and Supportive Skills for Students with Intellectual Disabilities — A Resource Guide to Support Classroom Teachers (Ministry of Education, 1995)

Teaching for Student Differences—A Resource Guide to Support Classroom Teachers (Ministry of Education, 1995)

Resource Handbook for Adapted Curriculum Software (Ministry of Education, 1995)

Awareness Series (Ministry of Education, 1995)

This summary is derived from the *Handbook for Curriculum Developers* (February 1994), and *Special Education Services - A Manual of Policies, Procedures and Guidelines* (Response Draft, December 1994).

Appendix D
Assessment and Evaluation

ASSESSMENT AND EVALUATION

Learning outcomes, expressed in measurable terms, provide the basis for the development of learning activities and assessment and evaluation strategies. Assessment is the systematic gathering of information about what students know, are able to do, and are working toward. Assessment methods include: student self-assessments, reviews of performance, portfolio assessments, and conferencing. Assessment tools may include observation, daily practice assignments, quizzes, samples of student work, pencil and paper tests, holistic rating scales, projects, and oral and written reports.
Student performance is evaluated from the information collected through assessment activities. Teachers use their insight, knowledge about learning, and experience with students, along with the specific criteria they establish to make judgements about student performance in relation to learning outcomes.

Students benefit most when evaluation is provided on a regular, ongoing basis. When evaluation is seen as an opportunity to promote learning rather than as a final judgement, it shows learners their strengths and suggests how they can develop further. Students can use this information to redirect efforts, make plans, and establish future learning goals.

Evaluation may take different forms, depending on the purpose.

- Criterion-referenced evaluation should be used to evaluate student performance in classrooms. It is referenced to criteria based on learning outcomes described in the provincial curriculum. The criteria reflect a student's performance based on specific learning activities. When a student's program is substantially modified, evaluation may be referenced to individual goals. These modifications are recorded in an Individual Education Plan (IEP).

- Norm-referenced evaluation is used for large-scale system assessments. A norm-referenced evaluation system is not meant for classroom assessment because a classroom does not provide a large enough reference group. Norm-referenced evaluation compares one student's achievement to that of others. The comparison is based on a "normal" distribution. A normal distribution shows how achievement in a particular area is distributed over an entire population. To use norm-referenced evaluation appropriately, a student's achievement must be compared to a reference group large enough to represent the population. Placing student achievement on a normal distribution curve does not accurately describe a student's individual progress; it compares student achievement to that of others rather than comparing how well a student meets the criteria of a specified set of learning outcomes.

CRITERION-REFERENCED EVALUATION

In criterion-referenced evaluation, a student's performance is compared to established criteria rather than to the performance of other students. Evaluation referenced to prescribed curriculum requires that criteria are established based on the learning outcomes listed under the curriculum organizers for Applied Skills 11.

Criteria are the basis of evaluating student progress; they identify the critical aspects of a performance or a product which describe

in specific terms what is involved in meeting the learning outcomes. Criteria can be used to evaluate student performance in relation to learning outcomes. For example, weighting criteria, using rating scales, or performance rubrics (i.e., reference sets) are three ways that student performance can be evaluated using criteria.

Samples of student performance should reflect learning outcomes and identified criteria. The samples will clarify and make explicit the link between evaluation and learning outcomes, criteria, and assessment. (Where a student's performance is not a product, and therefore not reproducible, a description of the performance sample will be provided.)

Criterion-referenced evaluation may be based upon the steps below.

1. identify the expected learning outcomes (as stated in the Integrated Resource Packages)
2. identify the key learning objectives for instruction and learning
3. establish and set criteria
4. involve students, when appropriate, in establishing criteria
5. plan learning activities that will help students gain the knowledge or skills outlined in the criteria
6. inform students of the criteria their work will be evaluated against prior to the learning activity
7. provide examples of the desired level of performance
8. implement the learning activities
9. use various assessment methods based on the particular assignment and students
10. review assessment data and evaluate each student's level of performance or quality of work in relation to criteria
11. report the results of evaluation to students and parents

Formal Reporting of Student Learning

Legislation requires that teachers provide parents with three formal reports each year. The following are guidelines and suggestions for assigning letter grades. Letter grades are used to indicate a student's level of performance in relation to expected learning outcomes. They may be assigned for an activity, a unit of study, a term, as a final grade at the end of the year, or at the completion of a course or subject.

Assigning Letter Grades for an Activity or Project

1. Learning outcomes for the activity and unit are identified to make clear what the student is expected to know and be able to do.
   The provincial curriculum prescribes broad learning outcomes. From these, the teacher establishes more specific outcomes for the learning activities.

2. Specific criteria for the unit and activity are established.
   It is helpful for students to be involved in establishing criteria. In this way they understand what is expected of them.

3. Different levels of performance or models are developed.
   Students are more likely to be successful when they clearly understand the criteria and the level of performance expected.

4. Students participate in learning activities to allow them to practise the skills and acquire the required knowledge.
   Feedback is provided to help the students continue their learning. Practise exercises help students meet the criteria and achieve the expected level of performance. Results from practise exercises support the student's learning but should not contribute to the term evaluation or final letter grade.

5. Students are given opportunities to demonstrate their learning.
   Teachers may have students represent their learning in a variety of ways. Assessment data is collected from tests, teacher observations, conferences, student self-assessment, written assignments, portfolios, and performance tasks.

6. Students' levels of performance are evaluated in relation to the criteria.
   Evaluation of each student's performance is based on the assessment data collected and is compared to the established criteria.

7. The teacher assigns a letter grade for a set of activities.
   The letter grade indicates how well the criteria were met. Teachers often include written feedback to students along with the letter grade. In this way students gain information necessary to continue their learning.

PORTFOLIOS

Portfolios can be designed for a variety of purposes. They can motivate students, encourage parental participation, and provide direct evidence of student progress. Before using a portfolio approach to evaluation, the teacher should consider the following questions:

1. What are the applied tasks for which the portfolio will serve as a record?
2. What should be included in a portfolio?
3. In what ways should students be involved in the process of answering questions one and two?

The nature of the applied tasks will determine to a considerable extent the answers to questions two and three. A major goals of Applied Skills 11 is to encourage students to critically apply what they learn to school life and life outside school. By focusing on one of the major curriculum organizers for Applied Skills 11—problem solving—it can be assumed that the purpose of the portfolio will be to assess student progress and encourage self-reflection in relation to problem-solving knowledge and skills. How can a portfolio help? One way is to make the design and construction of the portfolio a problem-solving project in itself.

a. Items to be placed in the portfolio should be selected because they meet criteria derived, in part, from the problem-solving task and the background knowledge and skills the student needs to carry out the activity.
b. Consideration has to be given to the standards that materials must meet in order to be included in the portfolio.
c. The portfolio should contain the student's reasons for placing materials in this portfolio.
d. The student should be involved in learning to apply the criteria and standards to their choice of materials for the portfolio and formulating a rationale for the choice.
e. The student and the teacher (and perhaps other teachers, peers, and parents) should regularly discuss what the student selects and why.

A planning sheet can be used by both teacher and student for determining and clarifying the purpose, design, and construction of a student portfolio. The applied task of problem solving means that the portfolio must enable teachers and students to have access to a record of what

the student did in the activity and why. This should include information on the knowledge and skills used in the activity. If the prescribed learning outcomes for the problem-solving task demand that the student apply design and production skills, then the portfolio must contain a record of the application of design and production skills and why they were used as they were. The standards used to judge the portfolio will depend on the age, maturity, and background of the student. A completed portfolio planning sheet might look like those outlined on the following pages.

PORTFOLIO PLANNING - APPLIED SKILLS 11

Learning Outcomes for this activity are found in the following curriculum organizer(s):

- Problem Solving
- Communication
- Technology
- Self and Society

Nature of the applied task(s)

What items should be in the portfolio?

What are the reasons for including those items?

What criteria should be used to assess the portfolio?

- those derived from the task(s):

- those derived from the background knowledge and skills required:

What is the schedule of conferences about the portfolio?

PORTFOLIO PLANNING - APPLIED SKILLS 11

Learning outcomes for this activity are found in the following curriculum organizer(s):

- Problem Solving
- Communication
- Technology
- Self and Society

Nature of the applied task(s)

Design and create a textile product for a specific market. Justify the design, the product, and the choice of market.

What items should be in the portfolio? What are the reasons for including those items?

- a list of research/reference materials
- show where ideas came from
- drawings of sample products/styles and choice
- defend choice
- the selection of product and market
- arguments for/against particular choice
- review work and communicate with others
- example of prototype
- demonstrate production skills
- explanation of modification
- problem solving with respect to input, suggestions, and critical judgement
- evaluation of process and product

What criteria should be used to assess the portfolio?

- those derived from the task(s)
- those derived from the background knowledge and skills required:
  - persuasiveness of arguments/defence of choices
  - how sample meets principles of art and design
  - appropriateness of textile/fibre choice
  - steps of market research
  - reflection/analysis of process and product

What is the schedule of conferences about the portfolio?

- design drawings
- prototype
- final product

Evaluation Example

Many assessment procedures are like occasional "snapshots." The teacher uses them on a more or less regular basis and they take relatively little time to complete (e.g., rating scales, observation checklists). Long-term assessment procedures differ in that students assemble materials over a relatively long period of time. These procedures include the use of tools such as portfolios, logs, diaries, and periodic audio or video records. Long-term assessment procedures can:

- provide a portrayal of student growth in an area of study over a long period of time
- use assessment criteria that are not accessible in many other forms of assessment
- engage students in reflection about their own work
- engage students in reflection about evaluation

The following pages outline some evaluation examples.

LEARNING OUTCOMES

It is expected that students will:

- use appropriate problem-solving models in the design of products, the provision of services, the development of systems, and the use of ideas
- use effective communication skills when gathering and sharing information independently and in groups
- use appropriate multimedia and information technology in presentations
- demonstrate a willingness to participate independently and interdependently in a productive environment

ASSESSMENT STRATEGY

Students, in groups of three, design a logo for a school club. Each group will present their logo to the other groups.

Criteria:

1. Colour (use at the most three different colours)
2. Originality
3. Design layout
4. Reflects the activities of the school club
5. Overall appearance

Teacher Evaluation of Logo
Mark based on the following criteria:

Criteria	*Scale*				
1. Colour • use of at most three colours • contrast of colours highlights logo elements	1	2	3	4	5
2. Originality • logo components in unique relation to each other • selection of components	1	2	3	4	5
3. Design layout • simplicity of structure • clarity of logo components	1	2	3	4	5
4. Logo reflects club activities • components attributable to club name • overall design relates to club activities	1	2	3	4	5
5. Overall appearance •organization • format • aesthetics	1	2	3	4	5

TEACHER EVALUATION OF GROUP DYNAMICS

Ideal Student Behavior	*My Observations*
• Listens to all opinions and ideas	
• Contributes information and judgement when appropriate	
• Clarifies expectations of each group member	
• Is "on task" the whole time	
• Assumes leadership or supportive role where appropriate	

TEACHER EVALUATION OF GROUP PRESENTATION

Criteria	*Scale*				
• Introduction identifies main points	1	2	3	4	5
• All group members are involved in presentation	1	2	3	4	5
• Clear defence of logo (justification for design, colour, etc.)	1	2	3	4	5
• Appropriate use of technology	1	2	3	4	5
• Overall impression	1	2	3	4	5

LEARNING OUTCOMES

It is expected that students will:

- use appropriate criteria and standards to assess and evaluate products, services, systems and ideas
- use effective communication skills when gathering and sharing information
- use appropriate technologies in a variety of applied contexts
- demonstrate a willingness to participate interdependently in a productive environment

ASSESSMENT TASK

Research career opportunities in marketing products or services

ASSESSMENT TOOL

A written report will be submitted as the assessment tool

Criteria
To what extent does the student address:

- employment opportunities based on statistics for the sector
- job descriptions
- entry requirements
- training programs
- potential for self employment
- industry trends

Holistic Scale
Outstanding (5):

- extensive review of literature
- main points of each reference clearly presented
- summary of issues and trends
- analysis of the findings
- draws conclusions
- makes recommendations based on the results

Very good (4):

- as above, but failed to relate recommendations to conclusions

Good (3):

- reasonable review, discussion and analysis with cursory conclusions and recommendations

Satisfactory (2):

- two or three references with main points difficult to identify
- conclusions and recommendations have limited connection to findings

IP (1):

- two or three references and some main points
- no connection with conclusions or recommendations presented

Appendix E
Acknowledgements

Many people contributed their expertise to this document. The project was jointly co-ordinated by Norm Gilberstad, Doug Halladay, and Jadine Leclaire of the Curriculum Branch working together with Ministry personnel and our partners in education. We would like to thank all who participated in the process.

Applied Skills 11 Writing Team

Ross Allison
School District No. 44 (North Vancouver)

Bev Barnes
School District No. 37 (Delta)

Paul O.M. Boscariol
School District No. 42
(Maple Ridge-Pitt Meadows)

Marianne Hewitt
School District No. 35 (Langley)

Lindsay Langill
School District No. 35 (Langley)

Irene Lew
School District No. 46 (Sunshine Coast)

Hank Lyth
School District No. 39 (Vancouver)

Sylvia Preston
School District No. 63 (Saanich)

Rick Russell
School District No. 42
(Maple Ridge-Pitt Meadows)

Mary Soby
School District No. 62 (Sooke)

Applied Skills 11 Review Team

Leslie Carr
School District No. 71 (Courtenay)

Dave Chowdhury
British Columbia Institute of Technology

LeRoi Daniels
University of British Columbia

Vic Menicucci
School District No. 36 (Surrey)

Royce Shook
School Distict No. 36 (Surrey)

Applied Skills 11 Overview Group

Allan Mattrick
Technology Alliance of British Columbia

Carol Matusicky
B.C. Council for the Family

Jane Promintz
British Columbia Institute of Technology

Rick Russell
School District No. 42
(Maple Ridge-Pitt Meadows)

Darcy Samulak
School District No. 11 (Trail)

Mary Soby
School District No. 62 (Sooke)

Royce Shook
School District No. 36 (Surrey)

Scott Stinson
School District No. 63 (Saanich)

Randy Vandermark
British Columbia Institute of Technology