

Name: \_\_\_\_\_

Date: \_\_\_\_\_



## Grade Seven Science Unit 1: Interactions in the Environment



**Big Question: How have human interactions changed ecosystems in our world (for better or worse), and how can we control these interactions to protect our environment?**

No organism lives alone, enclosed in its own little world. On Earth, every living thing interacts with other living things and non-living things, and must adapt to changes in its environment, such as the amount of sunlight, temperature, or the quality of water and soil. Throughout this unit, we will try to answer the Big Question above. As we look for solutions to this question, we will need to explore and learn about how living things interact with each other and how they affect their environment and are affected by their environment. To give our discussions and experiments a solid base, we will need to learn scientific terms and study real-life examples. This is an important part of being a good scientist: understanding the correct terms in the correct context, and experimenting and evaluating to solve problems.

**To solve our Big Question, we will need to know:**

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## Interactions in Our Environment: Unit Overview

**Assessment: How will I show what I have learned?**

- 1) **IN CLASS WORK:** Collaborative work, in-class assignments, participation in discussions
- 2) **SCIENCE JOURNALS AND TICKET-OUT-THE-DOORS:** Thoughtful, critical, on time
- 3) **CHAPTER 1 TEST**
- 4) **CULMINATING ASSIGNMENT**

Lesson	Topic	Activities/ Assignments
1	What is an Ecosystem?	<b>Journal 1: What's in your ecosystem?</b>
2	Abiotic and Biotic Factors	<b>Journal 2: Is it non-living or dead?</b>
3	Producers, Consumers, Decomposers	Ticket out the Door: Interaction Example
4	Food Chains	<b>Journal 3: Food chain example (with energy)</b>
5	Ecosystem Interactions	Ticket out the Door: Show your Vocab Sheet
6	Humans and Ecosystems	Review Culminating Assignment
7	Primary and Secondary Succession	<b>Journal 4: How are man-made forest fires helpful and how are they dangerous?</b>
8	Ecosystems are Limited	<b>Journal 5: What are 3 resources you use that are limited?</b>
9	Test Review	Make sure to do a final test review!
10	CHAPTER 1 TEST	Culminating check-in due
11	Culminating In-Class Work Period	Work on culminating assignment
12	Culminating In-Class Work Period	Work on culminating assignment
13	Culminating In-Class Work Period	Work on culminating assignment
14	Culminating In-Class Work Period	Work on culminating assignment
15	CULMINATING ASSIGNMENT DUE	Ticket out the Door: Reflection on the unit

### Science Journals:

Every time you see "Journal" under Activities/ Assignments, **this is homework**. You must hand in **the next day** a typed/ hand-written response to the Journal question, 1/2 page minimum. I'm looking for detailed responses that show that you have thought carefully and critically about the question. You can use words, pictures and diagrams. And, most importantly, **make your thinking visible by giving examples and reasons, like a real scientist!**

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## Interactions in Our Environment: Science Vocabulary

Word/ Term	Definition and Example
<b>Ecosystem</b>	A collection of living and non-living things that interact together in an environment. (e.g. a pond).
<b>Organism</b>	A living thing (e.g. a plant or an animal).
<b>Abiotic Factor</b>	A non-living thing that has never been alive (e.g. a rock, the sun, air). Living things need abiotic factors to survive.
<b>Biotic Factor</b>	Living or dead things (used to be living). (e.g. a dead leaf, an antelope). Living things rely on their environment for fill their survival needs (food, shelter).
<b>Producer</b>	Takes energy from abiotic factors (the sun) and uses it to produce energy for other organisms (e.g. a plant).
<b>Consumer</b>	Consumes other organisms to survive. Can be primary (like a herbivore), secondary or tertiary. (e.g. a rabbit).
<b>Decomposer</b>	Ingests decomposing things and returns the nutrients to the soil through its waste (e.g. and earth worm).
<b>Food Chain</b>	A series of organisms, each reliant on the next for food energy (e.g. plant > rabbit > wolf).
<b>Population</b>	A collection of organisms from a specific species, in a specific place and at one time (e.g. the population in our science class is 29 humans).
<b>Species</b>	A group of organisms that share traits and that can create fertile offspring (e.g. dogs, daffodils).
<b>Community</b>	A collection of living organisms that share an ecosystem and rely on each other (e.g. a lake).
<b>Adaptations</b>	
<b>Sustainability</b>	
<b>Primary and Secondary Succession</b>	

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### Science Journal 1

What is in your ecosystem? Describe all of the flora (forests, plants), fauna (animals), water features (lakes, rivers), and landscapes. Include at least 5 ideas.

### Science Journal 2: Is it Non-Living, or Dead?

How can you tell if something is abiotic (non-living) or dead? What is the difference. Describe using examples.

### Science Journal 3: Food Chain Example

Give an example of a food chain of your choice. Your food chain must have at least three **trophic levels**. Make sure to show how the energy spreads through a food chain.

### Science Journal 4: How are man-made forest fires helpful and how are they dangerous?

Man-made forest fires are sometimes used to clear forests or vegetation for different reasons, like forest management or farming. This is called **controlled burn**. What are two benefits of controlled burn, and what are two costs (bad things)?

### Journal 5: What are 3 resources you use that are limited?

We all use resources from our environment to survive. These include things like water, energy, food and metals. There are two types of resources: **renewable** (can replace themselves) and **non-renewable** (cannot replace themselves). What are three resources you use from the environment that are **limited**?