DOES IT MATTER IF THE CLIMATE CHANGES?

OBJECTIVES

Students will understand how with complex issues such as climate change there are no absolute answers and there are multiple perspectives that must be considered.

DURATION

60 minutes

MATERIALS

Stewardship poster; *"Climate Change Impacts"* worksheet; Internet connection; projector and/or SMART Board™

BACKGROUND

Humans, plants and animals have adapted to live in most of the climates of the world. Climate is reflected in our customs, shelter, clothing, food preferences, agriculture, transportation, recreation and settlements. If Canada's climate changes it will have an impact on all areas of Canadian life.

The weather determines much about our way of life. The way we live, the food we can grow and how we get other foods, and what we do for work are all affected by Canada's unique mix of climates. Canada's ecozones, such as the Prairies, the Boreal Shield, or the Northern Arctic, have climates that support a variety of different plants, animals, weather patterns, and water bodies. Each region has industries, such as agriculture, fisheries, tourism, and energy extraction, that are directly affected by climate.

Scientists have predicted a large number of impacts that may occur as our climate changes.

They include:

- Hotter summers which will increase stress on wildlife, plants and human beings;
- Warmer winters which may reduce demand for energy to heat our homes;
- Early break up of arctic ice affecting wildlife and Inuit hunters;
- Changes in precipitation patterns, leading to drought, flooding, or severe storms;
- Reduced snow in the mountains which could affect the flow of rivers;
- Rising sea levels, affecting coastal regions and communities;
- Increase in growing seasons, allowing for different crops to be grown;
- Invasion of pest species;
- Increased frequency of severe weather events, such as tornados, ice storms and hurricanes;
- Reduced ice on rivers and lakes in winter, which reduces winter road access to resources and remote communities;
- Drier summers that increase risk of wildfires and affect the growth of food crops (like wheat) and feed crops (like hay).

PROCEDURE

1. Working in small groups, have students use the Climate Change Impacts worksheet to work through the list of potential effects climate change may have on plants, wildlife, human health, jobs, settlements, recreation and transportation, and decide whether or not the changes might have a negative, postive, or unknown effect.

EVALUATE

When students have completed the chart, review it as a class and discuss their responses.

DISCUSS:

- Did everyone come to the same conclusions?
- Did group members agree on whether the effects were negative or positive? Why or why not?
- Did any impacts have both potentially positive and negative effects?
- Did any impacts have only positive or negative effects? Why?

CLIMATE CHANGE IMPACTS

Read the following list of possible impacts of climate change and decide for each category whether or not the possible change to the climate would have a positive effect, a negative effect, or an unknown effect. Write a + for positive, - for negative and a ? for unknown.

	Possible Impacts of Climate Change	Positive, Negative or Unknown Effects of Climate Change								
		Plants	Wildlife	Human	Health	Jobs	Towns/Cities	Recreation	Transportation	Agriculture
1.	Hotter temperatures during the summer months.									
2.	Reduced rainfall and/or snowfall.									
3.	Rise in sea levels in coastal regions.									
4.	More severe weather events (tornadoes, blizzards, ice storms, etc.).									
5.	Less extreme cold weather in the winter and reduced ice on northern lakes, rivers and oceans.									
6	Increase in the temperature of rivers, lakes, oceans.									
7.	Infestations of insect and/or other pest populations not normally expected in Alberta.									
8.	Reduced ice on northern lakes, rivers and oceans.									
9.	Warmer temperatures in northern Canada.									
10.	Changes to growing seasons.									
11.	Increase in the amount of land that can be farmed and crops grown in a season.									