

Lesson Overview

1-2 periods

Targeted Curriculum Expectations

- explain how selected factors cause change in human and natural systems
- predict the consequences of human activities on natural systems
- evaluate the impact of change on a selected planning project

Background Information

This survival activity provides students with the opportunity to work collaboratively to develop critical thinking skills. They will be asked to link a series of climate change events into a logical sequence that incorporates mitigating and adapting to the impacts of climate change events.

Teaching/Learning Sequence

MINDS ON...

Group Discussion on Adaptation → Whole Class

1. Ask students to think of a time when change or a new event was happening in their lives. What did they do to adapt to this change or event.

Possible scenario ideas :

- a) Think about the transition from elementary to high school. How did you adapt to the changes in teachers, workloads, school environment? How did your adaptations have negative or positive impacts in your life? Did you react proactively or reactively to the situation? How are you going to adapt to entering the workforce?
- b) Joining a team and learning a new sport. They need to adapt to learn the rules, the new position, how to work as a team, constantly change and improving your strategy to be the best you can be. How can your adaptations as a player have negative or positive impacts on you and your team? When do you react proactively and reactively when playing sports?
- c) Relate this discussion to climate change adaptations. Human, natural and built systems are going to need to adapt to climate change.

ACTION!

Survival Game → Small Group Activity

1. Form groups of three or four. Provide students an envelope full of the climate change scenario cards (BLM 3.1). Write the title on the front of the envelope.
2. Allow students 10 – 15 minutes to sort through cards and place them in logical sequence. Indicate that most cards will have natural links to other statements. There are climate events leading to impacts, and the eventual need to mitigate and/or adapt to the situation. There are some cards with no real relevance to their survival (tester cards are intentionally placed as tester to assess understanding).
3. Circulate to determine student understanding; provide guidance and feedback as required. Discuss their sequence and conclusions.

CONSOLIDATION AND CONNECTION

Group Discussion → Whole Class

Facilitate a discussion at the end of the task with a series of debriefing questions:

1. How did you decide to sort the information? Is there an obvious pattern to your sequence?
2. What were the impacts?
3. How did you decide to mitigate and/or adapt to the impact?
4. What were the factors that led to the impact?
5. How could your actions have any impact on the issues raised in this survival activity?
6. Could this situation happen in real life?

Odd One Out → Individual Activity

To assess individual understanding of concepts, students complete Odd One Out (BLM 3.2). Submit for assessment.





Climate Change Survival Activity Cards

Scenario One	Scenario Two
Over the past 20 years, the average winter snowfall has increased in Southern Ontario by 6%.	Over the past 20 years, average temperatures have increased in Southern Ontario by 3 °C.
A whopping 53 centimetres of snow fell in the Region of Peel during the 2013/2014 winter season. A Regional record!	News headline: <i>“Summer Heat wave hits Region of Peel. Temperatures reach all time seasonal high!”</i>
Due to spring run off, a flood warning was issued on April 22 nd , 2014 for Cooksville Creek	On July 10 th , Hydro One has announced rolling blackouts due to energy demand for air conditioning and refrigeration.
Ali bought a house on the Cooksville flood plain.	A 75 year old Mississauga resident lives by herself in an apartment building. Since 2007, she has been confined to a wheel chair.
Ali lost his job, he rented the basement out to Sharman Keegan.	Due to brownouts, Ella's air-conditioning unit is not working.
On the night of April 24 th , Sharman Keegan called 911: “My basement is filling with water. There is already two metres on the floor, can you help me!”	On July 13 th , Ella's neighbour called 911. “I have a 75 year old suffering from heat stroke, I need an ambulance”
Ali had no flood insurance.	City of Brampton designates a local library as a “cooling centre”. This is a place for people to visit when there is a heat wave in the city. The cooling centre is air-conditioned, free of charge and provides free drinking water.
The city of Mississauga spent \$1.2 million on upgrading the storm sewer systems.	City of Brampton designates no idling zones.
School children are planting trees along Cooksville Creek.	Kelly decides to walk to work today.
Ali bought a bike.	Doug bought solar power panels today.

ODD ONE OUT

Circle the odd one out. Explain why you think it is the odd one out.

**Explain why it is the
Odd one out**

1.	Tree Planting	Green roof	Violent Wind Storm	Community Garden
2.	Turn off lights	Hybrid Car	Insulate House	Increased energy prices
3.	Walk to school	Carpool	Loss of Leopard Frogs	Ride the bus
4.	Increased number of Brownouts	Solar Power	Thermal Heat	Wind power
5.	Rain Barrel	Low flow toilet	Energy efficiency appliances	Water shortage
6.	Buy local food	Plant a garden in your backyard	Increased flooding	Clotheslines
7.	Cooling Centres	No idling zones	Increase heat stroke	Bike rentals
8.	Create your own			