



## **BACKGROUND**

The *Resources for Rethinking Review Tool* was created through a collaborative process that began with the work of “Green Street”. Since we began this project in 2006, over thirty classroom teachers from across Canada have been trained to use the tool to review resources and have contributed to the tool's evolution. Through ongoing training and regular quarterly meetings the team continues to develop and improve its expertise on Education for Sustainable Development (ESD).

We are respectfully offering our review of resources as a way to share our learning about Education for Sustainable Development with the larger ESD community and as a way to help teachers to efficiently and effectively bring ESD into their classrooms.

For each resource, we look for matches to 14 sustainability themes (for example: Food and Agriculture, Citizenship, Water, etc.); these themes are based on those used by the United Nations for the Decade for Education for Sustainable Development (2005-2014). We also look for matches to curriculum units in all subject areas in all thirteen provinces and territories in Canada.

Each resource is assessed using nine principles that are particularly relevant to sustainability and responsible citizenship (for example, Respects Complexity, Bias Minimization, Locally Focused). Each resource is also assessed using eleven principles of good pedagogy (for example, Discovery Learning, Values Clarification, Diverse Learning Styles). In some ways, these twenty different principles make up a 'wish list' of what an excellent Education for Sustainable Development (ESD) teaching resource would include. We recognize that even the best resources may not address all of the principles thoroughly; however, we believe that it is important to assess the resources against all of these principles all of the time\* in order to encourage the development of exceptional ESD resources.

The assessment page of the review provides further details about important areas of the review (for example: Implicit Curriculum and Null Curriculum) as well as a general summary of strengths, weaknesses and suggestions for improving the resource and an overall rating.

In order to help authors and publishers to understand these sustainability and pedagogy principles, we are creating a 'toolbox' which will contain two-page guides to understanding

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\* Some principles are not relevant to resources for very young learners (for example, Multiple Dimensions of Problems and Solutions)





individual principles. We are also happy to provide personal support on the telephone. We are currently seeking funding to offer workshops to ESD stakeholders about what (we have learned) makes for effective ESD, through our academic research and through our intensive work with our team of Canadian teacher-reviewers. We will also provide information about which grades, issues and subject areas have access to good ESD resources and which grades/issues/subject areas have 'gaps' and are in need of good ESD resources.

## OVERVIEW OF REVIEW CATEGORIES

### Issues & Themes

Which sustainability issues does the resource explore?

### Curriculum Matches

How does the resource relate to the curriculum objectives in each of the provinces and territories in Canada?

### Sustainability Principles

How well does the resource promote the knowledge, skills, perspectives and practices essential for building ecologically, socially, and economically sustainable communities?


### Pedagogical Approaches

How well does the resource foster learning that is active, relevant and interdisciplinary?

### General Assessment





From a « big picture » perspective, what are the resource's strengths and weaknesses?

## ISSUES & THEMES

THEME	ISSUES
 <p><b>Air, Atmosphere &amp; Climate</b></p>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Acid Rain</li><li>• Air Pollution</li><li>• Climate Change</li><li>• Ozone Depletion</li><li>• Weather</li></ul>








	<b>Citizenship</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Alternative Globalization</li><li>• Community-Building &amp; Participation</li><li>• Ecological Footprint</li><li>• General Guide to Taking Action</li><li>• Lifestyle Analysis</li><li>• Sustainable Consumption</li><li>• Media</li><li>• Systems Thinking</li></ul>
	<b>Economics</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Alternative Economic Systems</li><li>• Corporate Social Responsibility</li><li>• Globalization</li><li>• Poverty Reduction</li><li>• Trade</li></ul>
	<b>Ecosystems</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Appreciating the Natural World</li><li>• Biodiversity</li><li>• Bioregionalism</li><li>• Carrying Capacity</li><li>• Endangered Species</li><li>• Habitat Loss</li><li>• Interdependence</li><li>• Invasive Species</li><li>• Wildlife Protection</li></ul>
	<b>Energy</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Alternative Energy</li><li>• Energy Use</li><li>• Energy Generation</li></ul>







	<b>Food &amp; Agriculture</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Animal Rights</li><li>• Aquaculture</li><li>• Biotechnology</li><li>• Conventional Farming</li><li>• Food Security</li><li>• Local Food</li><li>• Organic Farming</li><li>• Pesticides</li><li>• Subsistence Farming</li></ul>
	<b>Governance</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Democracy</li><li>• Government Regulations</li><li>• International Relations</li><li>• Non-violent Conflict Resolution</li></ul>
	<b>Human Health &amp; Environment</b>	<ul style="list-style-type: none"><li>• Access to Health Care</li><li>• Action Projects Related to the Theme</li><li>• Environmental Contaminants and Health Hazards</li><li>• Environmental Justice</li><li>• Health Promotion</li><li>• HIV/AIDS</li><li>• Human Population Dynamics</li><li>• Hunger and Malnutrition</li><li>• Quality of Life</li></ul>





	<b>Human Rights</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Cultural Diversity</li><li>• Education</li><li>• Gender Equality</li><li>• Poverty</li><li>• Refugees &amp; Immigration</li><li>• Religious Diversity</li><li>• Sexual Diversity</li><li>• Social Justice</li><li>• War &amp; Peace</li></ul>
	<b>Indigenous Knowledge</b>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Rituals, Spirituality &amp; Worldviews</li><li>• TEK – Traditional Ecological Knowledge</li></ul>





 <p><b>Land Use &amp; Natural Resources</b></p>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Fisheries</li><li>• Forests</li><li>• Habitat Restoration</li><li>• Planting Indigenous Species</li><li>• Mining</li><li>• Recreation</li><li>• Rural Issues</li><li>• Sustainable Urbanization</li><li>• Transportation</li></ul>
 <p><b>Science &amp; Technology</b></p>	<ul style="list-style-type: none"><li>• Alternative Ways of Doing Science</li><li>• Analysing Conventional Science</li><li>• Appropriate Technology</li></ul>
 <p><b>Water</b></p>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Freshwater Environments</li><li>• Marine Environments</li><li>• Privatization &amp; Sale of Water</li><li>• Water Cycle</li><li>• Water Quality</li><li>• Water Treatment &amp; Distribution</li><li>• Water Use</li><li>• Watershed Protection</li></ul>
 <p><b>Waste Management</b></p>	<ul style="list-style-type: none"><li>• Action Projects Related to the Theme</li><li>• Composting</li><li>• Cradle-to-Cradle</li><li>• Hazardous Wastes</li><li>• Liquid Waste</li><li>• Rethink Reduce Reuse Recycle</li><li>• Solid Waste Disposal</li><li>• Source Reduction</li></ul>





## CURRICULUM MATCHES

The *Resources for Rethinking* database links sustainability education resources to specific courses, units, and objectives of the K-12 curricula in every province and territory in Canada.

Curriculum matches are classified as *full* or *partial*.

- Full Curriculum Match: The resource or lesson plan explicitly relates to a given course unit or objective. For example, an easy match to a Grade 10 English unit on debating is made when a debate is not only *held*, but also *explained*.
- Partial Curriculum Match: Adaptations, revisions, or supplementations by the teacher are required in order to fulfill a curriculum unit or objective.

## SUSTAINABILITY PRINCIPLES

SUSTAINABILITY PRINCIPLE	EXPLANATION
<b>Biases Minimisation</b>	Presents as many different points of view as necessary to fairly address the issue(s).
<b>Multiple Dimensions of Problems &amp; Solutions</b>	Effectively addresses multiple dimensions of problems and solutions. These should include the environmental, economic and social dimensions of the issue(s) being explored.
<b>Respects Complexity</b>	The complexity of problems is respected. A systems-thinking approach is encouraged.
<b>Action Experience</b>	Provides opportunities for authentic action experiences in which students can work to make positive change in their communities. <ul style="list-style-type: none"><li>• <b>Poor/Not Considered</b> = action activities poorly developed or not attempted</li><li>• <b>Moderate</b> = action opportunities are extensions instead of being integral to the main part of the activity</li></ul>
<b>Action Skills</b>	Explicitly teaches the skills needed for students to take effective action (e.g. letter-writing, consensus-building, etc.).
<b>Empathy &amp; Respect for Humans</b>	Empathy and respect are fostered for diverse groups of humans (including different genders, ethnic groups, sexual preferences, etc.).





<b>Personal Affinity with Earth</b>	Encourages a personal affinity with non-humans and with Earth. For example, this may involve practical and respectful experiences out-of-doors.
<b>Locally Focused</b>	Encourages learning that is locally-focused/made concrete in some way and is relevant to the lives of the learners.
<b>Past, Present &amp; Future</b>	Promotes an understanding of the past, a sense of the present, and a positive vision for the future.

### PEDAGOGICAL APPROACHES

<b>PEDAGOGICAL APPROACH</b>	<b>EXPLANATION</b>
<b>Open-Ended Instruction</b>	Lessons are structured so that multiple/complex answers are possible; students are not simply steered toward one “right” answer.
<b>Interdisciplinary &amp; Multidisciplinary Learning</b>	<p>A <u>multidisciplinary</u> approach means that the resource provides opportunities for learning in a number of traditional “subject” areas (e.g. Language Arts, Science, Math, Art, etc.). A resource that takes an <u>interdisciplinary</u>, or integrated, approach to teaching blurs the lines between subject boundaries.</p> <ul style="list-style-type: none"><li>• <b>Good:</b> The resource takes a multidisciplinary approach to teaching.</li><li>• <b>Very Good:</b> The resource takes an interdisciplinary approach to teaching.</li></ul>
<b>Discovery Learning</b>	<p>Learning activities are constructed so that students discover and build knowledge for themselves and develop largely on their own an understanding of concepts, principles and relationships. They often do this by wrestling with questions, and/or solving problems by exploring their environment, and/or physically manipulating objects and/or performing experiments.</p> <ul style="list-style-type: none"><li>• <b>Moderate:</b> Students are provided with intriguing questions, materials to use &amp; some direction on how to find answers. The learning involves unique experience &amp; provides some opportunity for an 'ah-hah' event.</li><li>• <b>Good:</b> Students are provided with intriguing questions, materials to use, &amp; make their own decisions on how to find answers. The learning involves unique experience &amp; provides definite opportunity for an 'ah-hah' event.</li><li>• <b>Very Good:</b> Students choose what questions to investigate as well as the materials/strategies to use to answer them.</li></ul>







<b>Values Clarification</b>	<p>Students are explicitly provided with opportunities to identify, clarify and express their own beliefs/values.</p> <ul style="list-style-type: none"><li>• <b>Poor/Not Considered</b> = Students are not explicitly given an opportunity to clarify their own values</li><li>• <b>Moderate</b> = Students are given a formal opportunity to clarify their own values. The range of perspectives in the resource is limited; therefore, students do not have an appropriate amount of information to clarify their own values.</li></ul>
<b>Differentiated Instruction</b>	<p>Activities address a range of learning styles/different intelligences. They teach to both cognitive and affective domains. Accommodations are suggested for people with learning difficulties.</p>
<b>Experiential Learning</b>	<p>Direct, authentic experiences are used.</p> <ul style="list-style-type: none"><li>• <b>Moderate</b>= simulation</li><li>• <b>Good</b> = authentic experience</li><li>• <b>Very Good</b> = authentic experience related to primary goal of lesson</li></ul>
<b>Co-operative Learning</b>	<p>Group and cooperative learning strategies are a priority.</p> <ul style="list-style-type: none"><li>• <b>Moderate</b> = students work in groups;</li><li>• <b>Good</b> = cooperative learning skills are explicitly taught and practiced</li><li>• <b>Very Good</b> = cooperative learning skills are explicitly taught, practiced &amp; assessed</li></ul>
<b>Assessment &amp; Evaluation</b>	<p>Tools are provided that help students and teachers to capture formative and summative information about students' learning and performance. These tools may include reflection questions, checklists, rubrics, etc.</p>
<b>Peer Teaching</b>	<p>Provides opportunities for students to actively present their knowledge and skills to peers and/or act as teachers and mentors.</p> <ul style="list-style-type: none"><li>• <b>Moderate</b> = incidental teaching that arises from cooperative learning, presentations, etc.</li><li>• <b>Good or Very Good</b> = an opportunity is intentionally created to empower students to teach other students/community members. The audience is somehow reliant on the students' teaching (students are not simply 'presenting')</li></ul>





<b>Case Studies</b>	Relevant case studies are used. Case studies are thorough descriptions of real events in real situations that can be used to examine concepts in an authentic context.
<b>Locus of Control</b>	Meaningful opportunities are provided for students to choose elements of program content, the medium in which they wish to work, and/or to go deeper into a chosen issue.

### GENERAL ASSESSMENT

CRITERION	EXPLANATION
<b>Skill-Building</b>	What skills does this resource explicitly teach? For example: analyzing one's ecological footprint, detecting bias, building consensus, letter-writing, presentation skills, etc.
<b>Implicit Curriculum</b>	What important ideas are implied by the resource, but not taught explicitly?
<b>Null Curriculum</b>	What important, related ideas/issues are not addressed in this resource?
<b>Strengths &amp; Weaknesses</b>	<p>Provide highlights from the Sustainability Education and Pedagogical Approaches charts. Also, consider addressing the following questions:</p> <ul style="list-style-type: none"> <li>• Is the resource interesting?</li> <li>• Is there a good quantity and quality of background information for the teacher?</li> <li>• Is there a good quantity and quality of background information for the student?</li> <li>• Is the resource thorough and easy to use?</li> <li>• Is support offered to teachers?</li> <li>• Is the package up-to-date?</li> </ul>
<b>Overall Rating</b>	<p>Would you recommend this resource?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes, with qualifications</li> <li>• No, but very close</li> <li>• No</li> </ul>
<b>To Enhance This Resource...</b>	<ul style="list-style-type: none"> <li>• The following changes are strongly recommended:</li> <li>• The following changes would be beneficial:</li> </ul>

