

Temperature Rising: Climate Change in Southwestern British Columbia

The Causes of Climate Change

Name: _____

Date: _____

Group Members: _____

Did You Know?

1. How much water does each person use at home every day?
Over 300 L
1. What is the source of nearly 30% of the greenhouse gas emissions in the lower Fraser Valley?
Motor vehicle exhaust
2. What animals are shown as methane producers?
sheep and cattle

Why is Climate Changing Now?

3. What turning point saw additions of CO₂ to the atmosphere overtake removals?
Industrial Revolution
4. What are the causes of the rapid build-up of CO₂ in our atmosphere?
Human activities: burning fossil fuels, deforestation, agricultural practices

How Do We Measure Up?

5. Out of individual household CO₂ emissions, what % does automobile use put out? **45%**
6. What activities contribute to 75% of CO₂ emissions that are not individually produced?
Transportation, electricity generation, fossil fuel production, agriculture, community and industrial waste, other industry

<u>Connections</u>	<u>Reflections</u>	<u>Questions</u>
<i>What connections can you make among what you've learned, your lifestyle, your family, school, community, or other regions?</i>	<i>Reflect on your learning, understandings, and discoveries. "Write about one thing you did not know before starting this activity"</i>	<i>What questions do you still have, or what new questions have been raised?</i>

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The Consequences of Climate Change

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Is Climate Changing?

1. How do glaciers behave when climate changes?
Expand when cools/shrink when warms
2. By how much is the global temperature expected to rise above 1980 levels by the year 2100?
~ 4.5 - 5°C
3. Where does the global map indicate the most significant temperature changes will occur?
The poles

The Air We Breathe:

4. What gets trapped in the Fraser Valley?
Smog
5. What will happen to the number of “bad air” days as climate warms?
Increase

Coastal Floods and Failing Ships

6. What are the predictions for future winters in coastal British Columbia?
Wetter and stormier, more floods
7. Are slopes more or less at risk with wetter winters? Explain.
More at risk, due to the reduced stability of the slopes

Rising Seas:

8. As climate warms, what will happen to glaciers?
Melt → increased seawater
9. What areas are most vulnerable to rising sea levels?
Deltas, tidal marshes, low-lying coastal areas
10. What is the “coastal squeeze”?
Loss of coastal land, and “squeeze” on developed cities and their dykes

Salmon in Hot Water:

- 11. Why might tuna and mackerel replace salmon stocks in southern B.C.?
They live in warmer waters, while salmon are a cooler water fish.

- 12. How might salmon be affected with warmer waters?
Use up energy stores, unable to reach spawning grounds, increase risk of fungal and bacterial infections

Low-Water Blues:

- 13. What industry will largely be affected by changes in river flow with climate warming?
Hydroelectric power generation

Forests in Transition:

- 14. What impact will climate warming have on the B.C. forest industry and economy?
Improved growth and yield; Loss due to increased fire

Down on the Farm

- 15. What impacts of warming will have “mixed blessings” for the interior of BC?
Better growing conditions vs. increased drought

- 16. How will climate warming influence pest impacts on crops?
It will increase the impact pests have.

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Action on Climate Change

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Let's Meet the Challenge

1. What ideas will help reduce greenhouse gas emissions?

Lifestyle choices, government policies, new technologies, alternative energy sources

<u>What I am already doing...</u>	<u>What I can begin to do...</u>