

THE ENVIRONMENTAL LEARNING & EXPERIENCE CURRICULUM MAPS

ENVIRONMENT & SUSTAINABILITY ACROSS BC'S K-12 CURRICULA



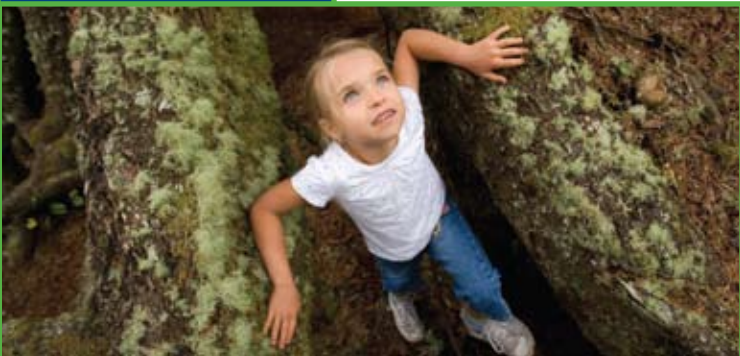
Ministry of
Education





"ALL EDUCATION IS ENVIRONMENTAL EDUCATION."

David Orr



THE ENVIRONMENTAL LEARNING & EXPERIENCE (ELE)



CURRICULUM MAPS

ENVIRONMENT & SUSTAINABILITY ACROSS BC'S K-12 CURRICULA

DEVELOPED BY THE ENVIRONMENTAL EDUCATORS'
PROVINCIAL SPECIALIST ASSOCIATION (EEPSA) AND BC HYDRO
IN CONSULTATION WITH THE BC MINISTRY OF EDUCATION

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TABLE OF CONTENTS



ACKNOWLEDGEMENTS.....	6
INTRODUCTION / RATIONALE.....	7
THE ELE CURRICULUM GUIDE	
The Learning Cycle.....	8
C.A.R.E.....	9
THE ELE CURRICULUM MAPS.....	10
CONNECTING K-12 CURRICULA TO C.A.R.E.	10
AUDIENCES & APPLICATIONS	11
For Teachers	11
For Administrators and Professional Development Coordinators....	11
For Teacher Education Programs.....	11
For Community Program and Resource Developers	11
ELEMENTARY (K-7) MAPS.....	13
MAP BY GRADE LEVEL	14
MAP BY SUBJECT AREA.....	30
SECONDARY (8-12) MAP.....	41
MAP BY SUBJECT / COURSE	42
ELE RESOURCES & NETWORKS OF SUPPORT.....	59



ACKNOWLEDGEMENTS

These curriculum maps complement the *Environmental Learning and Experience* curriculum guide as an important tool to support BC's educators in connecting the environment and sustainability to learning outcomes across K-12 curricula.

This project was led by **Patrick Robertson** (School District #45, West Vancouver) and **David Barnum** (School District #46, Sunshine Coast), and facilitated by **Barry Fergusson** and **Mary Ferguson** (BC Hydro Education) with input from the BC Ministry of Education, Green Schools Education Programs.

A broad team of education professionals contributed their expertise to the development of these curriculum maps. The mapping team held numerous meetings and working group sessions over 16 months, involving practicing teachers and informal educators with a wide range of experience working with K-12 learners and teachers.

In addition to the above individuals, the ELE Curriculum Mapping Team included:

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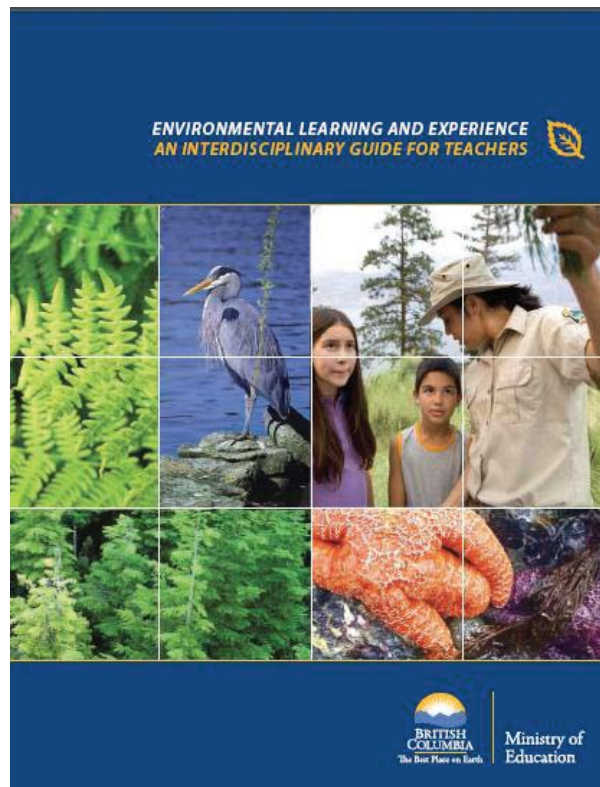
Special thanks to **BC Hydro** for their generous funding of this project in support of curriculum-connected environmental learning in BC.

INTRODUCTION / RATIONALE

A sustainable future for humans on this planet is one of the most significant concerns of our age. As such, there is a growing interest in environmental learning and sustainability among educators. Recent developments in BC curricula have responded to this increasing awareness and demand. In 2007, a new provincial framework for environmental education, *Environmental Learning and Experience (ELE)*, was developed and is available to assist educators around the province in nurturing care for the environment in our learners.

In 2008, a set of ELE Curriculum Maps has been developed to help teachers turn theory into practice for environmental learning by connecting learning outcomes across K-12 curricula with elements of the ELE Guide. Teachers adept at integrating the environment and sustainability into their practice are often well aware of these curriculum links, while others may find the connections less obvious. These maps help to show us where the connections already exist, and how we might further incorporate environmental themes into our teaching and learning.

With the release of the ELE Guide and Curriculum Maps, educators in BC have a stronger foundation on which to base their teaching around the environment and sustainability. Together, we hope these curriculum resources can further support educators in their efforts to make the environment and sustainability a core focus for all learners in BC.





THE ELE CURRICULUM GUIDE

The ELE guide represents an integrated approach to environmental learning because so many school subject areas and learning outcomes touch on environmental topics in some way. This guide is also intended to underscore the fact that environmental concerns are complex and interdisciplinary. By emphasizing the study of environment across the curriculum, it is hoped that students will come to understand how their actions affect both local and global environments.

This revised curriculum resource offers a conceptual framework for introducing environmental learning in all classrooms, while providing several general principles of teaching and learning to guide teachers in designing integrated activities for their learners. The framework provides a number of perspectives around which environmentally-focused lessons may be developed and can assist teachers of all subjects and grades to integrate environmental concepts into virtually any teaching and learning. It is also a guide to the possibility of interdisciplinary practice — using the environment as an organizing theme. Central to the ELE Guide are two elements: the Learning Cycle and C.A.R.E.

The ELE Curriculum Guide is available online at:

www.bced.gov.bc.ca/environment_ed

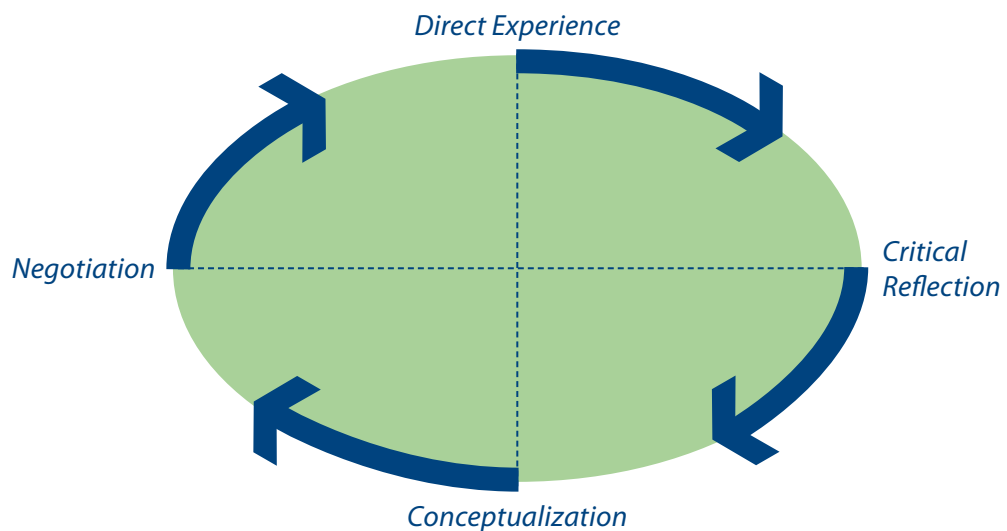
THE LEARNING CYCLE

The experiential learning cycle is a view of teaching and learning that incorporates direct experience, critical reflection and negotiation as foundations of the learning process.

For more on the Learning Cycle, please see the ELE Guide at:

www.bced.gov.bc.ca/environment_ed/principl.html#exper

FIG. 1: THE LEARNING CYCLE



C.A.R.E.

The mnemonic and metaphor of **C.A.R.E.** (Complexity, Aesthetics, Responsibility and Ethics) can be used to describe the various forms environmental knowledge can take.

These principles for organizing and conceptualizing environmental learning include:

- ✿ **COMPLEXITY:** considering the complexity and interrelatedness of natural and human-created systems, and how humans interact with and affect those systems
- ✿ **AESTHETICS:** developing an aesthetic appreciation for the natural world that encourages students to learn about and protect the environment
- ✿ **RESPONSIBILITY:** providing opportunities for students to take responsible action and explore the environmental impact of their decisions and actions
- ✿ **ETHICS:** providing opportunities to practice an environmental ethic based on an examination of values that can give rise to new visions, possibilities and actions

C.A.R.E. emphasizes the interdisciplinary nature of environmental concepts, while representing a progression in the development of ideas that can lead towards deeper engagement with environmental learning in all of its forms. For more details on the elements of **C.A.R.E.**, please see the ELE Guide at:

www.bced.gov.bc.ca/environment_ed/principl_conceptualizing.html

FIG. 2: THE ELEMENTS OF C.A.R.E.



Understanding the complexity of their daily interactions, while recognizing the aesthetics of their environment, learners can take more active responsibility with respect to the environment and sustainable lifestyles. When this happens, an environmental ethic can become a greater part of their developing moral identities. Connecting learning outcomes in K-12 curricula with the elements of **C.A.R.E.** can enable educators to deepen environmental learning and to nurture the development of an environmental ethic in learners.





THE ELE CURRICULUM MAPS

British Columbia's provincial curricula or Integrated Resource Packages (IRPs) put significant emphasis, beginning in the primary grades and extending through the secondary years, on understanding environmental concepts and exploring sustainability in our lives and communities. Prescribed learning outcomes (PLOs) with explicit links to sustainability and environment exist in virtually every subject area from K-12.

As teachers are directly responsible for learning with respect to PLOs, this set of ELE Curriculum Maps linking K-12 IRPs to the ELE Guide has been developed. From the Sciences to the Arts, these maps can assist educators in seeing connections to environment and sustainability across provincial learning outcomes and enable more effective integration of C.A.R.E. into teaching practices and learning.

Importantly, these curriculum maps are intended to make explicit the learning outcomes that exist in K-12 curricula with strong links to sustainability and environmental concepts in an effort to save teachers time. Integrating the environment and sustainability in daily teaching practice is not one more thing for the overburdened educator to do. Rather, these maps can potentially enhance our efficiency and effectiveness by providing a unifying lens with which to approach teaching and learning.



CONNECTING K-12 CURRICULA TO C.A.R.E.

While the Learning Cycle (see Figure 1) represents a range of best-practices-based educational research (HOW to approach environmental learning and experiential approaches), C.A.R.E. represents the content strands of an environmental learning curricula (the WHAT). Connecting PLOs from a broad range of K-12 IRPs to C.A.R.E. is the core purpose of the ELE curriculum maps.

Over the course of 16 months, teams of educational professionals from around the province convened multiple meetings and working groups to identify learning outcomes related to environment and sustainability across K-12 curricula, and to connect these PLOs with the elements of C.A.R.E. Criteria were developed to guide the process of mapping C.A.R.E. across PLOs. These criteria/markers included:

- Focus on Systems and Systems Thinking (C)
- Awareness of and Appreciation for the Natural World (C,A)
- Representation of Environmental Concepts (C,A)
- Action Elements (R, E)
- Values Language (R, E)
- Traditional Ecological Knowledge (C, A, R, E)
- Verbs in PLOs in reference to Bloom's Taxonomy (C, A, R, E)

The ELE Curriculum Maps are intended to be living documents. While selected PLOs across subjects and grade levels have been identified based on their connection to the environment and sustainability, these maps do not contain an exhaustive list. Rather, the maps represent starting points for teachers and other educational professionals to expand and enhance their efforts around environmental learning.

AUDIENCES AND APPLICATIONS



This package of curriculum maps is intended for use by a range of educational professionals. From the classroom to the community, these maps provide a navigational tool to enhance teaching and learning with the environment and sustainability as core elements.

FOR TEACHERS

Teachers take curricula and translate these guidelines with other essential ingredients into high quality, engaging experiences for learners. With IRP PLOs as the desired ends, the ELE Curriculum Maps are designed to assist teachers in emphasizing the environment and sustainability across provincial curricula. Most notably, the maps are intended as a guide for program planning and unit/lesson plan development so that C.A.R.E. can be brought alive in daily practice. Beyond their practical usefulness, these maps also give teachers permission in Ministry of Education curriculum to approach environmental concepts and sustainability as core content.

FOR ADMINISTRATORS AND PROFESSIONAL DEVELOPMENT COORDINATORS

For school and district administrators, as well as Pro-D chairs and committees, intent on making environmental learning a higher priority, the ELE Curriculum Maps have a variety of applications. Most notably, these maps represent permission in Ministry of Education curriculum to emphasize sustainability and the environment in our classrooms, schools and districts. The curriculum connections may also be useful for outreach to parents and the community in support of environmental learning and sustainable practices. With respect to professional development, these maps are a useful tool to help teachers implement the ELE guide in their practices. They can also provide curricular foundations for school and district planning around sustainability and environmental initiatives.

FOR TEACHER EDUCATION PROGRAMS

Pre-service and beginning teachers have a growing need for relevant curriculum implementation training with a strong focus on the environment and sustainability. Teacher education programs can employ the ELE Curriculum Maps (and accompanying suite of ELE initiatives) to support teachers in the process of turning educational theory into best practices. The maps are also an excellent resource to approach learning about cross-curricular integration as well as the developmental aspect of learning outcomes through the grade levels. New teachers can often find a lack of background knowledge to be a significant barrier to implementing new curricula – these maps can help find paths to overcome these challenges.

FOR COMMUNITY PROGRAM AND RESOURCE DEVELOPERS

For community organizations interested in meeting the needs of teachers and learners in the public system, the ability to match your program and resource offerings with provincial curricula is essential. The ELE Curriculum Maps are a valuable tool in further connecting community programs and learning resources with PLOs across K-12 curricula. Connecting your programs and resources to the Learning Cycle and elements of C.A.R.E. is an important aspect of this process. With a stronger sense of the ELE and emergent curriculum connections, community organizations can also enhance their outreach and marketing to teachers and community members.



ELEMENTARY (K-7) MAPS



For the elementary grades, two ELE curriculum maps have been developed to assist planning, teaching and learning with C.A.R.E. as core elements. As elementary educators tend to be grade level generalists with access to the potent power of cross-curricular integration, a **Map by Grade Level** has been developed to support subject specific and integrated teaching and learning at that grade level. For educators with multiple grade levels or wishing to better understand the developmental sequence of selected environment and sustainability PLOs, a **Map by Subject Area** has also been developed.

A critical caveat for users of these maps is that only selected PLOs are included across subjects and grade levels. These PLOs were identified as having clear connections to the environment, sustainability and C.A.R.E. By no means does the omission of a PLO from these matrices mean that it has no connection. Rather, most, if not all, elementary level PLOs can be connected to environment and sustainability by educators. These maps are intended as a starting point on the journey toward teaching and learning with environment and sustainability in mind.

CORE QUESTIONS

For C.A.R.E.:

- Where do we find complexity in the curriculum and how do we help learners to understand complex systems?
- What learning outcomes focus on aesthetics and how do we assist learners to develop an aesthetic appreciation for the natural world?
- Which learning outcomes emphasize a sense of responsibility and how do we nurture responsibility as educators?
- How do we support learners to develop an environmental ethic?

For the Learning Cycle:

- Where might Direct Experience learning opportunities present themselves in the curriculum?
- What learning outcomes are best suited to support reflection and negotiation learning opportunities for learners?

For more information including useful learning resources to support teaching for learning outcomes with C.A.R.E., please contact EEPSA at www.bctf.ca/eeepsa.



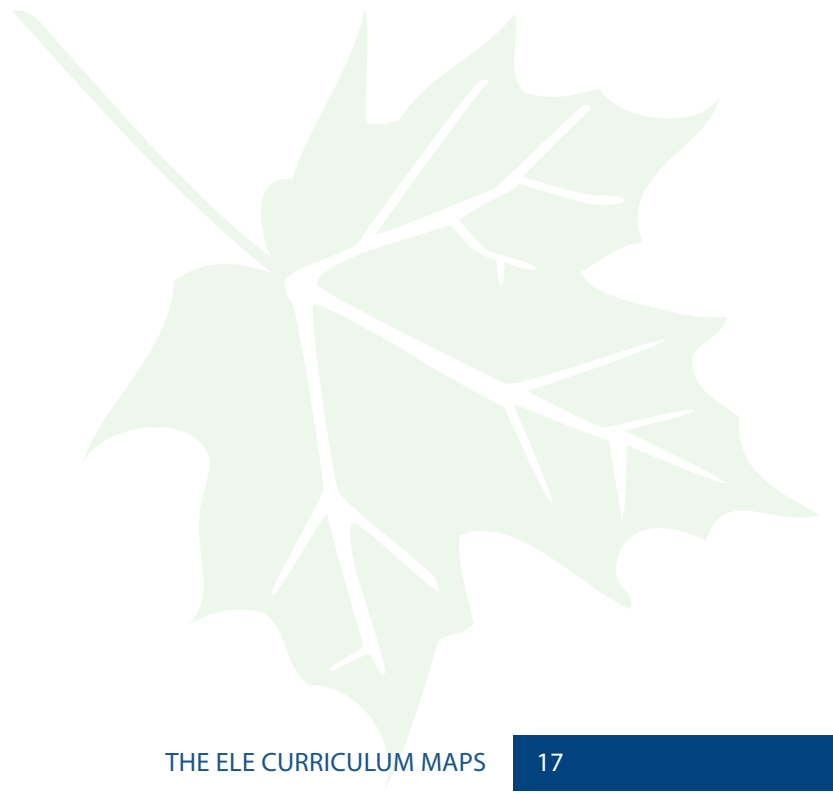
K-7 CURRICULUM MAP BY GRADE LEVEL

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
K	SCIENCE	• describe ways to rethink, refuse, reduce, reuse, and recycle	C	A	R	E	
		• describe features of local plants and animals	C	A			
		• compare local plants	C	A			
		• compare common animals	C	A			
		• describe features of their immediate environment	C	A			
	SOCIAL STUDIES	• demonstrate an awareness of the concept of change	C	A			
		• identify groups and places that are part of their lives	C	A			
		• identify characteristics of different local environments	C	A			
		• demonstrate responsible behaviour in caring for their immediate environment			R	E	
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Developing Oral Language (Speaking and Listening) Abilities</i> <i>Developing Reading and Viewing Abilities</i> <i>Developing Writing and Representing Abilities</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• create movements that represent patterns, characters, and other aspects of their world		A			
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
	Drama	• create movement in response to the expressive elements of music and sound		A			
	Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E	

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
K	Music	• identify elements of expression that evoke thoughts, images, and feelings		A			
	Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E	
	Visual Arts	• identify a variety of image sources, their own and others			A		
		• use feelings, observation, memory, and imagination as sources for images			A		
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences and moods; to tell a story; and that engages more than one of the senses			A		
		• demonstrate an awareness that images come from a variety of contexts	C		A		
		• create images in response to objects and other images they have experienced	C		A		
		• demonstrate an awareness of safety and environmental considerations in the use of materials, tools, equipment, and processes				R	E
	Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E	
	HEALTH & CAREER EDUCATION	• identify opportunities to make choices	C	A	R	E	
		• identify practices that contribute to health, including healthy eating, regular physical activity, emotional health practices, and disease prevention practices	C				
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in moderate to vigorous physical activities				R	E
		• identify physical activities they enjoy doing					E
		• use their bodies to create shapes (e.g., by bending, curling, pulling, pushing, stretching, swinging, and/or twisting)	C		A	R	E
Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E		

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
1	SCIENCE	• classify living and non-living things	C	A			
		• describe how the basic needs of plants and animals are met in their environment	C	A			
		• describe changes that occur in daily and seasonal cycles and their effects on living things	C	A			
		• describe activities of Aboriginal peoples in BC in each seasonal cycle	C	A		E	
	SOCIAL STUDIES	• describe changes that occur in their lives	C	A			
		• identify a variety of social structures in which they live, learn, work, and play together	C		R	E	
		• identify characteristics of different environments	C	A			
		• demonstrate responsible behaviour in caring for their immediate and school environments			R	E	
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Oral Language (Speaking and Listening)</i> <i>Reading and Viewing</i> <i>Writing and Representing</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• create movements that represent patterns, characters, and other aspects of their world		A			
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
	Drama	• create movement in response to the expressive elements of music and sound		A			
Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E		
Music	• identify elements of expression that evoke thoughts, images, and feelings		A				
Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E		

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
1	Visual Arts	• identify a variety of image sources, their own and others		A		
		• use feelings, observation, memory, and imagination as sources for images		A		
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences and moods; to tell a story; and that engages more than one of the senses		A		
		• demonstrate an awareness that images come from a variety of contexts	C	A		
		• create images in response to objects and other images they have experienced	C	A		
		• demonstrate an awareness of safety and environmental considerations in the use of materials, tools, equipment, and processes			R	E
	Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E
	HEALTH & CAREER EDUCATION	• identify opportunities to make choices	C	A	R	E
		• identify practices that contribute to health, including healthy eating, regular physical activity, emotional health practices, and disease prevention practices	C			
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in moderate to vigorous physical activities			R	E
		• identify physical activities they enjoy doing			R	E
	Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E

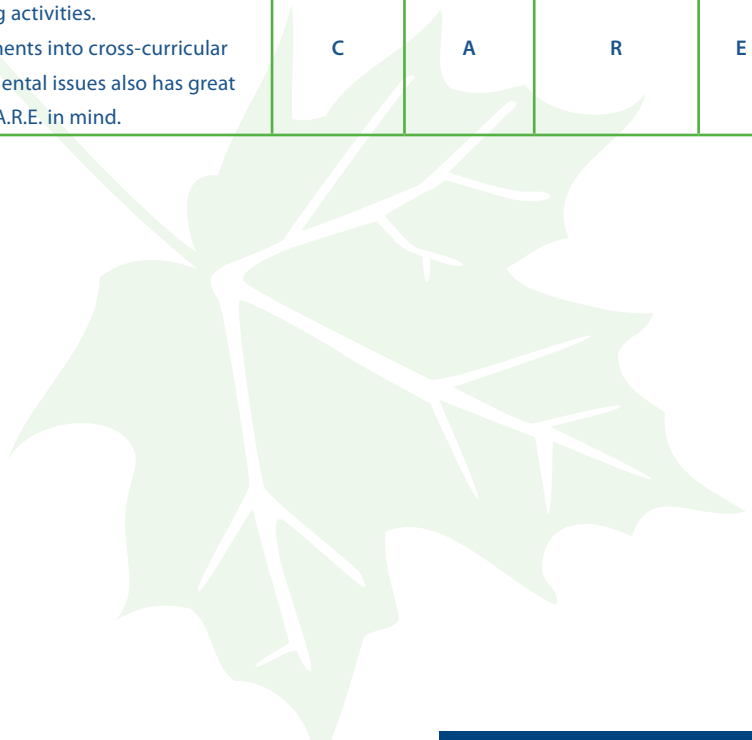


Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
2	SCIENCE	• classify familiar animals according to similarities and differences in appearance, behaviour, and life cycles	C	A			
		• describe some changes that affect animals	C				
		• describe how animals are important in the lives of Aboriginal peoples in BC	C	A	R	E	
		• describe ways in which animals are important to other living things and the environment	C	A	R	E	
		• describe physical properties of air, water, and soil	C				
		• distinguish ways in which air, water, and soil interact	C	A			
		• explain why air, water, and soil are important for living things	C	A	R	E	
	SOCIAL STUDIES	• identify changes that occur in the school and community throughout the year	C	A			
		• describe ways individuals contribute to a community	C	A	R	E	
		• locate on a map landforms and bodies of water of local and national significance	C	A			
		• describe their responsibility to the local environment	C	A	R	E	
		• describe how the physical environment influences human activities	C	A	R	E	
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Oral Language (Speaking and Listening)</i> <i>Reading and Viewing</i> <i>Writing and Representing</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• move expressively to a variety of sounds and music			A		
		• create movement sequences based on patterns, characters, and stories			A		
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
	Drama	• describe their feelings and ideas to be used in a dramatic work			A		

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
2	Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E	
	Music	• describe personal thoughts, images, and feelings experienced in classroom repertoire		A			
	Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E	
	Visual Arts	• identify a variety of image sources, including feelings, imagination, memory, and observation			A		
		• use feelings, observation, memory, and imagination as sources for images			A		
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences, moods and stories; to illustrate and decorate; and that engages more than one of the senses			A		
		• demonstrate an awareness that particular images have value in the community	C		A		
		• create images based on objects, places, events, or issues in their classroom, school, and community	C		A		
		• identify safe and environmentally sensitive use of materials, tools, equipment, and processes	C			R	E
	Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E	
	HEALTH & CAREER EDUCATION	• identify opportunities to make decisions	C		A	R	E
		• identify the steps needed to achieve a goal (e.g., identify a goal, identify actions needed to reach the goal, identify what successful goal achievement would look like)	C		A	R	E
		• describe ways of categorizing jobs (e.g., indoor/outdoor, paid/unpaid, necessary skills)	C				
		• describe practices that contribute to physical and emotional health (e.g., regular physical activity, healthy eating, healthy relationships)	C				
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in moderate to vigorous physical activities				R	E
		• describe the personal benefits of regular participation in physical activity	C			R	E
	Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E	

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
3	SCIENCE	• compare familiar plants according to similarities and differences in appearance and life style	C	A			
		• describe ways in which plants are important to other living things and the environment	C	A	R	E	
		• describe how plants are harvested and used throughout the seasons	C	A	R	E	
	SOCIAL STUDIES	• identify changes that can occur in communities over time	C	A			
		• describe the importance of communities	C	A	R	E	
		• locate major landforms and bodies of water in BC and Canada	C	A			
		• demonstrate a sense of responsibility for the local environment			R	E	
		• describe how the physical environment influenced early settlement in their local community or another community studied	C	A			
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Oral Language (Speaking and Listening)</i> <i>Reading and Viewing</i> <i>Writing and Representing</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• move expressively to a variety of sounds and music			A		
		• create movement sequences based on patterns, characters, and stories			A		
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
Drama	• select feelings and ideas expressed in the group to use in dramatic work			A			
Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E		
Music	• describe personal thoughts, images, and feelings experienced in classroom repertoire			A			

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
3	Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E
	Visual Arts	• identify a variety of image sources, including feelings, imagination, memory, and observation	C	A		E
		• use feelings, observation, memory, and imagination as sources for images		A		
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences, moods and stories; to illustrate and decorate; and that engages more than one of the senses		A		
		• demonstrate an awareness that particular images have value in the community	C	A		
		• create images based on objects, places, events, or issues in their classroom, school, and community	C	A		
		• draft ideas for images using feelings, observation, memory, and imagination	C			E
		• identify safe and environmentally sensitive use of materials, tools, equipment, and processes		A	R	
		Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R
	HEALTH & CAREER EDUCATION	• apply a goal-setting model to a short-term goal	C	A	R	E
		• describe practices that contribute to physical and emotional health	C			
		• describe the importance of healthy eating and regular physical activity for a healthy lifestyle	C	A		
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in moderate to vigorous physical activities			R	E
		• identify choices people can make to be more active			R	E
		• demonstrate leadership in physical activity			R	E
	Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E



Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
4	SCIENCE	• compare the structures and behaviours of local animals and plants in different habitats and communities	C	A			
		• analyse simple food chains	C	A		E	
		• demonstrate awareness of the Aboriginal concept of respect for the environment	C	A	R		
		• determine how personal choices and actions have environmental consequences	C	A	R	E	
		• measure weather in terms of temperature, precipitation, cloud cover, wind speed and direction	C	A			
		• analyse impacts of weather conditions on living and non-living things	C	A	R		
	SOCIAL STUDIES	• use maps and globes to locate: world's hemispheres, continents and oceans, and Aboriginal groups studied	C	A			
		• describe Aboriginal peoples' relationship with the land and natural resources	C	A	R	E	
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Oral Language (Speaking and Listening)</i> <i>Reading and Viewing</i> <i>Writing and Representing</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• create movement in response to the expressive elements of music and sound			A		
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
	Drama	• demonstrate an understanding that drama reflects a culture's beliefs and attitudes			A	R	
		• express ideas and emotions using verbal and non-verbal communication	C	A		E	
	Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E	

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
4	Note for Music	• apply the elements of rhythm, melody, and expression to represent thoughts, images, and feelings in classroom repertoire		A		
	Visual Arts	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E
		• draft ideas for images using feelings, observation, memory, and imagination		A		
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences, moods and stories; to illustrate and decorate; and that engages more than one of the senses		A		
		• compare images from given social, cultural, and historical contexts	C	A		
		• create images in response to aspects of art from a variety of historical and cultural contexts	C	A		
		• suggest reasons for following safe and environmentally sensitive procedures in the use of materials, tools, equipment, and processes		A	R	
		• use and care for materials, tools, equipment, and work space in a safe and an environmentally sensitive manner			R	E
		Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R
	HEALTH & CAREER EDUCATION	• identify the steps in a decision-making model (e.g., identifying the decision, listing alternatives, selecting a course of action, assessing the results)	C	A	R	E
		• create an inventory of their own attributes, including skills, interests, and accomplishments	C	A		
		• describe the choices an individual can make to attain and maintain physical and emotional health	C	A	R	E
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities			R	E
		• demonstrate leadership in selected physical activities			R	E
	Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
5	SCIENCE	• describe the basic structure and functions of the human body systems	C	A			
		• explain how the different body systems are interconnected	C	A			
		• analyse how BC's living and non-living resources are used	C	A	R	E	
		• identify methods of extracting or harvesting and processing BC's resources	C	A	R	E	
		• analyse how the Aboriginal concept of interconnectedness of the environment is reflected in responsibility for and caretaking of resources	C	A	R	E	
		• describe potential environmental impacts of using BC's living and non-living resources	C	A	R	E	
	SOCIAL STUDIES	• describe the significance of key events and factors in the development of BC and Canada	C	A			
		• describe the major physical regions of Canada	C	A		E	
		• describe the location of natural resources within BC and Canada, including marine resources, forests, minerals and energy resources	C	A			
		• explain why sustainability is important			R		
		• analyse environmental effects of settlement in early BC and Canada	C	A	R	E	
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Oral Language (Speaking and Listening)</i> <i>Reading and Viewing</i> <i>Writing and Representing</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• interpret and move in response to a variety of sounds, images, feelings, and music		A			
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
	Drama	• demonstrate how drama affects beliefs and attitudes		A			
		• express ideas and emotions using verbal and non-verbal communication		A			

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
5	Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E	
	Music	• apply the elements of expression in their compositions		A			
	Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E	
	Visual Arts	• draft ideas for images using feelings, observation, memory, and imagination			A		
		• make 2-D and 3-D images: using a variety of design strategies; in various styles; to communicate ideas; and that engages more than one of the senses			A		
		• identify aspects of selected images that indicate the social, historical, or cultural context in which they were created	C	A			
		• demonstrate an awareness of the significance of images in a variety of social, historical, and cultural contexts	C	A			
		• create images that express personal identity and aspects of art from a variety of historical and cultural contexts	C	A			
		• demonstrate an understanding of safety and environmental considerations in the use of materials, tools, equipment, and processes			A	R	
		• use and maintain materials, tools, equipment, and work space in a safe and an environmentally sensitive manner	C			R	E
	Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E	
	CORE FRENCH	Each of the learning strands (e.g., thematic unit or topic) and learning resources (e.g., websites, books, media) can be used to develop and foster students' learning of environmental and sustainability concepts.	C	A	R	E	
	HEALTH & CAREER EDUCATION	• describe how various factors (e.g., access to accurate and relevant information, media and social influences) affect decision making	C	A	R	E	
		• identify types of work that interest them	C	A			
		• describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health	C	A			
		• identify factors that influence attitudes and decisions regarding healthy lifestyles (e.g., family, peer, media)	C	A	R	E	
		• analyse behaviours that contribute to a safe and caring school environment (e.g., taking responsibility for personal actions, supporting others, promoting respect for diversity)	C	A	R	E	
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities				R	E
		• set a personal goal for physical activity				R	E
		• demonstrate leadership in physical activity				R	E
Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E		

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
6	SCIENCE	• analyse how different organisms adapt to their environments	C	A	R	E	
		• distinguish between life forms as single or multi-celled organisms and belonging to one of five kingdoms	C	A			
		• differentiate between renewable and non-renewable methods of producing electrical energy	C	A	R	E	
	SOCIAL STUDIES	• describe the importance of trade for BC and Canada	C				
		• evaluate effects of technology on lifestyles and environments	C	A	R	E	
		• assess the relationship between cultures and their environments	C	A	R	E	
		• describe factors that affect settlement patterns and population distribution in selected countries	C				
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Oral Language (Speaking and Listening)</i> <i>Reading and Viewing</i> <i>Writing and Representing</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• interpret and move in response to a variety of sounds, images, feelings, and music		A			
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
	Drama	• express ideas and emotions using verbal and non-verbal communication		A			
	Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E	
Music	• apply the elements of expression in their compositions		A				
Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E		

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
6	Visual Arts	• compile a collection of ideas for images drafted using feelings, observation, memory, and imagination		A		
		• make 2-D and 3-D images: using a variety of design strategies; in various styles; to communicate concepts and messages; and that engages more than one of the senses		A		
		• demonstrate an awareness that images influence and are influenced by their social, historical, and cultural contexts	C	A		
		• create images that express beliefs and values, and reflect art styles from a variety of social, historical, and cultural contexts	C	A		E
		• demonstrate an understanding of safety and environmental considerations in the use of materials, tools, equipment, and processes	C		R	E
		• use and maintain materials, tools, equipment, and work space in a safe and an environmentally sensitive manner	C		R	E
	Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E
	CORE FRENCH	Each of the learning strands (e.g., thematic unit or topic) and learning resources (e.g., websites, books, media) can be used to develop and foster students' learning of environmental and sustainability concepts.	C	A	R	E
	HEALTH & CAREER EDUCATION	• describe planning techniques that can help to support goal attainment (e.g., time management, setting priorities, considering costs and resources)	C			
		• identify influences on goal setting and decision making, including family, peer, and media influences			R	E
		• describe transferable skills that are developed through school and recreational activities (e.g., teamwork, organization, creativity)	C	A		
		• relate personal attributes to various types of work	C	A		
		• describe the benefits of attaining and maintaining a balanced, healthy lifestyle	C			
		• assess the influence that peers have on individuals' attitudes and behaviour			R	E
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities			R	E
		• set personal goals for attaining and maintaining a physically active lifestyle	C		R	E
	Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
7	SCIENCE	• analyse the roles of organisms as part of interconnected food webs, populations, communities, and ecosystems	C	A	R	E	
		• assess survival needs and interactions between organisms and the environment	C	A	R	E	
		• assess the requirements for sustaining healthy local ecosystems	C	A	R	E	
		• evaluate human impacts on local ecosystems	C	A	R	E	
		• explain how the Earth's surface changes over time	C	A			
	SOCIAL STUDIES	• analyse the concept of civilization as it applies to selected ancient cultures	C				
		• identify influences and contributions of ancient societies to present-day cultures	C				
		• assess ways technological innovations enabled ancient peoples to adapt to and modify their environments, and develop their cultures	C	A	R	E	
		• assess how physical environments affected ancient civilizations	C	A			
		• identify the impact of human activity on physical environments in ancient civilizations	C	A	R	E	
	LANGUAGE ARTS	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment. <i>Oral Language (Speaking and Listening)</i> <i>Reading and Viewing</i> <i>Writing and Representing</i>	C	A	R	E	
	MATH	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E	
	FINE ARTS						
	Dance	• create movement in response to the expressive elements of music and sound		A			
	Note for Dance	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E	
	Drama	• select a means of communication to express ideas and emotions in dramatic work		A			
	Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E	

Grade Level	IRP	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
7	Music	• apply the elements of rhythm, melody, and expression to interpret a range of thoughts, images, and feelings		A			
	Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E	
	Visual Arts	• make 2-D and 3-D images: using a variety of sources; using a various image development strategies from a variety of styles; for specific purposes; that solve complex design problems, considering form and function; and that engages more than one of the senses			A		
		• identify distinctive characteristics of images from a variety of historical and cultural contexts	C		A		
		• demonstrate an understanding of the impact of images within various social, historical, and cultural contexts	C		A		
		• create images that convey beliefs and values, and incorporate the styles of selected artists from a variety of social, historical, and cultural contexts	C		A		E
		• demonstrate an understanding of safety and environmental considerations in the use of materials, tools, equipment, and processes	C			R	E
		• use and maintain materials, tools, equipment, and work space in a safe and an environmentally sensitive manner	C			R	E
	Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E	
	CORE FRENCH	Each of the learning strands (e.g., thematic unit or topic) and learning resources (e.g., websites, books, media) can be used to develop and foster students' learning of environmental and sustainability concepts.	C	A	R	E	
	HEALTH & CAREER EDUCATION	• demonstrate an ability to apply a decision-making model to a specific situation	C		A	R	E
		• design a plan to achieve a specific goal	C		A	R	E
		• classify jobs according to career clusters (e.g., by type of industry, type of work, personal interests)	C		A		
		• identify skills that are transferable to a range of school and recreational situations (e.g., time management, teamwork, problem solving, communication, adaptability)	C		A		
		• analyse factors (including media and peer) that influence personal health decisions				R	E
	PHYSICAL EDUCATION	• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities				R	E
		• design a plan for achieving physical activity goals	C			R	E
		• apply learned movement skills in new and unfamiliar physical activities	C				
		• model leadership in creating a positive climate for physical activity				R	E
	Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E	



K-7 CURRICULUM MAP BY SUBJECT AREA

IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SCIENCE K - 7 (2005)	K	• describe ways to rethink, refuse, reduce, reuse, and recycle	C	A	R	E
		• describe features of local plants and animals	C	A		
		• compare local plants	C	A		
		• compare common animals	C	A		
		• describe features of their immediate environment	C	A		
	1	• classify living and non-living things	C	A		
		• describe how the basic needs of plants and animals are met in their environment	C	A		
		• describe changes that occur in daily and seasonal cycles and their effects on living things	C	A		
		• describe activities of Aboriginal peoples in BC in each seasonal cycle	C	A		E
	2	• classify familiar animals according to similarities and differences in appearance, behaviour, and life cycles	C	A		
		• describe some changes that affect animals	C			
		• describe how animals are important in the lives of Aboriginal peoples in BC	C	A	R	E
		• describe ways in which animals are important to other living things and the environment	C	A	R	E
		• describe physical properties of air, water, and soil	C			
		• distinguish ways in which air, water, and soil interact	C	A		
		• explain why air, water, and soil are important for living things	C	A	R	E
	3	• compare familiar plants according to similarities and differences in appearance and life style	C	A		
		• describe ways in which plants are important to other living things and the environment	C	A	R	E
		• describe how plants are harvested and used throughout the seasons	C	A	R	E
	4	• compare the structures and behaviours of local animals and plants in different habitats and communities	C	A		
		• measure weather in terms of temperature, precipitation, cloud cover, wind speed and direction	C	A		
		• analyse impacts of weather conditions on living and non-living things	C	A	R	E
		• analyse simple food chains	C	A		
		• demonstrate awareness of the Aboriginal concept of respect for the environment	C	A	R	E
		• determine how personal choices and actions have environmental consequences	C	A	R	E

IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SCIENCE K - 7 (2005)	5	• describe the basic structure and functions of the human body systems	C	A		
		• explain how the different body systems are interconnected	C	A		
		• analyse how BC's living and non-living resources are used	C	A	R	E
		• identify methods of extracting or harvesting and processing BC's resources	C			
		• analyse how the Aboriginal concept of interconnectedness of the environment is reflected in responsibility for and caretaking of resources	C	A	R	E
		• describe potential environmental impacts of using BC's living and non-living resources	C	A	R	E
	6	• analyse how different organisms adapt to their environments	C	A	R	E
		• distinguish between life forms as single or multi-celled organisms and belonging to one of five kingdoms	C	A		
		• differentiate between renewable and non-renewable methods of producing electrical energy	C	A	R	E
	7	• analyse the roles of organisms as part of interconnected food webs, populations, communities, and ecosystems	C	A	R	E
		• assess survival needs and interactions between organisms and the environment	C	A	R	E
		• assess the requirements for sustaining healthy local ecosystems	C	A	R	E
		• evaluate human impacts on local ecosystems	C	A	R	E
		• explain how the Earth's surface changes over time	C	A		



IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SOCIAL STUDIES K - 7 (2006)	K	• demonstrate an awareness of the concept of change	C	A		
		• identify groups and places that are part of their lives	C	A		
		• identify characteristics of different local environments	C	A		
		• demonstrate responsible behaviour in caring for their immediate environment			R	E
	1	• describe changes that occur in their lives	C	A		
		• identify a variety of social structures in which they live, learn, work, and play together	C		R	E
		• identify characteristics of different environments	C	A		
		• demonstrate responsible behaviour in caring for their immediate and school environments			R	E
	2	• identify changes that occur in the school and community throughout the year	C	A		
		• describe ways individuals contribute to a community	C	A	R	E
		• locate on a map landforms and bodies of water of local and national significance	C	A		
		• describe their responsibility to the local environment	C	A	R	E
		• describe how the physical environment influences human activities	C	A	R	E
	3	• identify changes that can occur in communities over time	C	A		
		• describe the importance of communities	C	A	R	E
		• locate major landforms and bodies of water in BC and Canada	C	A		
		• demonstrate a sense of responsibility for the local environment			R	E
		• describe how the physical environment influenced early settlement in their local community or another community studied	C	A		
	4	• use maps and globes to locate: world's hemispheres, continents and oceans, and Aboriginal groups studied	C	A		
		• describe Aboriginal peoples' relationship with the land and natural resources	C	A	R	E
	5	• describe the significance of key events and factors in the development of BC and Canada	C			
		• describe the major physical regions of Canada	C	A		
		• describe the location of natural resources within BC and Canada, including fish and marine resources, forests, minerals and energy resources	C	A		
		• explain why sustainability is important	C	A	R	E
		• analyse environmental effects of settlement in early BC and Canada	C	A	R	E
	6	• describe the importance of trade for BC and Canada	C			
		• evaluate effects of technology on lifestyles and environments	C	A	R	E
		• assess the relationship between cultures and their environments	C	A	R	E
		• describe factors that affect settlement patterns and population distribution in selected countries	C			
	7	• analyse the concept of civilization as it applies to selected ancient cultures	C			
		• identify influences and contributions of ancient societies to present-day cultures	C			
		• assess ways technological innovations enabled ancient peoples to adapt to and modify their environments, and develop their cultures	C	A	R	E
• assess how physical environments affected ancient civilizations		C	A			
• identify the impact of human activity on physical environments in ancient civilizations		C	A	R	E	

IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
LANGUAGE ARTS K - 7 (2006)	K-7	All Language Arts PLOs, being process oriented, implicitly address environmental education in each curriculum organizer (see below). The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of sustainability and environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment.	C	A	R	E
	K	Developing Oral Language (Speaking and Listening) Abilities Developing Reading and Viewing Abilities Developing Writing and Representing Abilities	C	A	R	E
	1-7	Oral Language (Speaking and Listening) Reading and Viewing Writing and Representing • <i>Purposes</i> • <i>Strategies</i> • <i>Thinking</i> • <i>Features</i>	C	A	R	E
CORE FRENCH	5-7	Each of the learning strands (e.g., thematic unit or topic) and learning resources (e.g., websites, books, media) can be used to develop and foster students' learning of environmental and sustainability concepts.	C	A	R	E
MATH	K-7	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications for each curriculum organizer (see below). Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics. <i>Number</i> <i>Patterns and Relations</i> <i>Shape and Space</i> <i>Statistics and Probability</i>	C	A	R	E



IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
FINE ARTS K - 7 (1998)	Dance K-1	• move expressively to a variety of sounds and music		A		
		• create movements that represent patterns, characters, and other aspects of their world		A		
	Dance 2-3	• move expressively to a variety of sounds and music		A		
		• create movement sequences based on patterns, characters, and stories		A		
	Dance 4-6	• interpret and move in response to a variety of sounds, images, feelings, and music		A		
	Dance 7	• create movement in response to the expressive elements of music and sound		A		
	Note for Dance K - 7	'Found sounds' such as environmental sounds are frequently used along with, or in place of, music at these grade levels; often the students will create a sound composition using objects found around them or weather sounds they have taped and then create the dance to go with it to demonstrate an idea about the environment, weather, etc.	C	A	R	E
	Drama K-1	• create movement in response to the expressive elements of music and sound		A		
	Drama 2-3	• describe their feelings and ideas to be used in a dramatic work		A		
	Drama 4	• select feelings and ideas expressed in the group to use in dramatic work		A		
		• demonstrate an understanding that drama reflects a culture's beliefs and attitudes	C	A	R	E
	Drama 5-6	• express ideas and emotions using verbal and non-verbal communication		A		
		• demonstrate how drama affects beliefs and attitudes (gr. 5 only)		A		E
	Drama 7	• select a means of communication to express ideas and emotions in dramatic work		A		
	Note for Drama K - 7	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; this issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E
	Music K-1	• identify elements of expression that evoke thoughts, images, and feelings		A		
	Music 2-3	• describe personal thoughts, images, and feelings experienced in classroom repertoire		A		
	Music 4	• identify thoughts, images, and feelings derived from a music experience		A		
	Music 5	• apply the elements of rhythm, melody, and expression to represent thoughts, images, and feelings in classroom repertoire		A		
	Music 6	• apply the elements of expression in their compositions		A		
Music 7	• apply the elements of rhythm, melody, and expression to interpret a range of thoughts, images, and feelings		A			
Note for Music K - 7	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E	

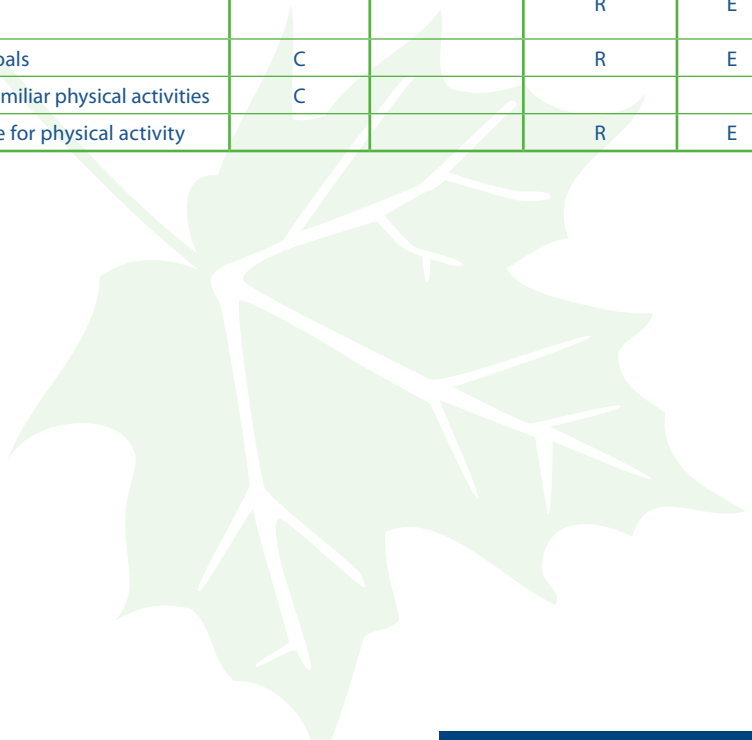
IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
FINE ARTS K - 7 (1998)	Visual Arts K-1	• identify a variety of image sources, their own and others		A			
		• use feelings, observation, memory, and imagination as sources for images		A			
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences and moods; to tell a story; and that engages more than one of the senses		A			
		• demonstrate an awareness that images come from a variety of contexts	C	A			
		• create images in response to objects and other images they have experienced	C	A			
		• demonstrate an awareness of safety and environmental considerations in the use of materials, tools, equipment, and processes			R	E	
	Visual Arts 2-3	• identify a variety of image sources, including feelings, imagination, memory, and observation			A		
		• use feelings, observation, memory, and imagination as sources for images			A		
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences, moods and stories; to illustrate and decorate; and that engages more than one of the senses			A		
		• demonstrate an awareness that particular images have value in the community	C		A		
		• create images based on objects, places, events, or issues in their classroom, school, and community	C		A		
		• identify safe and environmentally sensitive use of materials, tools, equipment, and processes				R	E
	Visual Arts 4	• draft ideas for images using feelings, observation, memory, and imagination			A		
		• make 2-D and 3-D images: using a variety of design strategies; exploring a variety of media; to communicate experiences, moods and stories; to illustrate and decorate; and that engages more than one of the senses			A		
		• compare images from given social, cultural, and historical contexts	C		A		
		• create images that express personal identity and aspects of art from a variety of historical and cultural contexts	C		A		
		• suggest reasons for following safe and environmentally sensitive procedures in the use of materials, tools, equipment, and processes				R	E
		• use and care for materials, tools, equipment, and work space in a safe and an environmentally sensitive manner				R	E
	Visual Arts 5	• draft ideas for images using feelings, observation, memory, and imagination			A		
		• make 2-D and 3-D images: using a variety of design strategies; in various styles; to communicate ideas; and that engages more than one of the senses			A		
		• identify aspects of selected images that indicate the social, historical, or cultural context in which they were created	C		A		
		• demonstrate an awareness of the significance of images in a variety of social, historical, and cultural contexts	C		A		
		• create images that express personal identity and aspects of art from a variety of historical and cultural contexts	C		A		
		• demonstrate an understanding of safety and environmental considerations in the use of materials, tools, equipment, and processes				R	E
		• use and maintain materials, tools, equipment, and work space in a safe and an environmentally sensitive manner				R	E

IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
FINE ARTS K - 7 (1998)	Visual Arts 6	• compile a collection of ideas for images drafted using feelings, observation, memory, and imagination		A			
		• make 2-D and 3-D images: using a variety of design strategies; in various styles; to communicate concepts and messages; and that engages more than one of the senses		A			
		• demonstrate an awareness that images influence and are influenced by their social, historical, and cultural contexts	C	A			
		• create images that express beliefs and values, and reflect art styles from a variety of social, historical, and cultural contexts	C	A		E	
		• demonstrate an understanding of safety and environmental considerations in the use of materials, tools, equipment, and processes			R	E	
		• use and maintain materials, tools, equipment, and work space in a safe and an environmentally sensitive manner			R	E	
	Visual Arts 7	• make 2-D and 3-D images: using a variety of sources; using a various image development strategies from a variety of styles; for specific purposes; that solve complex design problems, considering form and function; and that engages more than one of the senses			A		
		• identify distinctive characteristics of images from a variety of historical and cultural contexts	C	A			
		• demonstrate an understanding of the impact of images within various social, historical, and cultural contexts	C	A			
		• create images that convey beliefs and values, and incorporate the styles of selected artists from a variety of social, historical, and cultural contexts	C	A		E	
		• demonstrate an understanding of safety and environmental considerations in the use of materials, tools, equipment, and processes			R	E	
		• use and maintain materials, tools, equipment, and work space in a safe and an environmentally sensitive manner			R	E	
	Note for Visual Arts K-7	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E	

IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
HEALTH & CAREER EDUCATION K - 7 (2006)	K	• identify opportunities to make choices	C	A	R	E
		• identify practices that contribute to health, including healthy eating, regular physical activity, emotional health practices, and disease prevention practices	C			
	1	• identify reasons for setting goals (e.g., helps to identify steps, helps to focus on achievement, helps to identify personal accomplishments)	C	A	R	E
		• describe a variety of jobs and responsibilities they have at home and at school			R	E
		• identify practices that contribute to health, including healthy eating, regular physical activity, and emotional health practices	C			
	2	• identify opportunities to make decisions	C	A	R	E
		• identify the steps needed to achieve a goal (e.g., identify a goal, identify actions needed to reach the goal, identify what successful goal achievement would look like)	C	A	R	E
		• describe ways of categorizing jobs (e.g., indoor/outdoor, paid/unpaid, necessary skills)	C			
		• describe practices that contribute to physical and emotional health (e.g., regular physical activity, healthy eating, healthy relationships)	C			
	3	• apply a goal-setting model to a short-term goal	C	A	R	E
		• describe practices that contribute to physical and emotional health	C			
		• describe the importance of healthy eating and regular physical activity for a healthy lifestyle	C	A		
	4	• identify the steps in a decision-making model (e.g., identifying the decision, listing alternatives, selecting a course of action, assessing the results)	C	A	R	E
		• create an inventory of their own attributes, including skills, interests, and accomplishments	C	A		
		• describe the choices an individual can make to attain and maintain physical and emotional health	C	A	R	E
	5	• describe how various factors (e.g., access to accurate and relevant information, media and social influences) affect decision making	C	A	R	E
		• identify types of work that interest them	C	A		
		• describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health	C	A		
		• identify factors that influence attitudes and decisions regarding healthy lifestyles (e.g., family, peer, media)	C	A	R	E
		• analyse behaviours that contribute to a safe and caring school environment (e.g., taking responsibility for personal actions, supporting others, promoting respect for diversity)	C	A	R	E

IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
HEALTH & CAREER EDUCATION K - 7 (2006)	6	• describe planning techniques that can help to support goal attainment (e.g., time management, setting priorities, considering costs and resources)	C			
		• identify influences on goal setting and decision making, including family, peer, and media influences			R	E
		• describe transferable skills that are developed through school and recreational activities (e.g., teamwork, organization, creativity)	C	A		
		• relate personal attributes to various types of work	C	A		
		• describe the benefits of attaining and maintaining a balanced, healthy lifestyle	C			
		• assess the influence that peers have on individuals' attitudes and behaviour			R	E
	7	• demonstrate an ability to apply a decision-making model to a specific situation	C	A	R	E
		• design a plan to achieve a specific goal	C	A	R	E
		• classify jobs according to career clusters (e.g., by type of industry, type of work, personal interests)	C	A		
		• identify skills that are transferable to a range of school and recreational situations (e.g., time management, teamwork, problem solving, communication, adaptability)	C	A		
		• analyse factors (including media and peer) that influence personal health decisions			R	E

IRP	Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
PHYSICAL EDUCATION (2006)	Note for P.E. K-7	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E
	K	• participate daily (e.g., five times a week) in moderate to vigorous physical activities			R	E
		• identify physical activities they enjoy doing				E
	1	• use their bodies to create shapes (e.g., by bending, curling, pulling, pushing, stretching, swinging, and/or twisting)	C	A	R	E
		• participate daily (e.g., five times a week) in moderate to vigorous physical activities			R	E
	2	• identify choices they can make to be more physically active			R	E
		• participate daily (e.g., five times a week) in moderate to vigorous physical activities			R	E
	3	• describe the personal benefits of regular participation in physical activity	C		R	E
		• participate daily (e.g., five times a week) in moderate to vigorous physical activities			R	E
	4	• identify choices people can make to be more active			R	E
		• demonstrate leadership in physical activity			R	E
	5	• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities			R	E
		• demonstrate leadership in selected physical activities			R	E
	6	• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities			R	E
		• set a personal goal for physical activity			R	E
	7	• demonstrate leadership in physical activity			R	E
		• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities			R	E
	6	• set personal goals for attaining and maintaining a physically active lifestyle	C		R	E
		• participate daily (e.g., five times a week) in a variety of moderate to vigorous physical activities			R	E
	7	• design a plan for achieving physical activity goals	C		R	E
		• apply learned movement skills in new and unfamiliar physical activities	C			
		• model leadership in creating a positive climate for physical activity			R	E





SECONDARY (8-12) MAP



In the secondary years, educators and learners tend to focus on subject areas more discretely as course offerings. As such, a Map by **Subject / Course** has been developed for use at the Secondary level. Educators of specific courses can more readily interpret and implement teaching around selected PLOs relevant to that particular course, while still seeing the connection to other subjects and grade levels. It is hoped this map will help to alleviate the pressures of time, exams and other factors so that environmental learning can be a more significant element in secondary courses.

A critical caveat for users of this map is that only selected PLOs are included across subjects and grade levels. These PLOs were identified as having clear connections to the environment, sustainability and C.A.R.E. By no means does the omission of a PLO from these matrices mean that it has no connection. Rather, many more secondary level PLOs can be connected to environment and sustainability by educators. These maps are intended as a starting point on the journey toward teaching and learning with environment and sustainability in mind.

CORE QUESTIONS

For C.A.R.E.:

- Where do we find complexity in the curriculum and how do we help learners to understand complex systems?
- What learning outcomes focus on aesthetics and how do we assist learners to develop an aesthetic appreciation for the natural world?
- Which learning outcomes emphasize a sense of responsibility and how do we nurture responsibility as educators?
- How do we support learners to develop an environmental ethic?

For the Learning Cycle:

- Where might Direct Experience learning opportunities present themselves in the curriculum?
- What learning outcomes are best suited to support reflection and negotiation learning opportunities for learners?

For more information including useful learning resources to support teaching for learning outcomes with C.A.R.E., please contact EEPSA at www.bctf.ca/eepsa.



SECONDARY CURRICULUM MAP BY SUBJECT / COURSE

Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SCIENCES	Science 8	<i>Cells and Systems</i>				
		• demonstrate knowledge of the characteristics of living things	C	A		
		<i>Water Systems on Earth</i>				
		• explain the significance of salinity and temperature in the world's oceans	C			
		• describe how water and ice shape the landscape	C	A		
		• describe factors that affect productivity and species distribution in aquatic environments	C	A	R	E
	Science 9	<i>Physical Science: Characteristics of Electricity</i>				
		• relate electrical energy to power consumption	C		R	E
		<i>Earth and Space Science: Space Exploration</i>				
		• analyse the implications of space travel	C		R	E
		<i>Processes of Science</i>				
		• demonstrate ethical, responsible, cooperative behaviour	C		R	E
	Science 10	<i>Atoms, Elements, and Compounds</i>				
		• describe changes in the properties of matter	C		R	E
		<i>Energy Transfer in Natural Systems</i>				
		• explain the characteristics and sources of thermal energy	C		R	
		• explain the effects of thermal energy within the atmosphere	C		R	E
		• evaluate possible causes of climate change and its impact on natural systems	C	A	R	E
		<i>Sustainability of Ecosystems</i>				
		• explain the interaction of abiotic and biotic factors within an ecosystem	C	A		
	• assess the potential impacts of bioaccumulation	C		R	E	
	• explain various ways in which natural populations are altered or kept in equilibrium	C	A	R	E	
	<i>Processes of Science</i>					
• demonstrate ethical, responsible, cooperative behaviour	C		R	E		

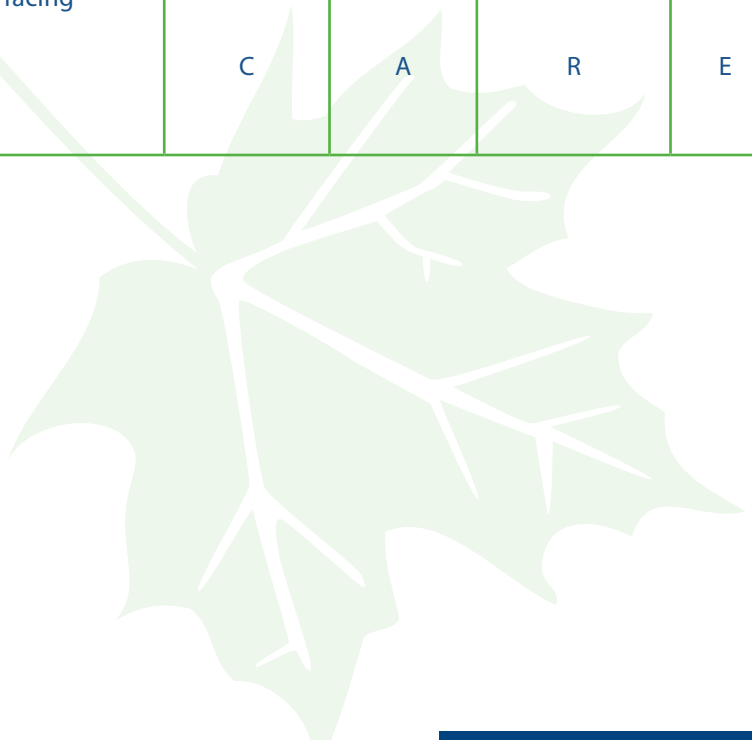
Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SCIENCES	Biology 11	<i>Taxonomy</i>				
		• apply the Kingdom system of classification to study the diversity of organisms	C	A		
		<i>Evolution</i>				
		• describe the process of evolution	C	A		
		<i>Ecology</i>				
		• analyse the functional inter-relationships of organisms within an ecosystem	C	A	R	E
		<i>Plant Biology</i>				
		• analyze how the increasing complexity of algae, mosses, and ferns represent an evolutionary continuum of adaptation to a land environment	C	A		
		• analyze how the increasing complexity of gymnosperms and angiosperms contribute to survival in a land environment	C	A		
		<i>Animal Biology</i>				
		• analyze how the increasing complexity of animal phyla represents an evolutionary continuum	C	A		
		• analyze the increasing complexity of the Phylum Porifera and the Phylum Cnidaria	C	A		
		• analyze the increasing complexity of the Phylum Platyhelminthes, the Phylum Nematoda, and the Phylum Annelida	C	A		
		• analyze the increasing complexity of the Phylum Mollusca, the Phylum Echinodermata, and the Phylum Arthropoda	C	A		
	• relate the complexity of the form and function of vertebrates to the evolutionary continuum of animals	C	A			
	Earth Science 11	<i>Introduction to Earth and Space Science</i>				
		• explain the significance of Earth and space science	C	A	R	E
		<i>Earth Materials (Rocks and Minerals)</i>				
		• assess the extraction and use of geological resources		A	R	E
		<i>Surface Processes and the Hydrosphere</i>				
		• explain the characteristics and significance of the atmosphere	C		R	E
		• describe the function of the hydrologic cycle	C		R	E
		• relate the processes associated with weathering and erosion to the resulting features	C		R	E
• describe features and processes associated with physical oceanography	C		R	E		

Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SCIENCES	Science and Technology 11	<i>Agriculture</i>				
		• describe elements of agricultural systems found locally, provincially, and globally	C	A		
		• describe the role of genetics in agriculture	C	A	R	E
		• evaluate different methods, including those from Aboriginal cultures, of food production, processing, and preservation	C	A	R	E
		• analyse the effects of changing technology in agriculture on society	C	A	R	E
		<i>Applied Chemistry</i>				
		• classify chemicals commonly found in household products	C			
		• identify safe chemical disposal methods and compare them to common practices in the community	C	A	R	E
		• design and conduct an experiment to identify and compare properties of household products and demonstrate an awareness of the health, safety, economic, and environmental issues related to their use	C	A	R	E
		<i>Natural Resources and the Environment</i>				
		• describe the major natural resources found in British Columbia	C	A		
		• evaluate methods used in the extraction, processing, use and management of a locally used or produced resource	C		R	E
		• discuss the impact of society on natural resource management and the environment	C		R	E
		• analyse the impact of technologies on the environment	C		R	
		<i>Transportation</i>				
		• describe the roles of transportation in society and the effects transportation has had on society				
		• describe a transportation system and evaluate its impact on society	C		R	E

Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics	
SCIENCES	Sustainable Resources 11	• analyze the environmental, social, and economic significance of agriculture at the local, provincial, and global levels	C	A	R	E	
		• analyze the environmental, social, and economic significance of fisheries at the local, provincial, and global levels	C	A	R	E	
		• analyze the environmental, social, and economic significance of forestry and related industries at the local, provincial, and global levels	C	A	R	E	
		• analyze the environmental, social, and economic impacts of acquiring mineral resources, and hydrocarbons from fossil fuels, at the local, provincial, and global levels	C	A	R	E	
		• analyze the environmental, social, and economic significance of energy generation and use at the local, provincial, and global levels	C	A	R	E	
		• describe the processes associated with the generation and use of energy resources	C				
		• investigate current practices related to the management of sustainable energy resources	C	A	R	E	
	Sustainable Resources 12	<i>Agriculture 12</i>					
		<i>Components of Sustainable Agricultural Systems</i>					
		• debate the concept of sustainability as it relates to agriculture	C	A	R	E	
		• investigate the components of an agricultural system	C	A			
		• assess the impact of water management practises on the sustainable production of agricultural commodities	C		R		
		• analyze the use of current land and soil management practises on the sustainable production of agricultural commodities	C			E	
		• evaluate the roles of various forms of energy in agricultural production	C			E	
		• analyze the use of water, fertilizers, pesticides, and pharmaceuticals in agricultural activities	C		R	E	
		• investigate the role of climate in agricultural production	C				
		<i>Agricultural Supports and Challenges</i>					
	• discuss environmental issues as they relate to agricultural practices	C	A	R	E		

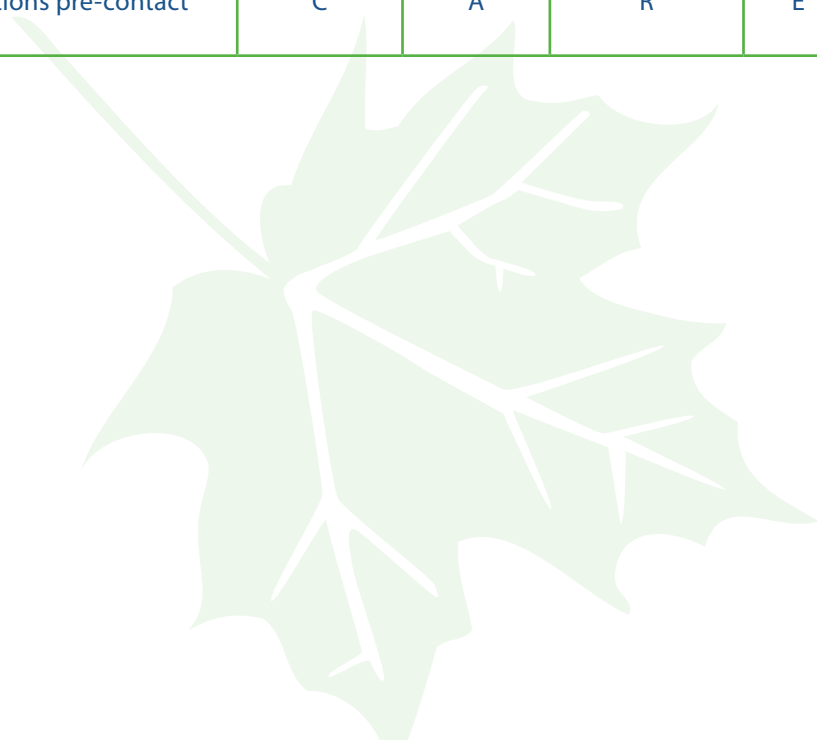
Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SCIENCES	Sustainable Resources 12	Fisheries 12				
		<i>Structure and Function of Aquatic Ecosystems</i>				
		• examine the biotic and abiotic components of a variety of aquatic ecosystems	C	A		
		• investigate interactions found within aquatic ecosystems	C	A		
		<i>Fishery Issues and Challenges</i>				
		• determine environmental issues and challenges related to fisheries	C	A	R	E
		• analyze sustainability issues and challenges related to fisheries	C	A	R	E
		• assess issues and challenges related to aquaculture	C	A	R	E
		<i>Sustainable Fishery Operation and Management</i>				
		• examine methods of assessing fishery stocks	C			
		• assess management practices related to different fisheries	C		R	E
		Forestry 12				
		<i>Forest Resources and Society</i>				
		• analyze current forest management practices	C		R	E
		<i>Forest Ecology</i>				
		• examine the components of forest ecosystems	C	A		
		• investigate the interactions found within a forest environment	C	A		
		• assess the impact of environmental components and changes on a forest ecosystem	C	A	R	
		• analyze the structure and growth of trees	C	A		
		<i>Sustainable Forestry Opportunities and Challenges</i>				
		• outline the challenges impacting the health and sustainability of forest resources in BC	C	A	R	E
		Mining 12				
		<i>Sustainability and Environmental Issues</i>				
		• evaluate the environmental assessment processes conducted for proposed hydrocarbon and mineral extraction operations and associated processing plants			R	E
		• evaluate the processes of site reclamation during and after hydrocarbon and mineral extraction			R	E
		• assess the future of hydrocarbon and mineral resource development			R	E
		<i>Mining Opportunities and Challenges</i>				
		• analyze environmental impacts of various activities related to hydrocarbon and mineral resources extraction, processing, and use	C	A	R	E
	Geology 12					
	<i>Earth Resources</i>					
	• trace the origins of geological resources including mineral deposits, coal, petroleum, and natural gas					
	• explain the significance of geological resources and their economic development					

Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SOCIAL STUDIES	Socials 8	<i>Environment: Civilizations from 500 to 1600</i>				
		• describe how physical geography influenced patterns of settlement, trade, and exploration	C	A		
	Socials 8	• analyse how people interacted with and altered their environments, in terms of population, settlement patterns, resource use, and cultural development	C	A	R	E
		<i>Environment: Europe and North America from 1500 to 1815</i>				
	Socials 9	• describe and compare North America's diverse geographical regions	C	A		
		• identify major exploration routes and historical events in the development of Canada	C	A	R	E
		• demonstrate understanding of the ways in which Aboriginal people interact with their environment	C	A	R	E
		• assess the role of geographical factors in the development of trade and settlement in Canada and other colonies	C	A		
	Socials 10	<i>Environment: Canada from 1815 to 1914</i>				
		• describe the physiographic regions of Canada and the geological processes that formed these regions	C	A		
		• analyse how geography influenced the economic development and settlement patterns in regions of Canada from 1815 to 1914	C	A	R	E
		• evaluate attitudes and practices in resource development in British Columbia from 1815 to 1914 and their impact on contemporary resource management	C	A	R	E
	Socials 11	<i>Human Geography</i>				
		• assess environmental challenges facing Canadians, including - global warming - ozone layer depletion - fresh water quality and supply	C	A	R	E



Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
SOCIAL STUDIES	Civics 11	<i>Informed citizenship</i>				
		<ul style="list-style-type: none"> demonstrate a knowledge of historical and contemporary factors that help define Canadian civic identity, including <ul style="list-style-type: none"> roles of individuals in society governance rights and responsibilities culture, language, heritage, and community environment and geography international relations 	C	A	R	E
		<ul style="list-style-type: none"> describe organizations that govern relations among nations, including those dealing with: <ul style="list-style-type: none"> peace and security trade and economics international justice social and environmental issues 	C	A	R	E
		<i>Civic Deliberation</i>				
		<ul style="list-style-type: none"> analyse the domestic and international effects of Canada's record with respect to issues and events in one or more of the following categories: <ul style="list-style-type: none"> environment trade foreign aid peace and security human rights 	C	A	R	E
		<i>Weather and Climate</i>				
	Geography 12	<ul style="list-style-type: none"> explain how climate affects human activity 	C			
		<ul style="list-style-type: none"> analyse interactions between human activity and the atmosphere, with reference to: <ul style="list-style-type: none"> global climate change ozone depletion acid precipitation 	C	A	R	E
		<i>Biomes</i>				
		<ul style="list-style-type: none"> describe how vegetation adapts to environmental conditions 	C	A		
		<ul style="list-style-type: none"> relate soil types to biomes 	C			
		<ul style="list-style-type: none"> analyse the interactions between human activity and biomes, with reference to: <ul style="list-style-type: none"> deforestation desertification soil degradation species depletion 	C	A	R	E

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SOCIAL STUDIES	Geography 12	<i>Resources and Environmental Sustainability</i>				
		<ul style="list-style-type: none"> • assess the various considerations involved in resource management, including: <ul style="list-style-type: none"> - sustainability - availability - social/cultural consequences - economic consequences - political consequences 	C	A	R	E
	Geography 12	<ul style="list-style-type: none"> • assess the environmental impact of human activities, including: <ul style="list-style-type: none"> - energy production and use - forestry - fishing - mining - agriculture - waste disposal - water use 	C	A	R	E
		Comparative Civilizations 12	<ul style="list-style-type: none"> • analyse elements and characteristics that contribute to the identity of civilizations, including: <ul style="list-style-type: none"> - structures of power and authority - belief systems incorporated into daily activities - systems of social organization - conflict, war, and conquest - influence of the natural environment - methods of cultural transmission over time 	C	A	R
	BC First Nations Studies 12	<i>Land and Relationships</i>				
		<ul style="list-style-type: none"> • analyse the relationship of First Nations peoples with the natural world 	C	A	R	E
		<ul style="list-style-type: none"> • explain the significance of traditional education with respect to land and relationships 	C	A	R	E
	<ul style="list-style-type: none"> • analyse the exchanges of ideas, practices, and materials involving First Nations pre-contact and post-contact 	C	A	R	E	



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SOCIAL STUDIES	Social Justice 12	<i>Defining Social Justice</i>				
		• apply critical thinking skills to a range of social justice issues, situations, and topics	C	A	R	E
		• analyse selected social justice issues from an ethical perspective	C	A	R	E
		• assess how belief systems can affect perspectives and decisions in relation to social justice issues	C	A	R	E
		• conduct a self-assessment of their own attitudes and behaviours related to social justice	C	A	R	E
		• demonstrate attributes and behaviours that promote social justice, including: - recognizing injustice - fair-mindedness - embracing diversity - empathy - advocacy - taking action	C	A	R	E
		<i>Recognizing and Analyzing Injustice</i>				
		• analyse social justice issues related to globalism and globalization	C	A	R	E
		<i>Moving Toward a Socially Just World</i>				
		• assess various methods and models of promoting social justice	C	A	R	E
		• apply systemic analysis to propose solutions to specific cases of social injustice	C	A	R	E
		• implement a plan for action on a selected local, provincial, national, or international social justice issue	C	A	R	E
		• assess lifelong opportunities related to social justice	C	A	R	E

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ENGLISH LANGUAGE ARTS	English Language Arts 8 to 12	All PLOs, being process oriented, implicitly address environmental education in each curriculum organizer. The four principles for conceptualizing environment (C.A.R.E.) can be integrated into any Language Arts lesson. The inclusion of environmental topics is a logical extension that will help students appreciate the interrelationship between humans and their larger environment.	C	A	R	E
INTERNATIONAL LANGUAGES	8-12	Each of the learning strands (e.g., thematic unit or topic) and learning resources (e.g., websites, books, media) can be used to develop and foster students' learning of environmental and sustainability concepts.	C	A	R	E
MATH	Math 8-12	Mathematics PLOs, whether process or content oriented, can be readily set in the context of sustainability and environmental issues, notably through problem solving and other real world applications. Math PLOs can also be integrated into the cross-curricular units of study exploring sustainability and environmental topics.	C	A	R	E



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FINE ARTS	Visual Arts 8	<ul style="list-style-type: none"> develop and make images: <ul style="list-style-type: none"> using a variety of design strategies and sources of imagery, individually and in combination incorporating some elements from a variety of styles that solve complex design problems, considering form and function (2-D and 3-D) for specific purposes such as social commentary, self-analysis, entertainment that engage more than one of the senses 	C	A	R	E
		<ul style="list-style-type: none"> create images: <ul style="list-style-type: none"> that support or challenge personal and societal beliefs, values, traditions, or practices that incorporate stylistic elements from various artists, movements, and periods in response to historical and contemporary images or issues that reflect a sense of personal and social responsibility 	C	A	R	E
		<ul style="list-style-type: none"> demonstrate an awareness of safety and environmental considerations related to materials, technologies, and processes 	C	A	R	E
		<ul style="list-style-type: none"> use, care for, and maintain materials, technologies, and work space in a safe and environmentally sensitive fashion 	C	A	R	E
	Visual Arts 9	<ul style="list-style-type: none"> develop and make images: <ul style="list-style-type: none"> using a combination of image-development techniques using a variety of styles and movements (or a series of images) that represent a subject or theme that solve complex design problems, considering form and function that deliberately engage more than one of the senses 	C	A	R	E
		<ul style="list-style-type: none"> create images that: <ul style="list-style-type: none"> support or challenge personal and societal beliefs, values, traditions, or practices demonstrate an awareness of the styles of various artists, movements, and periods respond to historical and contemporary images or issues reflect a sense of personal and social responsibility 	C	A	R	E
		<ul style="list-style-type: none"> demonstrate an awareness of safety and environmental considerations related to materials, technologies, and processes 	C	A	R	E
		<ul style="list-style-type: none"> use, care for, and maintain materials, technologies, and work space in a safe and environmentally sensitive fashion 	C	A	R	E

Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
FINE ARTS	Visual Arts 10	<ul style="list-style-type: none"> develop and make images: <ul style="list-style-type: none"> using a combination of image-development techniques and strategies demonstrating an understanding of a variety of styles (or a series of images) demonstrating a growth in understanding of a subject or theme for specific purposes that deliberately engage varied combinations of the senses at once 	C	A	R	E
		<ul style="list-style-type: none"> create images: <ul style="list-style-type: none"> that support or challenge personal and societal beliefs, values, traditions, or practices that synthesize the characteristics of other artists, movements, and periods through experimentation with a variety of styles based on an understanding of historical and contemporary images and issues that reflect an understanding of responsibility to the context of a specific audience 	C	A	R	E
		<ul style="list-style-type: none"> assess the safety, environmental, and legal considerations related to particular materials, technologies, and processes 	C	A	R	E
		<ul style="list-style-type: none"> use, care for, and maintain materials, technologies, and work space in a safe and environmentally sensitive fashion 	C	A	R	E
	Visual Arts: Media Arts 11	<ul style="list-style-type: none"> analyse ethical, moral, and legal considerations associated with using media arts technology for image development 	C	A	R	E
		<ul style="list-style-type: none"> use a variety of media arts technologies and design strategies to create a series of images focussing on one subject or theme 		A		
		<ul style="list-style-type: none"> create images using sound and movement 		A		
		<ul style="list-style-type: none"> identify roles that media arts have in reflecting, sustaining, and challenging beliefs and traditions 	C	A	R	E
		<ul style="list-style-type: none"> create images using media arts technology that: <ul style="list-style-type: none"> defend values and traditions reflect the characteristics of other artists, movements, and periods reflect historical and contemporary themes 	C	A	R	E
		<ul style="list-style-type: none"> create a media artwork for a specific audience 	C	A	R	E
		<ul style="list-style-type: none"> use and maintain materials, equipment, and work space in a safe and environmentally sensitive manner 	C	A	R	E

Subject Area	Course and Grade	Selected PLOs related to Sustainability & the Environment	Complexity	Aesthetics	Responsibility	Ethics
FINE ARTS	Visual Arts: Art Foundations, Studio Arts 11	• examine the relationship between the use of particular image development strategies and intended mood and message		A		
		• create 2-D and 3-D images to achieve specific purposes, using a variety of image sources		A		
		• apply a variety of image-development strategies to create 2-D and 3-D images to reach a specific audience or achieve a specific purpose		A	R	E
		• compare roles that visual arts have in reflecting, sustaining, and challenging beliefs and traditions	C	A	R	E
		• create 2-D and 3-D images: - that reflect personal contexts - that express, defend, or challenge beliefs, values, and traditions - that reflect historical and contemporary themes - that reflect selected art movements - for specific purposes	C	A	R	E
		• develop a presentation of images for a specific purpose		A	R	E
		• use materials, equipment, and workspace in a safe and environmentally sensitive manner	C	A	R	E
		• create images within a specific visual expression area: - using a variety of image sources to achieve a specific purpose - applying a variety of image-development strategies to achieve a specific purpose - demonstrating a relationship between image-development strategies and the processes of the specific visual expression area		A		
		• apply design strategies to solve a design problem		A		
		• manipulate images using digital technologies		A		
	• analyse issues related to the use of materials, technologies, and processes within a specific visual expression area	C	A	R	E	
	Fine Arts 11	• create/perform a work of art demonstrating the use of the basic elements and principles of the discipline to communicate specific ideas, moods, or feelings		A		
		• create/perform a work of art that reflects an understanding of the impact of social/cultural/historical contexts		A		E
		• create/perform a work of art that communicates specific beliefs/traditions in response to historical/contemporary issues		A		E
		• create/perform a work of art expressing the students' own ideas, thoughts, or feelings create or perform a work of art for a specific public need (e.g., advertising, public ceremony, or social cause)		A		E

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FINE ARTS	Visual Arts 12	• evaluate ethical, moral, and legal implications of using media arts technology to reproduce and distribute images	C	A	R	E
		• use a variety of media arts technologies to create images that: - support or challenge beliefs, values, and traditions - incorporate characteristics of other artists, movements, and periods in personal style - reflect historical and contemporary issues	C	A	R	E
		• evaluate how the visual elements and principles of art and design are manipulated to: - convey a message - create an effect - influence personal preference	C	A	R	E
		• use and maintain materials, equipment, and work space in a safe and environmentally sensitive manner	C	A	R	E
	Visual Arts: Art Foundations, Studio Arts 12	• create 2-D and 3-D images: - that reflect personal contexts - that express, defend, or challenge beliefs, values, and traditions - that reflect historical and contemporary themes - that reflect art movements - for specific purposes	C	A	R	E
		• develop a presentation of images for a specific venue, audience, and purpose		A		
		• create 2-D and 3-D images that demonstrate effective use of the elements and principles to convey the intended mood or message		A		
		• manipulate selected visual elements and principles of art and design of an image to: - achieve a specific purpose - alter the meaning or effect of images - reflect stylistic or cultural influences		A		
		• analyse contemporary issues related to the use of materials, technologies and processes	C	A	R	E
		• use materials, equipment, and workspace in a safe and environmentally sensitive manner	C	A	R	E
		• apply digital technologies in image development		A		
		• demonstrate independence in using materials, equipment, and workspace in a safe and environmentally sensitive manner	C	A	R	E
	Note for Visual Arts	Students may choose to express ideas or concerns about an environmental issue in the development of their own artworks; students may respond to ideas or concerns about an environmental issue as viewed in artworks of others.	C	A	R	E

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FINE ARTS	Music 8	• describe the elements of expression in terms of the physical properties of sound		A		
		• represent thoughts, images, and feelings derived from a music experience		A		
		• apply the elements of rhythm, melody, and expression to interpret and represent a broad range of thoughts, images, and feelings	C	A		
	Music 9	• describe the elements of expression in terms of the physical properties of sound		A		
		• represent thoughts, images, and feelings derived from music experiences		A		
		• apply the elements of music to interpret and represent a broad range of thoughts, images, and feelings	C	A		
	Music 10	• describe the elements of expression in terms of the physical properties of sound		A		
		• apply the elements of music to interpret and represent a broad range of thoughts, images, and feelings	C	A		
		• demonstrate a willingness to share personal insights arising from experiences with music		A		
	Music 11-12: Composition and Technology 12	• use, care for, and maintain electronic tools, equipment, materials, and work space in a safe and environmentally sensitive fashion	C	A	R	E
		• use, care for, and maintain electronic tools, equipment, materials, and work space in a safe and environmentally sensitive fashion	C	A	R	E
	Music 11-12: Choral Music, Instrumental Music 11	• demonstrate an understanding of the relationship between the elements of expression and the acoustics of the performance environment		A		
		• demonstrate an ability to adapt the elements of expression in relation to the acoustics of the performance environment		A		
		• apply elements of concert production to enhance choral performance		A		
		• apply elements of concert production to enhance instrumental performance		A		

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FINE ARTS	Note for Music	Students may choose to express or respond to ideas or concerns about an environmental issue in their music listening or composing of music.	C	A	R	E
	Drama 8	• plan and create settings to enhance the dramatic situation		A		
	Drama 10	• select technical elements to create mood and atmosphere		A		
	Drama 11: Film and TV	• use and maintain film and television production equipment in a safe and environmentally sensitive manner			R	E
	Drama 11: Theatre	Students in drama may use issues and concerns about the environment and sustainability as the impetus for their drama movement and design choices. As well, students will be aware of and encouraged to use safe and environmentally friendly materials when making/choosing stagecraft elements such as props, lighting, costumes, make-up, etc.	C	A	R	E
	Note for Drama	Students may choose to express ideas or concerns about an environmental issue in their dramatic work; these issues or concerns may also be the impetus for creating dramatic works.	C	A	R	E
	Dance 8	• create movement in response to the expressive elements of sound and music		A		
	Dance 9	• create movement in response to a range of stimuli		A		
	Dance 10	• create movement to respond to or represent abstract ideas		A		
	Dance 11	• select or create stagecraft elements for a chosen choreography		A	R	E
	Dance 12	• create compositions for a variety of purposes: to respond to or represent a range of stimuli for a variety of settings to represent different points of view		A		E
	Note for Dance 8-12	Students in dance may use issues and concerns about the environment and sustainability as the impetus for their dance choreography and movement choices. As well, students will be aware of and encouraged to use safe and environmentally friendly materials when making/choosing stagecraft elements such as props, lighting, costumes, make-up, etc.	C	A	R	E

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PHYSICAL EDUCATION	P.E. 11-12	Active Living					
		• adapt physical activities to minimize environmental impact		A	R	E	
		• demonstrate an understanding of the factors that affect the choice of physical activity throughout life, including: age; gender; time; culture; environment			R	E	
		• describe strategies for stress management and relaxation			R		
		• design and implement plans for balanced, healthy living, including: nutrition; exercise; rest; and work			R		
		• evaluate the influence of consumerism and professional athletics on personal perception of body image				E	
		• select appropriate community-based recreational and alternative-environment opportunities to develop a personal functional level of physical fitness		A		E	
		Personal and Social Responsibility					
		<i>Personal Behaviours and Safety Practices</i>					
		• apply appropriate rules, routines, procedures, and safety practices in a variety of activities and environments			R		
		<i>Leadership and Community Involvement</i>					
		• demonstrate an understanding of the processes needed to coordinate events and programs in the school and community			R		
		• describe and demonstrate qualities and problem-solving strategies required for leadership related to physical activity and recreation			R		
		• identify and describe the benefits of service and volunteer work in the school and community			R		
		Note for P.E.	Physical Education PLOs readily invite the use of outdoor environments as a context for learning activities. Incorporating active, physical components into cross-curricular studies of sustainability and environmental issues also has great potential to enhance learning with C.A.R.E. in mind.	C	A	R	E

ELE RESOURCES & NETWORKS OF SUPPORT



ELE RESOURCES

ELE Curriculum Guide

The ELE Guide is a conceptual framework for introducing environmental learning in all classrooms, while providing several general principles of teaching and learning to guide teachers in designing integrated activities for their learners. The Guide can assist teachers of all subjects and grades to integrate environmental concepts into teaching and learning. It is a guide to interdisciplinary practice — using the environment as an organizing theme. Access the Guide at: www.bced.gov.bc.ca/environment_ed/

ELE Best Practices Videos

Developed with teachers and educational leaders from around the province, this resource includes 2 videos introducing the ELE Guide and 4 case study videos showcasing applications of C.A.R.E. in practice. Each video is approximately 5 minutes in duration. Access the videos at: www.bced.gov.bc.ca/environment_ed/

ELE Professional Development

The Environmental Educators Provincial Specialist Association (EEPSA) and a host of community partners are at the forefront of the Pro-D implementation of the ELE Guide and other environmental learning initiatives. Please contact us at www.bctf.ca/eepsa to support all your curriculum and professional development needs.

NETWORKS OF SUPPORT

EECOM

The Canadian Network for Environmental Education and Communication (EECOM), Canada's, national, bilingual, network for environmental education and communication, supports and develops competency in educators, communicators, learners and consumers, and builds capacity for environmental learning and sustainability. www.eecom.org

EEPSA

The Environmental Educators' Provincial Specialist Association (EEPSA), one of 33 BCTF PSAs, provides professional development, networking, curriculum support and leadership in EE and sustainability education for BC's teachers and informal educators. www.bctf.ca/eepsa

Walking the Talk

The BC Working Group on Sustainability Education (Walking the Talk) is a multi-sectoral, collaborative network for dialogue and action around sustainability education. It includes representatives from higher education, K-12 education, non-formal education, industry, government, and NGOs. www.walkingthetalk.bc.ca

Wild BC

Wild BC is a BC government sponsored education organization providing education and stewardship opportunities that foster appreciation, knowledge, and understanding and responsible actions for the natural world. www.wildbc.org





DEVELOPED BY THE ENVIRONMENTAL EDUCATORS'
PROVINCIAL SPECIALIST ASSOCIATION (EEPSA) AND BC HYDRO
IN CONSULTATION WITH THE BC MINISTRY OF EDUCATION