

Name: _____ Course: _____ Date: _____

VALUE CONSERVATION & CLIMATE ACTION

TRANSPORTATION

Inquiry: How does our choice in transportation methods impact humans, nature and the climate?



ACTION PLAN

1. MY WORLD VIEW
2. ACTION SURVEY
3. GLOBAL RESEARCH
4. TAKING ACTION
5. LOCAL ACTIVITY
6. TAKING ACTION AGAIN
7. CRITICAL THINKING
8. MY ACTIONS
9. PRESENTATION

Important PDF Instructions

1. This Action Pack works best in Adobe Reader XI; download if needed.
2. Download this Action Pack and save it onto your computer.
3. Re-open Action Pack from your computer before working on it.
4. **WARNING - Do not work in your web browser or your work will not be saved!**

Goals

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



Inquiry:

I can work with others to take a hands-on, minds-on research- based approach to developing my knowledge and considering solutions to **global sustainability** problems.



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.



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.



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

These words are in ***bold italic*** in your Action Pack.

Accessible transit	A transportation system that all people, including those with disabilities, find easy to use, comfortable, helpful for getting around, and affordable.
Climate Change	Abnormal occurrences and long-term changes in global weather patterns caused by greenhouse gas emissions from human activity.
Ecosystem	A community of plants, animals and other organisms and all the interacting parts of their environment (air, water, soil, etc.) that live, feed, reproduce and work together as a system.
Elected Representative	A politician who has been elected by voters in a region to hold office in the municipal, provincial or federal government to represent the best interests of these citizens. Municipal, provincial and federal elected representatives are called City Councilors, Members of Legislative Assembly (MLAs) and Member of Parliament (MPs) respectively.
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 refer to the group of people with whom you are living.
Government	A system or organization that exercises authority and performs functions for the people of a designated country, province or local community.
Government Minister	An elected politician who is responsible for a provincial or federal government department, for example the BC Ministry of Environment & Climate Change Strategy.
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).
Stakeholders	Individuals or groups (companies, communities, etc.) who have concerns or could be impacted by an issue.
Sustainability	Meeting the environmental, social, and economic needs of the present without compromising the ability of future generations to meet their own needs.

1. MY WORLD VIEW

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

Fill out the **WORLD VIEW & VALUES SURVEY**. You will fill them out again AFTER you finish the Action Pack. The World View Survey will be handed out by your teacher in class.



Indigenous 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. ACTION SURVEY

Our personal integrity develops when we act in alignment with our values and our world view. We often see shifts in our actions as our knowledge about topics grows.



2.1 You might already be doing some of these actions. (Don't worry if you aren't yet; you'll have a chance to do as many as you want in this Action Pack!) Complete Column A by giving yourself points for each action as outlined below. Add these up for the Total in COLUMN A.


Only complete Column A at this time.

# of points		If this statement is true for you or not
0 points	=	Not true
1 point	=	Seldom true
2 points	=	Sometimes true
3 points	=	True most of the time

Action Survey

	<i>What Actions have I taken before?</i> <i>What Actions will I start taking?</i>	<i>A</i> <i>Done before</i> <i>Action Pack</i>	<i>B</i> <i>I intend to do</i> <i>this Action ✓</i>	<i>C</i> <i>I have done</i> <i>these Actions</i>
Personal Actions	1. I walk or bike minimum of 5 km instead of taking a car this week.*			
	2. I have not used a car to get around this week.*			
	3. I have bought a used bike rather than a new bike.*			
	4. I have researched more environmentally friendly vehicle choices, such as hybrid, electric or bio-diesel vehicles.			
	5. I regularly choose activities that I can get to by walking, biking, or taking public transportation.			
	6. I made a poster, infographic, video or other creative project that illustrates the components of sustainable transportation systems			
Household Actions	7. I have arranged carpooling with <i>family</i> or friends to reduce multiple trips or single passenger trips.*			
	8. I spoke with my <i>family</i> about how different transportation methods contribute to on <i>climate change</i> and made plans to use public transit, walk or bike to get our errands done to reduce our emissions.*			
	9. I have talked with my <i>family</i> members about more fuel efficient vehicles or cars such as hybrids, electric or diesels that can run on biofuel.			
	10. I convinced my <i>family</i> to bike or walk to get groceries or another activity rather than driving (circle which method you can choose).*			
School Actions	11. I have arranged a bike to school week at my school or a bike-share program.			
	12. I have helped set up a car-pool program at my school.			

	13. I spoke with classmates and teachers about actions we can take to get a better, more sustainable transit system.			
Community Actions	14. I have gone to a rally or talked about fossil fuels and learned how to take additional action.			
	15. I looked up and contacted (via phone, email or letter) my <i>elected representative</i> and/or the <i>government minister</i> responsible for this issue to state my concern and the change that I think is appropriate. List issue and change: _____			
	16. I looked for this issue in the policies of different politicians and political parties and asked my <i>family</i> or other voters I know to consider this in upcoming elections. List issue: _____			
	17. My customized and related action (teacher approved):_____			
	What Actions have I taken?	A Before		C After
	Totals:			
		Starting Points <i>Sustainability</i>		Total Points <i>Sustainability</i>



*BTCEA has measurable data on the environmental benefits of these actions.

2.2 As you work through your Action Pack, tick off the Actions **you intend (or plan) to take** in **COLUMN B...** and then do them! IF you have already done all of the suggested actions, think of a new action, get it approved by your teacher, and write it in the last open space.

2.3 **AFTER** you have completed the entire Action Pack you will complete **COLUMN C**.

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3. GLOBAL RESEARCH

Important information on this topic has been pre-researched for you. Gain access online with the URL that your teacher will provide. Then check out the websites and videos in the [Library of Links](#).

Information from these web links will answer your Research Questions in Section 3, inform your responses to the Critical Thinking Questions in Section 7, and support the Presentation you will be preparing for Section 9.

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 a) List the five main modes of transporting goods in Canada, what each mode generally transports, and one environmental impact of that method.

Did you know...?

In 2018 Canadians consumed approximately 110 billion litres of petroleum products. That is more than 44 000 Olympic swimming pools!

~[Natural Resources Canada](#)

- b) What are the five main modes of transportation people use to get around in Canada and what is one environmental impact of each method?

List the links you referenced:

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

List the links you referenced:

- 3.3 In Canada, Alberta extracts bitumen (crude oil) for export to be processed and made into gasoline to fuel transportation and to make many other products.

a) What are at least three ***environmental impacts*** of that bitumen (crude oil) extraction?

b) Which communities are being negatively impacted by the Alberta oil sands? What are some of the ***social impacts*** of this extraction?

c) How do the oil sands impact Canada's ability to address *climate change*?

List the links you referenced:

3.4 Fill out the following chart with recommendations for building sustainable and accessible transit systems:

	Walkability	Bike-ability	Public Transit
<i>Sustainability</i> Considerations			
<i>Accessibility</i> Considerations			e.g. students and elderly get free access

3.5 List four community-based actions that people can take to reduce their environmental impact as a group.

List the links you referenced:

4. TAKING ACTION

Choose ONE (or MORE) action(s) from your **ACTION SURVEY** in the front of your Action Pack, check it off in **Column B** and record it below. Do the action(s) now.



My chosen action is: _____

I will complete it by: _____

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5. LOCAL ACTIVITY



How does this global topic relate to you personally?

How often do you travel each day? What mode of transportation do you use?

Complete the following activity and research chart to track your emissions and see how you can decrease your impact.

- Have each member of your Group record their travel over the next week (i.e. Monday – Sunday).
- Use the [map my emissions tracker](#) to record your emissions for each trip
- Consider ways you could reduce your emissions and use the tracker to record what your emissions would be if you used a different mode of travel
- Add up the total kms you travelled by various modes of transportation, and the total emissions of your trips
- Once you have calculated your weekly totals, calculate an estimate of your annual carbon emissions.

NOTE: You will need to know the size of the vehicle you use most often to complete this calculation.

Research Chart

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

<i>Where did I go?</i>	<i>How did I travel</i>	<i>What were my emissions?</i>	<i>An alternative mode of travel to save emissions</i>	<i>Emissions for Alternative mode</i>	<i>Savings</i>
Example Monday:					
music lessons	Bus	1.47 lb of CO ₂ -e	bike	0	1.47
School	Car	0.31 lb of CO ₂ -e	walk	0	.31
Soccer game	Car	1.17 lb of CO ₂ -e	on public transit	0.56 lb of CO ₂ -e	1.17-.56 = .61
Day 1					

Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					
Total # of trips taken/week		Total emissions for week			Total emissions I can reduce/week

		Weekly total x 52 weeks/year = annual emissions:			Weekly emission reduction x 52 wks/yr = annual emissions savings:
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So What?

5.2 Compare your activity results with others in your group. Write down one or more similarities and differences that you found. Label similarities S and differences D.

5.3 What are your conclusions?

6. TAKING ACTION AGAIN

Choose ONE (or MORE) action(s) from your **ACTION SURVEY** in the front of your Action Pack, check it off in **Column B** and record it below. Do the action(s) now.



My chosen action is: _____

I will complete it by: _____

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7. 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.



Costs and Benefits to Change

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

7.1 What if people (including me) chose to use less fossil-fuel dependent modes of transportation? What would the costs and benefits be to all the different **stakeholders**? Label costs C and benefits B.

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

2. Environmentally (plants, animals, **ecosystems**, climate, locally to globally)

3. Socially (people and communities, locally to globally)

4. Economically (financial systems, companies and **governments**, locally to globally)

7.2 Fast forward 10 years into the future... Good news! We have eliminated the transportation ***carbon-emissions*** problem and your community now has an accessible and sustainable transportation system, with far less ***emissions***! You were a key player in this transition. Drawing on what you've learned with this Action Pack, what suggestions did you make to help create the solution?

Be as creative and bold as you would like with your answer, and feel free to use point form notes, sketches, mind maps or whatever else you need to flesh out your vision.

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8. MY ACTIONS



Points for Global Sustainability

8.1 Now, return to your **ACTION SURVEY** in **Section 2**, and 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 GLOBAL SUSTAINABILITY**.

5-15	Great start! You have lots of choices for actions to increase your score.
16-31	You are well on your way to creating healthy, sustainable habits!
32 or more	WOW, Superstar! You are here to inspire others. Lead on!

Points for Change

8.2 **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**

3-6	You’ve overcome the hardest part to change – STARTING! Keep it up!
7-15	Well done! Stay consistent with your changes to create new habits.
16 or more	Way to be a CHANGE AGENT! 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)

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

8.4 What was challenging?

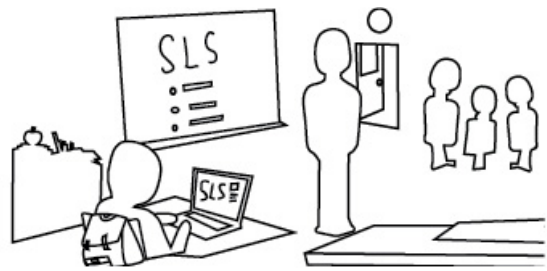
9. PRESENTING YOUR EXPERIENCE AND KNOWLEDGE

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 at industry and personal levels)
- 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 and 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. **PERSONAL STORY** Tell your personal story of what it was like learning about this environmental issue. What research facts surprised or upset you? Did people help you or react negatively to your questions? Has this topic grown in importance to you? What actions did you take? Will you continue to take these and other actions? How can this issue affect your life, now and in the future? How would you like your story to end?

Stories are one of the best ways to teach lessons of value, especially when they are personal and real. Although they often present challenges to overcome, the best ones leave us with a feeling of personal power and hope. Stories are the way Indigenous peoples have passed forward their wisdom over the years.

2. **GRAPHIC DEPICTION** Drawings that are labeled and explain the information you learned in the research. This could be pictures, images, a storyboard, or timeline, and should include 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 facts and personal feelings 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 lifestyle 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, which complements and strengthens your verbal presentation. Remember to use images, not words!
11. **VIDEO** Create a video that describes the key points of the issue in a compelling way. This video can be an animation.