

Value Conservation LESSON PLAN

“Treat the earth well. We do not inherit it from our Ancestors. We borrow it from our children and grandchildren.”
 ~Chief Seattle of the Squamish Nation

INQUIRY: How can we value Earth’s limited resources in our personal and industry choices?

GOALS: To inspire and empower students to:
 Inquire into their values and world view on natural resources;
 Explore industry practices and social systems and develop critical thinking;
 Discover ways to take personal responsibility for daily sustainable habits;
 Creatively communicate their ideas and suggestions to others.

All Action Packs involve in-class surveys, online research, local activities, charting, critical thinking, taking action and in-class presentations. In-class and out-of-class time is suggested for all Action Packs. If the activity requires special considerations in addition to computer access, it is noted below.

STUDENT ACTION PACKS

LOCAL ACTIVITY CONSIDERATIONS

1. Transportation	Reflect on 1 week of travel, calculate, brainstorm
2. Paper Cuts	Track daily and monthly paper use, brainstorm
3. Bright Energy	Test efficiency, track light usage/reduction for 8 days
4. Saving Water	Track water usage for 4 days, brainstorm
5. Being Chill & Heating Up	Assess heating efficiency in home
6. Ocean Wise	Research based, compare seafood choices
7. All That Glitters	Research based, impacts of items used
8. Oil	Track interactions for 1 day, brainstorm

MATERIALS NEEDED:

Teachers often choose to print one copy of each student document per student or per group; less paper is needed with continuous access to computers in class. Bold and capitalized materials throughout the lesson plan are downloadable SLS resources through a student or teacher account; bolded resources are ones to personally source.

What to prepare for Lesson 1

- Student World View Surveys: one per student and kept by teacher
- Lesson Videos: DVD or online streaming
- Lesson Video Notes: for your reference
- Bingo (1 each) or Thermometer for reference
- Action Circle Agreements: for reference
- Action Pack Summaries: helps choose inquiries
- Students personal notebooks or paper
- Computer, projector or TV & DVD player

Student Work and Facilitation:

- SLS Unit Outline: for students’ clarity
- Computer Lab: for second class, research online
- Action Packs: either complete or components; or provide online access each class
- Presentation Assessment Rubric: for students

What’s needed for presentations and reflection:

- Student World View Calculator
- Peer Evaluations & Informed Decision Making Class Discussion
- SLS Participation Awards

This lesson can be completed in 3-10 classes depending upon the depth in which you explore the topics; teachers averaged 5-7 classes in 2014/15. See **SLS Unit Outline** in the **TEACHERS’ GUIDE TO SLS** for a suggested class flow.

TERMINOLOGY

Each Action Pack has its own set of Glossary Terms. The terms below may be used in class discussions.

Aquaculture	Refers to the breeding, rearing, and harvesting of plants and animals in all types of water environments including ponds, rivers, lakes and the ocean. Also known as fish or shellfish farming.
Carbon Cycle	A natural process where the Earth creates a balance between carbon released into the atmosphere and carbon absorbed by the different natural sinks.
Carbon Emissions	The amount of carbon released by an activity or process.
Carbon Footprint	The amount of carbon dioxide a person, organization, building, etc. produces; used as a measure of their effect on the environment.
Climate Change	Long term changes and abnormal occurrences in weather patterns due to human activity.
Conservation	When humans take steps toward using a minimal amount of natural resources so that the resources can regenerate and be available for future generations.
Deforestation	The process where natural forests are cleared through logging and/or burning, either to use the timber or to clear the area for alternative uses.
Fossil Fuels	A fuel (such as coal, oil, or natural gas) formed in the Earth from the remains of plant or animals.
Fracking	A method of drilling that forces open the cracks in a type of rock called shale in order to extract the gas, oil, or other substances found inside.
Industrial Mining	The process or commercial business of exploring for deposits and extracting minerals from the Earth.
Natural Community	A community of animal and plant species living together in the same space. Natural communities are characterized by plant species, vegetation, and physical conditions. They often overlap with each other.
Natural Resources	Materials provided by the Earth, such as minerals, forests, water, and fertile land that are essential for life and are also used by humans for economic gain.
Petroleum Products	Products that are derived from crude oil (petroleum) and natural gas processing.

BE THE CHANGE TERMS:

Action Packs (AP)	Booklet for student inquiry project
Action Circles	Student groups working on Action Packs
Student World View	Pre and post survey questions for students
Circle Agreements	Group rules agreed to by each group member

Value CONSERVATION		Lesson 1 Intro to sustainability, world views, values, topic explorations, discussion, form student groups, and chose inquiries Timing 80 min lesson, additional 70 min if including all optional (italicized)	
Time Estimate	Activity	Lesson Description	Teacher
10 min	Student World View	Students do a quick written reflection using the CONSERVATION STUDENT WORLD VIEW SURVEY . This is meant to be done at the very beginning of class before any discussions or lessons have begun.	Have a copy of STUDENT WORLD VIEW SURVEY for each student
15 min	Survey Optional Discussion/ Activity	A glossary of terms to assist students with unfamiliar concepts or words is on the back of the World View Surveys. Some teachers choose to discuss terms and concepts with students and others withhold discussion to minimize influencing their current world view (this is a pre and post lesson survey). This survey helps students establish their personal connection and starting point on the topic. They will be able to look back and see if and how their views may have shifted during their inquiry process. <i>Optional:</i> Have a discussion on what influences their world view, the CLIMATE CHANGE and CLIMATE SYSTEM lessons have samples for this type discussion.	
6 min	Define Sustainability	The Brundtland Report for the World Commission on Environment and Development defined Sustainable Development as: <i>"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."</i> SLS adaptation defines Sustainable Choices as: <i>"Social and personal practices that meet the needs of the present without compromising the ability of future generations to meet their own needs."</i>	Write SLS definition of "Sustainability" on board
10 min	Ask Students about Sustainability Optional Video Introduction	Ask students "Why are sustainable choices important? Why do people need to know about them and make sustainable choices?" Thank them for their insights and existing knowledge. <i>Optional:</i> Our current global state poses great challenges, and there is also great opportunity to make a difference and be part of the solutions that our human and natural communities need. This video was created a few years ago to address the	Students need notebooks Have online computer, projector & screen available

		<p>sustainability challenges and opportunities for North American youths (under 30 yrs old):</p> <ul style="list-style-type: none"> • The Story of Our Generation (9:30) 	
2 min	Introduce Value Inquiry	<p>There are many different focuses when addressing global sustainability. This lesson focuses on topics related to personal conservation that bridge into environmental and social health as well.</p> <p>Big Inquiry Question for CONSERVATION VALUE:</p> <p>How can we value Earth’s limited resources in our personal and industry choices?</p>	Write Value Inquiry Question on board
5 min	Optional Values Discussion	<p><i>Optional:</i> Define values and talk about the connection between values, choices, and different life successes depending on your values. You can also complete an entire SLS lesson on values: see MY VALUES LESSON PLAN.</p> <p>Definition of “values”: a person's principles or standards of behavior and success; one's judgment of what is important in life. For SLS, CONSERVATION is a core value and something to strive to succeed in as global citizens.</p>	
10 min	Optional Inquiry Brainstorm	<p><i>Optional:</i> Have students spend 10 minutes brainstorming all the ways they think habits in energy and natural resource use impact environmental and social health.</p>	Students need notebooks
26 min (If all videos are played back to back without discussion)	Video Exploration	<p>Let’s explore a few different topics related to Conservation that will help students choose what topic to focus on for their inquiry project and give an overview of 21st century challenges to our natural resource use.</p> <p>Video Options & correlating Action Packs <i>ex. C1 = Transportation Action Pack</i></p> <ul style="list-style-type: none"> • Fossil Fuels (5:40) – C1, C2, C3, C4, C6, C8 • Carbon Cycle (3:05) – C2, C3, C5, C6, C8 • Paper (5:40) – C2 • Water Crisis (3:00) – C4 • Energy Options (1:45) – C1, C3, C5, C8 • Sustainable Seafood (2:40) – C6 • Canadian Mining (4:25) – C7 <p>LESSON VIDEOS are available on BTCEA website in each Value module in Student’s Kit. Only teachers can access LESSON VIDEO NOTES to help discussion and/or to choose videos.</p>	Have online computer, projector & screen available
15 min		<p>Key questions you can ask throughout video exploration:</p>	

		Teacher's Tools.	
10 min	Review Action Pack Topics Circles Choose Topics	<p>Using the CONSERVATION ACTION PACK SUMMARIES provided in your Teacher's Kit describe the Goal and Activity for each Action Pack. Teachers may offer some or all of the Action Packs for students to choose from. Many teachers print off the CONSERVATION ACTION PACK SUMMARIES for students to reference in their decision.</p> <p><i>Tips for students choosing topics:</i> Number groups off A – G (or H). Have each group decide on their top 3 AP topics; one person from each group will go to the flip chart and write out their group letter, and their action pack number of choice beside their desired topics. E.g., if group A wants to do the Transportation Action Pack they would write A1 beside it, if their second choice is the Ocean Wise then the group would write A2 beside it. The teacher figures out the best combination that covers the most number of Action Packs, going with the top choices of as many groups as possible.</p>	<p>Write Action Pack Topics on Board/ Flipchart</p> <p>Print CONSERVATION ACTION PACK SUMMARIES (1 per every 3 students)</p> <p>Have pens or chalk for students</p>
2 min	End class with preview of what's to come	<p>Explain how they will start a structured inquiry project next class on their topic with research, taking action, critical thinking, doing a group presentation and doing a local activity either at home, in their community or at school.</p> <p>If students are doing this independently outside of class give them their link and instructions to sign up on the BTCEA website.</p>	<p>Give STUDENT SIGN UP LINK if you want them going online to do project</p>
Value CONSERVATION		<p>Lesson 2 (or 2-6) Handout resources, Action Pack process and section intros, student Action Pack work, check-ins, presentation prep</p> <p>Timing 1-4 classes for Action Pack work (# classes depends on homework & level of teacher support/facilitation needed)</p>	
Time Estimate	Activity	Lesson Description	Teacher
10 min	Provide students with their resources	<p>Hand out SLS UNIT OUTLINE, STUDENT ACTION PACKS & PRESENTATION RUBRIC and talk about how this inquiry project will unfold over the next few weeks. Print out the login instructions BTCEA gave you for your students and write the link on the board.</p> <p>Link: _____</p> <p><i>Tips on the Action Pack process:</i> Before handing out packages, decide if you want the students to complete the entire Action Pack and any other specifics you want students to do for certain sections. Younger students or students that need more support</p>	<p>Handout UNIT OUTLINE/ PRESENTATION RUBRIC</p> <p>Give student's their BTCEA SIGN IN LINK</p> <p>Handout printed ACTION PACKS or have students be</p>

		<p>may find receiving the whole Action Pack at once overwhelming. Older and more independent students can often take the whole Pack and easily complete the work independently as a group.</p> <p>If you have access to computers the students can complete the project electronically by signing into the website, downloading and saving the Action Packs (as PDFs).</p>	<p>following online</p>
<p>10 min</p>	<p>Review Action Pack Sections</p>	<p>Introduce Action Pack sections, the purpose of each section, and what students are expected to do. See ACTION PACK SECTIONS in your Teacher's Kit to help guide this.</p> <p><i>Tips on delivery:</i> Often the best results come from when the students have an Action Pack in front of them and are able to follow along, ask questions, and discuss. When students start different sections it is best to talk about that section then, or even hand out that section at the beginning of class. Teachers that schedule check-ins with the different Action Circles throughout tend to have greater student engagement and response.</p> <p>Action Pack Sections:</p> <ul style="list-style-type: none"> • Inquiry and Goals • Student World View • My Actions • Global Research • Local Activity • Critical Thinking Questions • Action Survey • Presentations <p>Additional Materials that teachers can assign and students can access online to augment Action Packs:</p> <ul style="list-style-type: none"> • SLS Related Careers • Current Events • Stakeholders • Interconnectedness • The Science Behind... • Self Evaluation 	<p>Reference ACTION PACK SECTIONS or create hand-outs of these for students</p>
<p>15-40 min</p>	<p>Optional Introductions to Action Pack sections throughout</p>	<p><i>Optional:</i> Additional teachings and videos to introduce specific Action Pack sections is in INTRODUCING ACTION PACK SECTIONS found in your Teacher's Tools. This explains the importance of each step and why they are doing the work they are. This “pre-loading” and reflection is aimed to deepen impact and frame the inquiry.</p>	<p>Have online computer, projector & screen available</p>

<p>1-4 classes</p>	<p>Students work on Action Packs and Presentations</p>	<p>Potential Action Pack class flow:</p> <ul style="list-style-type: none"> • 2nd class: in a computer lab; complete Research Questions. <i>Homework:</i> each group needs to complete Local Activity before next class (some Local Activities need longer, see Activity Considerations at beginning of Lesson Plan) and start their Actions • 3rd class: complete Critical Thinking; prepare for presentation <i>Homework:</i> Prepare for presentation, finish Actions • 4th class: students finalize presentations and Action Survey, hand in Action Packs <i>Homework:</i> Complete final presentation prep if needed <p>Next 1-2 classes not included above will be on presentations and final reflections. Let students know how long you expect their presentations to be (suggested 6-15 min depending on time available) and review the presentation outline/rubric with them.</p>	<p>Option to handout UNIT OUTLINE</p>
<p>Value CONSERVATION</p>		<p>Final/Presentation Lesson(s) Set context/expectations, class presentations, peer evaluations, “so what” and “now what” discussions, Student World Views, awards if applicable Timing 1-3 80 min classes depending on time given for presentations and post presentation discussions</p>	
<p>Time Estimate</p>	<p>Activity</p>	<p>Lesson Description</p>	<p>Teacher</p>
<p>5 min</p>	<p>Set context</p>	<p>You may want to write this Aboriginal Wisdom Quote on the board to provide another “world view” perspective on the Sustainability Value being explored.</p> <p><i>“Treat the earth well. We do not inherit it from our Ancestors. We borrow it from our children and grandchildren.”</i> ~Chief Seattle of the Squamish Nation</p> <p>Handout PEER EVALUATIONS for students to take notes on. Additional inspiring quotes from renowned visionaries are available in the Teacher’s Kit.</p>	<p>Quotation on board</p> <p>Handout PEER EVALUATIONS</p>
<p>10 min</p>	<p>Review expectations/rubric</p>	<p>Review what you are looking for with the presentations; students can take 5 minutes to re-read the Presentation Outline in their Action Packs. Remind them to include their inquiry question (an intro) and speak to or share their personal experience with the Local Activity and what actions they took, as well as provide the context for their facts (all of the above are often missed in these presentations). You can also discuss the presentation rubric with them before presentations start.</p>	

<p>50-120 min</p>	<p>Student Presentations</p> <p>Questions or clarifications for presenters</p> <p>Optional Additional pledges</p>	<p>Action Circles have approx. 5-15 min (or the time you assigned them) to deliver their presentations. If you had any specifics you wanted to assess them on or have them include, remind them before any groups have gone, and have your PRESENTATION RUBRICS ready (1 per group, found in your Teacher’s Kit). Perhaps assign a timekeeper to give a 1-minute warning to wrap up so presenters complete on time.</p> <p><i>Optional: PEER EVALUATIONS</i> for students to complete on each group can be found in the Teacher’s Tools. This helps keep them focused and listening. This can be used for evaluation or simply to increase student learning.</p> <p><i>Tips on supporting students and assessment:</i> Have the ACTION PACK ANSWER KEYS, found in the Teacher’s Kit up on a computer or printed to be able to clear any misunderstandings the students may be communicating in their presentation. You can also reference the Answer Key if it wasn’t obvious what the Local Activity they did was, or what actions they took, or to clarify with them after the presentation.</p> <p>If time allows, a brief discussion following each presentation deepens understanding and can be fulfilling to the presenters. These “So What?” questions can support that reflective and clarifying process:</p> <ul style="list-style-type: none"> • What was the most impactful part of this project for you? • Why is this an important topic to learn about? • Who can relate to the group members’ experiences or the facts mentioned? • Who has a different opinion about this topic? • What further exploration would you like to do now? Are there any stakeholder perspectives you would like to better understand? (start developing new inquiry questions) <p><i>Optional:</i> The teacher’s participation is very influential for modelling personal and socially responsible behaviour. You may ask any students to join you in making additional action pledges to show that you care and feel impacted by these topics. You may already be doing some of the actions but it can be helpful for the students to share those with them.</p>	<p>Provide a stop watch and assign a Timekeeper</p> <p>Mark with PRESENTATION RUBRIC</p> <p>Teacher can reference ACTION PACK ANSWERS KEYS on BTCEA website</p> <p>Support discussion</p>
<p>10–40 min</p>	<p>Optional Discuss the “So What” questions</p>	<p>Facilitate a class discussion to wrap up what was learned. This can be shorter if you have less time, or a larger discussion with deeper exploration. Here are some questions to consider in helping the students ask the large overarching “So What?”</p>	<p>Support discussion</p>

	<p>“Now what” and Informed Decision Making discussion</p>	<p>questions:</p> <ul style="list-style-type: none"> • <i>You may want to reference the module’s “Big Question” first (inquiry question)... so, how can we value Earth’s limited resources in our personal and industry choices?</i> • Why is this inquiry important? • Who feels differently about these issues and how do they relate to our Conservation habits? • How do you feel and what has changed? • What was most memorable and why? • Which stakeholders do you think were most impacted by your topic and why? Which stakeholders had you not thought about before? • Who wants to pledge additional Actions and why are you making that pledge? <p>Consider the “Now what?” questions, using THE INFORMED DECISION MAKING CLASS DISCUSSION activity found in your Teacher’s Kit. You can also distribute the INFORMED DECISION MAKING student handout before or after the discussion.</p>	<p>Reference and hand out the INFORMED DECISION MAKING sheet</p>
<p>10+ min</p>	<p>Completion of Post-World View Survey</p>	<p>Hand back their STUDENT WORLD VIEW SURVEY from first class and have them complete it again. Provide the SWV Calculation sheet to track any changes they may have experienced.</p> <p>Additionally, you can provide them with a SELF EVALUATION handout for them to assess their individual learning process, which is available in Further Explorations on each Action Pack webpage.</p>	<p>Hand back World View Survey</p> <p>Collect Student World Views</p>
<p>5 min</p>	<p>Optional Student Awards</p>	<p><i>Optional:</i> To conclude this significant class project, you may wish to give each student that completed all parts of the project/Action Pack a STUDENT LEADERSHIP IN SUSTAINABILITY ACHIEVEMENT AWARD after they have given their presentation. You will need to fill in names, school, city information and sign. This certificate can be found in your Teacher’s Kit.</p>	<p>Award each student with their SLS AWARD</p>
<p>5 min</p>	<p>Sharing!</p>	<p>Be The Change LOVES to hear how it went for you and your students.</p> <p>If you can, please request permission to share Student World View Surveys or Action Packs (particularly the Action Survey) with BTCEA for evaluation purposes.</p> <p>BTCEA will compile this information anonymously to share with other teachers using SLS and program supporters. Any pictures,</p>	

		stories, videos, etc., are always good to share with other teachers, youth, and those that choose to support our work and will help to make SLS accessible to teachers now and in the future.	
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