

Name: \_\_\_\_\_ Course: \_\_\_\_\_ Date: \_\_\_\_\_

# VALUE CONSERVATION

# TRANSPORTATION

**Inquiry:** How does our choice in transportation impact other people and the environment?



<b>ACTION PLAN</b>	<ol style="list-style-type: none"> <li>1. MY WORLD VIEW</li> <li>2. MY ACTIONS</li> <li>3. GLOBAL RESEARCH</li> <li>4. LOCAL ACTIVITY</li> <li>5. CRITICAL THINKING</li> <li>6. ACTION SURVEY</li> <li>7. PRESENTATION</li> <li>8. SELF EVALUATION</li> </ol>
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Group Members and Contact Info

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## Goals

Please read over the following goals and keep them in mind as you complete your Action Pack.

When you finish this, you will do a SELF EVALUATION to measure how much you have gained in each area below.

- I
**Inquiry:** I can work with others to take a hands-on, minds-on research- based approach to developing my knowledge and considering solutions to sustainability problems.
- T
**Creative/Critical Thinking:** I can learn a lot about something, consider different points of view, and generate new ideas that will influence how I think and act in the future.
- C
**Communication:** I can talk with others about my area of interest, consider their points of view, use digital media to gain knowledge, and deliver an interesting presentation on my topic.
- PS
**Personal & Social Responsibility:** I know what my own values are and they help me make wise choices for the health and well being of myself, my community and my world.

## Glossary

Below are some key terms you will need to understand as you explore the inquiry of this Action Pack. They will appear in ***bold italic*** in your Action Pack. The simple definitions below are provided for ease of reference.

Air quality	A measure of how clean the air is, including the amount of pollutants or greenhouse gases found within it.
Carbon footprint	The amount of carbon dioxide and other greenhouse gases that a person, organization, building, product, etc. produces; used as a measure of their effect on the environment.
Climate Change	The long term changes in weather patterns; in this case due to human activity at a rate faster than many species can adapt.
Economic Impacts	Any change to the wealth and resources of a country or region, community or person. Often referred to in terms of the production and consumption of goods and services.
Ecosystem	A community of plants, animals and smaller organisms that live, feed, reproduce and interact in the same area or environment
Emissions	Greenhouse gases produced by a vehicle or industrial processes.
Environmental Impacts	Any change to the living and non-living natural surroundings or conditions in which a person, animal or plant lives and interacts together. These impacts can be negative or beneficial, and can be created by an industry, project or Individual.
Family	For the purposes of this Action Pack, family will be considered the group of people that you are living with.
Government	A system or organization that exercises authority and performs functions for the people of a designated country, province or local community.
Greenhouse Gases	Air particles that absorb infrared radiation, trap heat in the atmosphere and contribute to the Greenhouse Effect; includes water vapor, carbon dioxide, methane, nitrous oxide, and ozone
Natural Resources	Materials provided by the Earth, such as minerals, forests, water, and fertile land that can be used for life to continue and by humans for economic gain.
Social Impacts	The effect of an activity on the social well being of the people in a community (such as wealth, health, education level, employment rate, and community values)
Sustainability	Meeting the environmental, social, and economic needs of the present without affecting the ability of future generations to meet their needs.

## 1. MY WORLD VIEW

We all have different ‘world views’, depending upon our cultural background, our life experiences and personal values. Our ‘world view’ changes as we gain more knowledge, experience and consider other points of view.

Please complete the **WORLD VIEW & VALUES SURVEYS** BEFORE and AFTER completing this Action Pack.



Aboriginal wisdom presents another world view and values to consider:



“We must walk on this Mother Earth in a good, kind, soft and gentle way”

~War Dance, (Lawrence Perry)

Shuswap Nation

## 2. MY ACTIONS

Our actions are directly related to our world view. We often see shifts in our actions as our knowledge about topics grows. You will be asked to take action through-out this project to try out what it is like to change habits.



**Complete 6.1 in your ACTION SURVEY on [page C1.14](#) of this Action Pack BEFORE completing anything else in your Action Pack.** Indicate which actions you already do by giving yourself points in Column A. **Only complete Column A at this time.**

**DURING** your Action Pack inquiry you will be asked to choose different Actions to try out and tick off your choices in Column B. Make sure that you have completed at least one Personal action and one action from any of the other categories before completing your Action Pack. But don't do that now – that's for later.

**AFTER** you have completed the entire Action Pack you will complete Column C, but don't do that now either! Just focus on filling out Column A at this time.

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### 3. GLOBAL RESEARCH

Important information on this topic has been pre-researched for you. Register online by inserting the 6-digit 'class code' number that your teacher will provide to complete the url below:

[www.bethechangeearthalliance.org/user/register?classcode=\\_\\_\\_\\_\\_](http://www.bethechangeearthalliance.org/user/register?classcode=_____) ).

Then check out the websites and videos on this issue here:

[www.bethechangeearthalliance.org/SLS](http://www.bethechangeearthalliance.org/SLS)



User Name: \_\_\_\_\_ Password: \_\_\_\_\_

Make notes on interesting and important information for the Critical Thinking questions in Section 5 and the Presentation you will be making in Section 7. Discuss and compare different perspectives with other members of your group.

#### Research Questions

Based on what you have learned in your research, answer the following questions. Group discussions are encouraged but answers to the research questions are to be written independently. To avoid plagiarism, your answers must be in your own words. Please list the links you used to answer your questions.

3.1 Name 3 **Greenhouse gases** & what human activities create them.

#### Did you know...?

The US used 18.83 million barrels of oil per day in 2011 and 19.18 million barrels of refined petroleum products per day in 2010.

~[Energy Information Administration](#)

Link(s):

- 3.2 List 3 areas (such as Health, Energy, Agriculture, Recreation, etc) that are affected by ***climate change*** and how they could potentially be impacted.

**Link(s):**

- 3.3 List at least 3 types of ***emissions*** that come from cars and what type of health or environmental harm they cause.

**Link(s):**

3.4 In Canada, Alberta extracts bitumen (crude oil) for export to be processed and made into gasoline and many other products. What are at least three **environmental** and/or **social impacts** of that bitumen (crude oil) extraction?

**Link(s):**

3.5 Describe a minimum of 3 ways to reduce your **carbon footprint**.

**Link(s):**

## Taking Action

Choose ONE or MORE actions from your **ACTION SURVEY** in the back of your Action Pack and do the action(s) now. Choose something that you are not already doing or increase an action that you have done occasionally to become a regular practice



Make a check mark in **Column B** beside the action you will be taking and record it below.

**My chosen action is:** \_\_\_\_\_

**I will complete it by:** \_\_\_\_\_

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### 4. LOCAL ACTIVITY



How does this global topic relate to you personally? How often do you travel in an automobile each day? Complete the following activity and research chart to see how you are part of the equation.

1. Have each member of your Group record their travel in a car over the last 4 day period.
2. Then calculate the number of kilometers you travelled using Google Maps.
3. Find out the Make, Model and Year of the car you most frequently travel in (for example, Ford, Explorer, 2008).
4. Specify how you got to your destination and using the CO2 **Emissions** Calculator, determine how many kilograms of carbon you produced.
5. Consider when you could have taken an alternate mode of travel to reduce your **carbon footprint** and write those kilometers in the chart.
6. Calculate your annual CO2 emission totals, and the amount of your carbon footprint you could possibly reduce if you chose differently.
7. What is your dream vehicle? Using the totals in your research chart, calculate what your annual CO2 emission, or carbon footprint, would be if you travelled everywhere your dream car. – Maybe take this out.

### Research Chart

4.1 Complete Research Chart (use note paper if more space is needed)

<i>Where did I go?</i>	<i>#km by car (x2 if return trip)</i>	<i>Divide by # of passengers if we carpoled</i>	<i>#km traveled by alternate mode (foot, bike, bus)</i>	<i>kms I could use alternate travel to cut my CO2</i>
Example Monday:				
music lessons	5 X 2 = 10	10	0	10
School	0	0	2 x 2 = 4	0
Soccer game	6 X 2 = 12	12 / 3 = 4	0	0
<b>FOUR DAY TOTAL</b>	<b>22</b>	<b>14</b>	<b>4</b>	<b>10</b>

Vehicle I most frequently use		Make:	Model:	Year:
<i>Where did I go?</i>	<i>#km by car (x2 if return trip)</i>	<i>Divide by # of passengers if we carpoled</i>	<i>#km traveled by alternate mode (foot, bike, bus)</i>	<i>kms I could use alternate travel to cut my CO2</i>
Day 1				
Day 2				
Day 3				
Day 4				
TOTALS				
Average kms per day (Total/4)				
Estimated Annual CO2 Emissions	Take your daily average kms traveled in a car x365, then use link to get your annual CO2 emissions. <a href="http://www.falconsolution.com/co2-emission/">http://www.falconsolution.com/co2-emission/</a>			_____ Tonnes
Est. CO2 I could save every year	Use the link above to calculate the CO2 emissions I could potentially save in the future (Take average kms could save a day x 365 for calculation)			_____ Tonnes
My annual carbon footprint in my dream vehicle				_____ Tonnes

## So What?

4.2 What are the similarities and differences you found from comparing your activity results to others in your group?

4.3 What are some conclusions or observations you gained from this Activity?

## Taking Action

Choose ONE or MORE actions from your **ACTION SURVEY** in the back of your Action Pack and do the action(s) now. Choose something that you are not already doing or increase an action that you have done occasionally to become a regular practice



Make a check mark in **Column B** beside the action you will be taking and record it below.

**My chosen action is:** \_\_\_\_\_

**I will complete it by:** \_\_\_\_\_

Name: \_\_\_\_\_ Course: \_\_\_\_\_ Date: \_\_\_\_\_

## 5. CRITICAL THINKING

Global *sustainability* issues are complex, and considering different points of view can give us a stronger understanding in order to change for the better.



### Critical Reflections

To avoid plagiarism, write your answers IN YOUR OWN WORDS.

5.1 What are the long-term environmental and social justice implications of continuing to use the amount of fossil fuels we are now consuming?

5.2 Major challenges have arisen from our current use of fossil fuels, such as *Climate Change*, and other environmental, social and health issues.

What personal and social actions could be taken to reduce these negative impacts?

5.3 **STAKEHOLDERS** are individuals or groups (companies, communities, etc) who have concerns or could be impacted by an issue. Below is a list of **stakeholders** and **environments** that could be impacted by reducing our use of fossil-fueled transportation. Write down two or three benefits or concerns for each stakeholder(s).

<b>Stakeholder(s) / Environments</b>	<b>Impacts: Benefits &amp; Concerns</b>
1. Myself, my <b>family</b> & my Community	
2. The Natural World (Animals, Plants, <b>Ecosystems</b> and planetary life-support systems)	
3. Companies that produce, sell and buy cars	
4. People and Companies that produce, distribute and sell oil products	
5. <b>Government</b>	
6. Other	

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## Costs & Benefits

What if I was to change my habits and seek alternate modes of transportation?

5.4 What would I need to do to take this action (e.g. commitment, time, something I'd need to stop doing, asking people to support me, taking responsibility, shifting comfort zones, etc.)? List at least 3 specific examples.

1.

2.

3.

5.5 What would the benefits be?

1. To me, personally (health, knowledge, values, etc.)

2. Environmentally (locally to globally) put in examples?

3. Socially (who may be impacted by this?)

4. Economically (money or resources saved or spent)

5.6 If I chose NOT to seek alternative modes of transportation, what would the ***environmental***, ***social*** and ***economic impacts*** be?

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## 6. ACTION SURVEY

Our actions are directly related to our world view.

Complete the following ACTION SURVEY step by step.



6.1 **BEFORE** starting your Action Pack, indicate which actions you already do by giving yourself points in COLUMN A. Add these up in the Total for COLUMN A

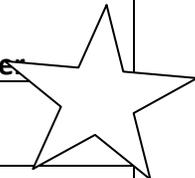
<i># of points</i>	<i>If this statement is true for you or not</i>
<b>0 points</b> =	Not true
<b>1 point</b> =	Sometimes true
<b>2 points</b> =	I have done this (not something one does regularly)
<b>3 points</b> =	True most of the time

6.2 **DURING** your Action Pack inquiry, set your goals and tick off the Actions you intend to take in COLUMN B... and then do them!

### Action Survey

	<i>What Actions have I taken before? What Actions will I start taking?</i>	<b>A</b> <i>Done before Action Pack</i>	<b>B</b> <i>I intend to do this Action ✓</i>	<b>C</b> <i>I have done these Actions</i>
<b>Personal Actions</b>	1. I bike or walk to these destinations 1. _____ 2. _____ each week.			
	2. I have not used a car to get around this week.			
	3. I have researched more environmentally friendly vehicle choices, such as hybrid, electric or bio-diesel vehicles.			
	4. I regularly choose activities that I can get to by walking, biking, or taking public transportation.			
	5. I have learned how to fix a flat tire and other small fix ups on a bike.			

<b>Household Actions</b>	6. I have arranged carpooling with family or friends to reduce multiple trips or single passenger trips.			
	7. I have planned with my family the most efficient ways to get our errands done, to avoid using a car more than we need to.			
	8. I have talked with family members about more fuel efficient vehicles or cars such as hybrids, electric or diesels that can run on biofuel.			
	9. I have convinced a family member or friend to walk, bike, rollerblade, skateboard or take public transportation to an activity with me.			
<b>School Actions</b>	10. I have helped set-up a bike program at my school.			
	11. I have helped set-up a car-pool program at my school.			
	12. I have arranged a bike to school week at my school.			
<b>Community Actions</b>	13. I have supported others in learning how to build and fix their bikes.			
	14. I have gone to a rally or talk associated with fossil fuels and learned how to take additional action.			
	15. I have joined or created a local recycling project (such as Recycle-A-Bicycle) to get more community members biking.			
	16. My customized and related action (teacher approved): _____			
	<b>What Actions have I taken?</b>	<b>A</b> <b>Before</b>		<b>C</b> <b>After</b>
<b>Totals:</b>				
	<b>Starting Points Sustainability</b>		<b>Total Points Sustainability</b>	



## Points for Sustainability

6.3 **AFTER** completing your Action Pack, fill in COLUMN C by giving yourself points for all the actions you are now taking. Add up the total of COLUMN C to see your **TOTAL POINTS FOR SUSTAINABILITY**.

<b>5-15</b>	This is a good place to start! And you have lots of choices for actions to increase your score
<b>16-31</b>	You are well on your way to creating healthy, sustainable habits!
<b>32 or more</b>	WOW, Superstar! You are here to inspire others. Lead on!

## Points for Change

6.4 **CHANGING** our habits is a big accomplishment! As we increase our awareness we will see the impact of each choice we make and even more ways to 'be the change'. To give yourself points for trying new actions and being willing to change old habits, subtract the total of COLUMN A from the total of COLUMN C to get your total **POINTS FOR CHANGE**.

**Total Column C:** \_\_\_\_\_ - **Total Column A:** \_\_\_\_\_ = \_\_\_\_\_ **TOTAL POINTS FOR CHANGE**

<b>3-6</b>	Way to go – you've overcome the hardest part to change – <b>STARTING!</b> Keep it up!
<b>7-15</b>	Well done – keep consistent with your changes to create new habits.
<b>16 or more</b>	Way to be a <b>CHANGE AGENT!</b> Check out other Action Packs for more ideas

## Reflection on Taking Action

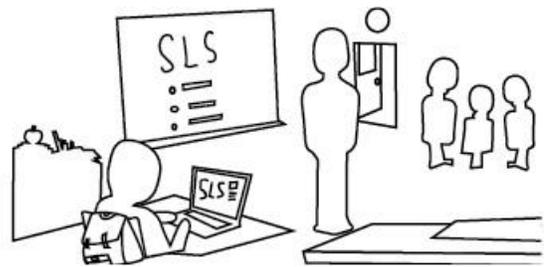
Answer these questions after completing your Action Pack (use more paper as needed)

6.5 What was rewarding about making a commitment to action and changing my behaviour?

6.6 What was challenging?

## 7. PRESENTING YOUR EXPERIENCE AND KNOWLEDGE

Your final Action Pack assignment is to give a presentation to your class summarizing your thoughts on the Inquiry you did in this Action Pack. This is your chance to share what you have learned and invite your peers to take action!



Presentation length: 5 - 15 min.

See ideas for your presentation below. Ask your teacher for further details.

Make sure your presentation includes:

1. **I Inquiry Process**
  - State the Inquiry question that you explored. Is this an important question we all need to be asking ourselves?
  - List the top 3 most interesting facts that you learned in your research.
  - Share the experience and results of your local activity
2. **T Critical Thinking**
  - Name some key *stakeholders* or *ecosystems* and their concerns or interests
  - List some ways we can approach this issue more sustainably (both industry and personal)
  - Share new ideas or conclusions you gained from completing the Action Pack.
3. **PS Taking Action**
  - What actions did you take?
  - What it was like to take personal action
  - Share your personal experience exploring this topic, inspire others to take action
  - Suggest ways your classmates can take action
4. **C Creative Communication**
  - Engage with your audience; make eye contact, don't read off a piece of paper the entire time, and project your voice
  - Be creative; how can you make learning about this topic fun and interesting? Consider the different presentation formats below
  - Share personal stories that deliver key points
  - Be passionate, persuasive and creative

## Creative Format Options

1. **A VERBAL TESTIMONIAL** Acting as a stakeholder (person, community, animal, river, etc) you tell your personal story about how important this topic is to you and how it can affect your life, positively and negatively. You could do it like a talk show where one interviews the other about your experience.
2. **GRAPHIC DEPICTION** Drawings that are labeled and explain the information you learned in the research. This could be pictures, images, a storyboard, timeline, and includes how you will make changes in your life.
3. **MOCK DEBATE** You and your partner present two points of view, or two stakeholders, showing the facts that support both sides in the issue.
4. **PAINTING OR COLLAGE** An artistic representation of what you learned in the research and how you will make changes in your life.
5. **MOCK NEWSCAST** You are a TV journalist on the scene of an environmental situation and you are interviewing both sides of the issue. For example, trees being cut down, industry's waste going into a river, protesters with signs at a government office.
6. **NEWSPAPER** Create a newspaper page with various articles about both sides of the issue. You may include a cartoon that is relevant, a letter to the editor about the issue and columns with the scientific facts. Include what changes are needed to help with this issue in the world.
7. **POEM/PROSE/SONG/RAP** Present a piece of creative writing that expresses personal feelings and facts together around your issue/topic.
8. **SKIT** Act out a script to demonstrate your understanding of the issue/topic . Explain the stakeholders on both side of the issue and how you will change your life to help.
9. **WEBSITE** Create a well designed website that clearly leads the reader through the major issues, facts and opinions on this topic.
10. **POWERPOINT/PREZI** Create a visual presentation with strong images, graphs, even video, that complements and strengthens your verbal presentation. Remember images – not words!
11. **VIDEO** Create a video that describes the key points of the issue in a compelling way. Can be animation.

## 8. SELF EVALUATION

While helping you learn about a sustainability topic, the goal of this Action Pack was to help you increase your ability in a number of life skills.

By completing the self evaluation below you can acknowledge the areas that you have developed and the areas that need more work. Please keep in mind that your abilities will continue to develop over the years.

Please rate yourself from 1 – 5 for each of the following statements.

- 1 = I did not develop this skill with this project and I do not feel confident in this life skill
- 2 = I developed this skill a little, but I need to do more work in this area
- 3 = I developed this skill a fair bit, and I see how I could use it in the future.
- 4 = I developed this skill a lot and I am quite confident about using this skill in the future.
- 5 = This goal was fully met... I actively use this life skill in many areas of my life.

<i>Action Pack Goal</i>	<i>Your Self Evaluation</i>				
<b>I Inquiry Process:</b>					
• I can work well with others to explore a topic.	1	2	3	4	5
• I can research a question using internet links.	1	2	3	4	5
• I am willing to get personally engaged to use my own experience as part of my research.	1	2	3	4	5
• I am willing to look for solutions even when a clear and easy answer is not obvious.	1	2	3	4	5
<b>T Creative/Critical Thinking:</b>					
• I learned a lot about this topic.	1	2	3	4	5
• I considered different points of view.	1	2	3	4	5
• I have generated some new ideas.	1	2	3	4	5
• My understanding of this topic will now influence how I think and act in the future.	1	2	3	4	5



**Communication:**

- I am comfortable speaking with others about my area of interest. 1 2 3 4 5

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- I can hear and respect different opinions during a discussion 1 2 3 4 5

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- I can use digital media to research information. 1 2 3 4 5

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- I can use digital media to share information. 1 2 3 4 5

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- I can deliver an interesting presentation on my topic. 1 2 3 4 5



**Personal & Social Responsibility:**

- I know what my own values are. 1 2 3 4 5

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- I use my values to decide on my actions. 1 2 3 4 5

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- I take responsibility for how my actions impact on my life. 1 2 3 4 5

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- I take responsibility for how my actions impact on the lives of others, my community & my planet. 1 2 3 4 5