

WHO WE ARE



Wild Child ECO-Buddies is a program of Sierra Club Canada Foundation that helps to connect children, youth, and families to nature since 2010. The mission of our Wild Child programs is to provide child-led, play-based learning through repeated exposure to nature, helping to foster a lasting relationship with the natural world.

Using the basics of play and discovery, Eco-Buddies is an innovative, holistic approach to environmental education for children to connect with nature and become eco-literate. This program enables children to learn about climate change and become responsible stewards of the land.

Through outdoor activities, games, exploration, experiments, crafts, and conversation, children and teachers will apply concepts from the Alberta science curriculum to the ecosystem around them and learn how organisms in nature work together to build a healthy planet.



Contact us:

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We are grateful to Edmonton Community Foundation for funding this program.

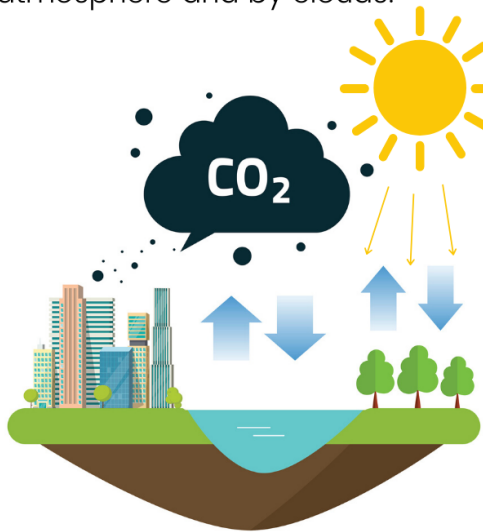


CLIMATE CHANGE IS REAL!

Climate change is happening,
and it's caused by people!

Scientists agree that the planet's average temperature is rising in response to increased human pollution in the air. The current warming trend we are experiencing will have implications for the future of life on Earth.

The greenhouse effect is a naturally occurring process that regulates Earth's temperature. Earth is warmed by sun rays that come from the sun. When the energy in the sun's rays reach the planet, some of it is reflected away from the ground. As this energy (heat) travels back towards space it is absorbed by gases in the atmosphere and by clouds.



Greenhouse gases (gases in Earth's atmosphere that absorb heat) such as water vapour, carbon dioxide, methane, ozone, act something like insulation in a house. By absorbing the sun's heat, they keep the planet at a temperature that allows for life.

Climate Change is not a myth and our actions now are having a profound impact on the climate of the future.

We invite you to be a part of ECO-buddies and understand how our natural world works and be part of the solution for Climate Change!

1

WITH ECO-BUDDIES ...



You will learn about the importance of our ecosystems, how they work, and what makes them healthy.



You will discover green pockets neighbouring your school. You will learn about local species and understand how plants and animals are responding to climate change.



You will become aware of a broad range of environmental issues and develop an awareness of the reasons we need to use the planet responsibly and sustainably.



2

KEY WORDS

Weather & Climate: the only difference between weather and climate is time. Weather measures the short term, Climate measures the long-term (30+years)

Climate Change: is a change in the usual weather found in a place. This could be a change in how much rain a place usually receives in a year. Or it could be a change in a place's usual temperature for a month or season. Or it could be a change in where rain and snow usually fall on Earth.

Ecosystems: an ecosystem is a word that describes all the living plants and animals living in an area and how they interact with each other and with the non-living things like water, air, dirt, around them.

Carbon Sink: is the natural ability of trees, plants, oceans and other organisms to store carbon on a temporary basis.

Greenhouse Gas: are certain gases in the atmosphere (water vapor, carbon dioxide, nitrous oxide, and methane) that trap energy from the sun. Without these gases, heat would escape back into space and Earth would be colder.

Greenhouse Effect: is defined as when Earth's atmosphere becomes thick with gases and substances which trap the sun's radiation, making Earth warmer

Adaptations: are changes to an animal's or plant's physical body or behavior that allows it to survive in its environment.

Wetlands: land or areas (such as marshes or swamps) that are covered with shallow water or have soil filled with water.

Lifecycle: different stages an insect goes through during their lifetime. This is the process of metamorphosis, like a frog who goes through different phases during different parts of its life (egg, juvenile, tadpole, adult frog).

IMPORTANT FACTS

Wetlands, lake and ponds are an important part of the environment and play many roles for nature. They provide a place for animals to live, with lots of food and water. They also are a place for rainwater to be stored even filtered and returned to the aquifer (water stored in the ground).

Wetlands will be impacted by climate change. Climate change will change average temperatures, the amount of rain (or lack rain), and the timing of when it rains. Temperature and rainfall are important environmental factors for wetlands. Hot and dry conditions will mean that wetlands will disappear. Cold and wet conditions will mean that wetlands flood. Both scenarios will likely happen because of climate change.

On the flip side, wetlands are important for humans because they help us fight the impacts of climate change. They can help prevent floods when lots of rain comes all at once because they act as a sponge for all the extra water. They also slowly release water in times of drought.

Visit#1: Winter

Draw the wetland.

Draw what the wetland looks like and make a sketch map of the area showing what types of plants and animals you see.

Visit#2: Spring

Draw the wetland.

Draw what the wetland looks like and make a sketch map of the area showing what types of plants and animals you see. Make special notes for things that you notice are different from last visit.

Visit#3: Summer

Draw the wetland.

Draw what the wetland looks like and make a sketch map of the area showing what types of plants and animals you see. Make special notes for things that you notice are different from last visit.

WINTER OBSERVATION SHEET:

Plants Observed (Aspen Poplar, Willows, Cattails):

Animals Observed (birds, squirrels, muskrats, beavers):

Type of wetland:

Weather Conditions: (dry, rainy, cold, hot)

Average temperature:

Other Observations:

Ask your parents and grandparents to recall what the weather was like in winter when they were children.



SPRING OBSERVATION SHEET:

Weather conditions (dry, rainy, cold, hot):

Average temperature:

Water temperature:

pH level:

Dissolved Oxygen:

Turbidity and colour:

Overall Water Quality:

SUMMER OBSERVATION SHEET:

Weather conditions (dry, rainy, cold, hot):

Average temperature:

My pond invertebrate looks like this:

What is it called?:

How does it move in the water?:

How is it suited to its environment?:

How does it breath air or eat?

POND DIPPING

<p>Very flat!</p> <p>DC Flatworm</p>	<p>C Water scorpion</p> <p>grabs prey</p>	<p>C Beetle larva</p> <p>big jaws</p>	<p>H Stonefly nymph</p>
<p>C Leech sucker</p> <p>suckles</p>	<p>C Pond skater</p> <p>skates on surface</p> <p>grips prey</p>	<p>C Caseless caddisfly larva</p> <p>gills</p> <p>green hooks</p>	<p>H Swimming mayfly nymph</p> <p>gills</p>
<p>D Pea cockle</p> <p>pea sized two shells</p>	<p>(water boatman)</p> <p>HDC Backswimmer</p> <p>legs like oars</p>	<p>CHD Cased caddisfly larva</p> <p>Lives in a case</p>	<p>H Flattened mayfly nymph</p> <p>gills</p>
<p>H Great pond snail</p> <p>legs like paddles</p>	<p>HDC lesser water boatman</p> <p>legs like paddles</p>	<p>C Alderfly larva</p> <p>gills</p>	<p>D Burrowing mayfly nymph</p> <p>gills</p>
<p>H Ramshorn snail</p> <p>walks on surface</p> <p>orange tentacles</p>	<p>C water measurer</p> <p>walks on surface</p>	<p>C Phantom midge larva</p> <p>See-through</p> <p>Moves by flicking</p>	<p>C Damselfly nymph</p> <p>green or brown gills</p>
<p>D Water louse</p> <p>twins on surface</p>	<p>C whirligig beetle</p> <p>twins on surface</p>	<p>C Cranefly larva</p> <p>Grays maggot like</p> <p>Crawls or jet propelled</p>	<p>C Dragonfly nymph</p>
<p>D Freshwater shrimp</p> <p>curled up</p>	<p>C Water beetle</p>	<p>HD Bloodworm</p> <p>red or green</p> <p>moves in 8</p>	<p>H China mark moth larva</p> <p>leaf</p>
<p>H Water fleas</p> <p>very small and busy</p> <p>cyclops daphnia</p>	<p>C Water mite</p>	<p>D Rat-tailed maggot</p> <p>Grey fat body</p>	

Drawn by Jill Leheup for Derbyshire Wildlife Trust

WATER QUALITY

Water Quality	Indicator Animals	Tick if present
Extremely Good	Stonefly Nymph Mayfly Nymph	
Very Good	Flattened Mayfly Nymph Caseless Caddisfly Larva	
Good	Freshwater Shrimp Caddisfly Larva	
Fair	Water Louse Bloodworm	
Poor	Sludge Worm Rat Tailed Maggot	

Good



Bad