



schoolio

GRADE 7 SCIENCE
INTERACTIONS IN THE
ENVIRONMENT





SCHOOLIO ONTARIO CURRICULUM GRADE 7 SCIENCE – TABLE OF CONTENTS

Unit 1: Environment Science	<ol style="list-style-type: none">1. Biospheres and Biomes2. Ecosystems3. Carnivores, herbivores and omnivores4. Let's Make a Web5. Trophic Levels and Food Chains6. Sustainability7. Succession8. Human and Technological Impact
-----------------------------	--

Lesson # 1 – Biospheres and Biomes

2 Days

Discussion:

Before beginning, have your child fill in the KWL chart on the environment (next page). Use this to guide any inquiry projects throughout the unit that you might wish to undertake on your own with your child. Let them express their interests!

Discuss with your child: If you were to travel around the globe, you would find so many cool nature spots. Tell me what you think: What kinds of ecosystems would you find? (This should be a review from grade 6, but it will also be covered in the next lesson in more detail, so please don't worry if your child doesn't answer this fully).

In our science units, we also like to look at the entire earth.

The **biosphere** is a word we are going to use. It includes the entire Earth, including all land surface, water, and the atmosphere, as well as all living things.

The **biome** is a large area of Earth which has similar plants, animals, weather patterns and occupies a specific habitat.

They often have a shared **climate**.

Many of these habitats interact, and sometimes they can nest, meaning they can exist inside another larger ecosystem.

Activity:

Day 1 - Fill in KWL chart prior to discussion – found on next page.

Day 2 – Complete the discussion and then complete Activity 1.1

Lesson # 1 – KWL

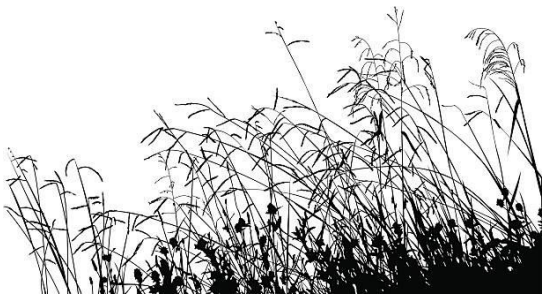
K	What I Know About the Environment
W	What I Want to Know About the Environment
L	What I Want to Learn More About Later

1.1 – Understanding Biomes

Draw a line to the correct biome from the correct description. Then explain your choices.



The nights are usually very cold. The days are often burning hot. Plants and animals can be found but may be scarce.



There are many types of these biospheres and they often provide a lot of oxygen for the Earth. Also home to wide varieties of plants and animals. Can be temperate, tropical etc.



Dry grassy plain that has some trees or shrubs. It is home to native grasses and often large and small animals.



They represent one quarter of the Earth's surface. They supply much of the drinking water and can regulate climate, contain minerals and just provide great exploring!

Lesson # 2 – Ecosystems

4 Days

Discussion:

You may remember that in Grade 6 you began to learn about eco-systems. If you think about a time you've been in a beautiful forest, what do you remember? Do you remember what kinds of trees or animals were there? Do you remember the bugs you saw? Do you remember the dead trees off the path? These are all parts of an ecosystem, and they are all crucial parts. That's what we are going to study.

This unit deals with interactions in the environment. In order to study these interactions, we need some vocabulary to describe what we are talking about.

An **ecosystem** is all the living and non living parts of a specific area. Examples include: a fish tank, a park, a pond, a lake, a forest, a city, a continent, a planet, a solar system.

The living parts of an ecosystem are **biotic**, while the non living parts are **abiotic**. For example, a pond's biotic parts would be the fish, frogs, bugs, plants and bacteria that live in the pond. The abiotic parts of the pond would be the water and any chemicals in it, the soil, the rocks and even the temperature.

Within an ecosystem, the biotic and abiotic parts interact with other parts of the system. Some of those interactions are between biotic and abiotic parts (a plant taking in water and nutrients), some are between different biotic parts (animal eating plants), and some are between different biotic parts (temperature, freezing water).

Activity:

Day 1 – Read the “What Eco-System Are You” article

Day 2 - Complete Activity 2.1 – Understanding Ecosystems

Days 3-4 – Activity 2.3 – Research an additional eco-system

Days 5+ - Activity 2.2. Optional Creation of Infographic based on ecosystem chosen.

What Eco-System Are You?

You live in an amazing country. From sea to sea, Canada has 20 major ecosystems. 15 of these ecosystems are on land, and 5 in the water. What is an ecosystem? Well, an ecosystem is just an area where organisms and their environment work as a system. An ecosystem can be any size, for example, the Boreal Shield Ecozone in Canada is larger than the state of Alaska and the country of Mongolia.

Arctic Cordillera

This ecosystem is the least hospitable to people. It runs along the northern part of Nunavut and Labrador, as well as the Baffin islands. Temperatures range from -2 in the summer months to 6 degrees in Labrador. The winter is often long and dark, and the summer has an extremely short growing system. This system is even too harsh for amphibians and reptiles, and insects are rare. Muskoxen and caribou live in this region as herbivores (plant eaters). As far as large carnivores, polar bears and arctic wolves are the only predators that are all over the region.



Arctic wolves are a subspecies of Gray Wolves. Their classification is 'Canis Lupus Arcticus.'

Mixed Wood Plains



Did you know that a group of foxes is called a skull or a leash?

This ecosystem is the most populated one in all of Canada. It is actually home to half of Canada's human population! Although this ecosystem is called the Mixed Wood because of the ancient forests that were once here, these are dramatically reduced with the population now here. The largest carnivores in the area are the black bear, wolf and bobcat. The larger herbivores are the moose and white-tailed deer. In the area there are many, many small herbivores and carnivores that are abundant.

This area is home to many insects, amphibians, reptiles and birds. Throughout this area, the hills and plains, as well as the many lakes, offer homes to many animals and plants.

What Eco-System Are You?

Montane Cordillera

This Eco zone covers most of British Columbia and some of Alberta. With two different mountainous areas, it is very diverse. Some areas are extremely dry, whereas others receive extensive precipitation because of the mountain ranges.

The many types of mammals in this area include the moose, caribou, and American elk. The birds, amphibians, reptiles, and insects are also diverse – there are many, many kinds of animals all over this region.

Prairies

When people think of the prairies, all they think of are gophers and flat land. However, the Prairies offer so much more when it comes to animals and diversity. The only large mammal on the Prairies is the black bear due to the conversion of the land into farmland. Yet there are coyote and other small mammals, as well as many other birds, reptiles, amphibians and insects.



Atlantic Maritime

This region covers some of Quebec, Nova Scotia, New Brunswick, and Prince Edward Island. Black bear, bobcat and lynx are the only large mammals in this area that used to have old-growth forests all over.

However, because of farming, many of the trees have been cut down, and so large mammals are scarce. There are many reptiles, amphibians, and insects in this area.