

Name: _____ Course: _____ Date: _____

VALUE CONSERVATION

BEING CHILL & HEATING UP



Inquiry: How does heating and cooling our homes impact people and the environment?

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

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.

Conservation	Taking steps to use a minimal amount of natural resources so that they can regenerate and be available for future generations.
Climate Change	The long term changes and abnormal occurrences in weather patterns; in this case due to human activity.
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 other organisms and all the interacting parts of their environment (air, water, soil, etc) that live, feed, reproduce and work together as a system.
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.
Fossil Fuels	A natural fuel such as oil or gas, formed in the geological past from the remains of living organisms.
Government	A system or organization that exercises authority and performs functions for the people of a designated country, province or local community.
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.
Non-renewable Energy	A type of energy that is finite; will eventually run out
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

A 'world view' is how you see the world. 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 and 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.



"Camps were set to make the best of all the natural forces to ensure good water, coolness in the day, warmth at night and protection from the wind. You don't fight against nature, you harness it."

~Aline LaFlamme, Métis Elder

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 C5.14 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=_____

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

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 a) List the 3 types of **fossil fuels** and how they are extracted and create energy

b) In what ways do we use **fossil fuels**?

Did you know...?

Turning down the heat in your home by 2 degree reduces 5% or more of its energy use.

~ [BC Hydro](#)

Link(s):

3.2 There are many ways you can heat and cool your home. List 2 or more pros and cons for each heating/cooling method listed below. Consider environmental, social or economic pro and cons.

Method of Heating or Cooling	Pros	Cons
Natural Gas (how a majority of homes in BC are heated)		
Hydro- Electric		
Oil		
Bio-fuel Direct Combustion or Wood burning stove or indoor fireplace		
Coal		
Wearing more clothes and turning down or off the heater		
Other:		

Link(s):

3.3 What is 'fracking' and why are we using this process?

Link(s):

3.4 Describe three or more environmental or social concerns related to 'fracking'.

Link(s):

3.5 What are 4 ways you could control the temperature in your home while reducing the use of **non-renewable energy** sources such as **fossil fuels**?

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? What does energy efficiency look like in your home? Each person in your group complete the following activity and research chart for their home.

1. You will need to interview a parent/guardian to do this activity. Complete the RESEARCH CHART based on the heating and cooling efficiency of your home (circle your answers).

2. Add all the percentages up to calculate around how much energy your home could save.

BC Hydro outlines great ways to keep your home cool [Link14](#) and warm it up [Link15](#), this can help with any clarifications needed for the chart below.

Research Chart

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

ITEM	QUALITY IN HOME	POSSIBLE % IMPROVEMENT
QUALITY OF INSULATION – is your home and attic properly insulated?	Terrible	60%
	Poor	40%
	Okay	20%
	Good	0%
Do you have ENERGY EFFICIENT WINDOWS?	Yes	0%
	No	5%
Do you feel drafts when the windows and doors are closed?	Yes	10%
	No	0%
Are your windows shaded by potted plants or trees?	Terrible	15%
	Okay	10%
	Good	5%
THERMOSTAT: Are you over heating your home during the day?	Yes	2% per degree
	No	0%
Do you set your Thermostat 5° lower at night?	Yes	0%
	No	10%

Do you have a WELL MAINTAINED HEATING SYSTEM?	Yes	0%
	No	5%
<p>Estimated Savings for My Home's Heating and Cooling Energy use could be: _____ %</p> <p><i>If you can refer to your household's heating/cooling bill: If we reduced this %, we could save \$_____ on our heating bill each year.</i></p>		

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: _____

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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 three suggestions would you give a company wanting to heat their building with the least *environmental, social* and *economic impacts*? State why you are making these recommendations; include what source of energy you suggest and why.

5.2 What two recommendations would you make to your own household to reduce your *environmental* and *social impact*? State why you think these are important actions to take.

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 experience **environmental, social** or **economic impacts** if we reduced our energy consumption. Write down two or three benefits or concerns for each stakeholder(s).

Stakeholder(s) / Environments	Impacts: Benefits &Concerns
1. Myself, my family & my Community	
2. The Natural World (Animals, Plants, Ecosystems and planetary life-support systems)	
3. People in areas affected by fossil fuel extraction, burning or transporting	
4. People and Companies that produce, distribute and sell fossil fuels	
5. Government	
6. Other	

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Costs & Benefits

What if I was to choose differently and actively reduced the amount of energy I use to heat and cool my spaces?

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 reduce the amount of energy I use to heat and cool my spaces, 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.

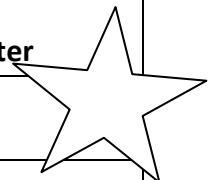
# of points	If this statement is true for you or not
0 points	= Not true
1 point	= Sometimes true
2 points	= I have done this (not something one does regularly)
3 points	= True most of the time

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! IF you have already done all of the suggested actions, think of a new action, get it approved by your teacher and write it into the last open space.

Action Survey

	<i>What Actions have I taken before?</i> <i>What Actions will I start taking?</i>	A <i>Done before Action Pack</i>	B <i>I intend to do this Action ✓</i>	C <i>I have done these Actions</i>
Personal Actions	1. I turn down the household heat when going to bed and turn it back up when getting up in the morning.			
	2. I close the drapes in my bedroom when not in the room, to keep heat in on cold days and keep the heat out on hot days			
	3. I have intentionally reduced my heating/cooling energy consumption using strategies for the past week.			
	4. When getting a ride in a car, I roll down the window instead of using Air Conditioning			

Household Actions	5. Members of my household have met to discuss my Local Activity findings and planned some ways to reduce energy consumption in our home.			
	6. I have helped my house have energy efficient windows.			
	7. Our house has recently cleaned our furnace and air conditioners' air filter to keep the unit running effectively and efficiently.			
School Actions	8. I have started or am part of a Green Energy student group, that encourages my school to heat and cool the school efficiently.			
	9. I have helped plan an 'Ugly Sweater Day' and turned down the school thermostat for that day.			
	10. I have looked into renewable energy forms to heat my school.			
Community Actions	11. I have researched other sources of energy my city uses, and know where it comes from and who is affected because of it.			
	12. I have looked into Bullfrog Power and if it would be a viable way of heating my home, school or other community building.			
	13. I found out what government department regulates this issue and which elected politician is responsible for this department.			
	14. I wrote a letter to the department staff and/or to the politician stating the change that I think is appropriate.			
	15. My customized and related action (teacher approved): _____			
	What Actions have I taken?	A Before		C After
	Totals:			
		Starting Points Sustainability		Total Points Sustainability



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**.

5-15	This is a good place to start! And 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

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**

3-6	Way to go – you've overcome the hardest part to change – STARTING! Keep it up!
7-15	Well done – keep 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)

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** Creative/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 for Personal & Social Responsibility

- What actions did you take?
- What was it 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. This video 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>				
I Inquiry Process: <ul style="list-style-type: none"> • I can work well with others to explore a topic. • I can research a question using internet links. • I am willing to get personally engaged to use my own experience as part of my research. • I am willing to look for solutions even when a clear and easy answer is not obvious. 	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
T Creative/Critical Thinking: <ul style="list-style-type: none"> • I learned a lot about this topic. • I considered different points of view. • I have generated some new ideas. • My understanding of this topic will now influence how I think and act in the future. 	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5

C Communication:					
• I am comfortable speaking with others about my area of interest.	1	2	3	4	5
• I can hear and respect different opinions during a discussion	1	2	3	4	5
• I can use digital media to research information.	1	2	3	4	5
• I can use digital media to share information.	1	2	3	4	5
• I can deliver an interesting presentation on my topic.	1	2	3	4	5
PS Personal & Social Responsibility:					
• I know what my own values are.	1	2	3	4	5
• I use my values to decide on my actions.	1	2	3	4	5
• I take responsibility for how my actions impact on my life.	1	2	3	4	5
• I take responsibility for how my actions impact on the lives of others, my community & my planet.	1	2	3	4	5