Intermediate Science 7
Unit 1: Interactions In An Ecosystem
Topic 2: Introduction To Ecosystems

Student Name_____

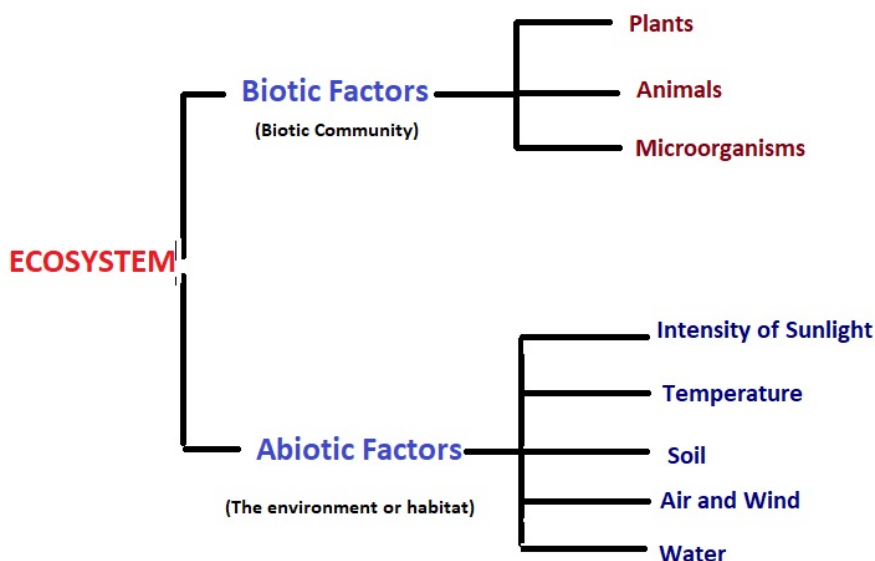**Habitat**:   is a place where plants and animals lives.

Ecosystem: refers the network of interactions that links the living and the non-living things in an environment. It includes:

-the many species living in an environment
-the relationships among those species
-the relationships between the species and the non-living environment.

An ecosystem can be studied by breaking it into two parts:

1.   **Biotic factors** refers to living or dead parts of the environment.
Examples: plants, animals, and micro-organisms.

2.   **Abiotic Factors** refers to the non-living parts of the environment. Some examples of abiotic factors are:

1)   Intensity of sunlight
2)   Temperature
3)   Soil
4)   Air and wind
5)   Water

ECOSYSTEM

Biotic Factors
(Biotic Community)
- Plants
- Animals
- Microorganisms

Abiotic Factors
(The environment or habitat)
- Intensity of Sunlight
- Temperature
- Soil
- Air and Wind
- Water

Range of Tolerance refers to the abiotic factors that affect where an organism can survive. An organism will survive best at the middle of their range of Tolerance.

For example a plant may die if the temperature drops below 0 ^{o}C or reaches 50 ^{o}C.

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There are a variety of ecosystems. For example:

-Large ones – Atlantic ocean
-Small ones – rotting log
-Dry ones – Sahara desert
-Wet ones – bogs

Types of Ecosystems In Newfoundland and Labrador:

1.   Coastlines

-The coastlines of NL are very rocky and sometimes become covered with water as the tides wash in and out.

-Organisms that call the coastlines their home can attach themselves to the rocks to avoid being washed away.

Examples: Seaweed, barnacles, mussels, starfish, and rock crabs.

2.   Oceans

-Our Atlantic ocean is COLD and so the marine life here must be adapted to live in its frigid temperatures.

Examples: Caplin, cod, seals, whales, jellyfish, etc.

3.   Freshwater: Rivers, Lakes, and Ponds

-NL's freshwater provides a habitat for many different types of animals.

Examples: salmon, trout, beavers, ducks, and frogs

4.   Arctic

-The northernmost tip of Labrador has an artic ecosystem – it's COLD!

-Since it also has very little precipitation, it has been called a "cold desert".

-A meter below the surface of the ground, the soil is permanently frozen (permafrost).

Examples of plant life: low shrubs, mosses, lichens, small flowering plants.

Examples of animal life: caribou, musk, ox, wolves, artic foxes and hares, and lemmings.

5.   Forest

- This ecosystems cover the majority of NL.

- Climate: Summers are cool while winters are wet.

Examples of Plant life: Black spruce, balsam fur, white birch, and mountain ash.

Examples of Animal Life: moose, caribou, black bear, lynx, red fox, pine marten, and mink.

PART A: MULTIPLE CHOICE

1.   A beaver lives in a pond.   Which term describes the pond?

        (A)   Biotic Factor
        (B)   Ecosystem
        (C)   Habitat
        (D)   Living

2.   Which of the following would consider a forest its habitat?

        (A)   Bears
        (B)   Moose
        (C)   Rabbits
        (D)   All are correct

3.   What is an ecosystem?

        (A)   A biological community of interacting organisms and their physical
                environment
        (B)   All abiotic factors within a specified area
        (C)   All biotic factors within a specified area
        (D)   An area of land where no human has been

4.   A salamander hides under the bark, fungi grows on the rotting log and other forest dwelling
        organisms use the hollow core as a home. Which term best describes the rotting decaying
        log?

        (A)   Abiotic Factor
        (B)   Ecosystem
        (C)   Environment
        (D)   Non-Living

5.   The interaction of all living things with the non-living factors in a given area powered by a
        flow of energy is called

        (A)   Abiotic factors
        (B)   Biodiversity
        (C)   Ecosystem
        (D)   Non-Living

6.   An ecosystem thrives with biotic and abiotic parts. Which of the following is an example of
        an abiotic part of an ecosystem?

        (A)   Lichen
        (B)   Fern plants
        (C)   Fungus minerals
        (D)   Soil

7.   Which of the following is an example of a biotic part of an ecosystem?

        (A)   Bacteria
        (B)   Precipitation
        (C)   Sand
        (D)   Wind

8.   Which of the following refers to the non-living factors in an ecosystem?

(A)   Biotic factors
(B)   Abiotic factors
(C)   Biodiversity
(D)   Limiting factors

9.   Which is an example of a biotic factor that affects the size of a population in a specific ecosystem?

(A)   Average temperature
(B)   Amount and kinds of soil minerals
(C)   Concentration of oxygen
(D)   Number and kinds of predators

10.   Which of the following lists has ONLY abiotic factors?

(A)   Sunlight, moose, soil, temperature
(B)   Sunlight, temperature, soil, water
(C)   Ducks, wind, water, temperature
(D)   Mice, rabbits, ducks and moose

11.   Which of the following is not considered to be an abiotic factor?

(A)   Air currents
(B)   Moisture
(C)   Organisms
(D)   Temperature

12.   A giraffe can not survive in very cold climates. What does this describe?

(A)   Biotic Factors
(B)   Living things
(C)   Permafrost
(D)   Range of Tolerance

13.   Range of tolerance is an abiotic factor?

(A)   True
(B)   False

14.   Which of the following are examples of ecosystems in Newfoundland and Labrador?

(A)   Arctic
(B)   Forest
(C)   Freshwater
(D)   All are correct

PART B: MATCHING

Fill in the blanks on the left with the terms on the right. Please, place your answers on the scantron

15.____Biotic	A. The non-living components of an ecosystem. Example: Wind, Sun, Water, etc
16.____Abiotic	B. All the organisms living in a particular area, as well as all the nonliving, physical components of the environment with which they interact.
17.____ Ecosystem	C. Place where an organism lives
18.____Habitat	D. The abiotic factors that affect where an organism can survive.
19.____Range of Tolerance	E. The living components of an ecosystem

PART C: WRITTEN RESPONSE

1.   Describe the habitat of

(a)   a grasshopper

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(b)   a seaweed

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2.   "Ocean," "forest," and "arctic" are all examples of what?

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3.   List two examples of abiotic parts of a forest ecosystem and two examples of biotic parts of a forest ecosystem.
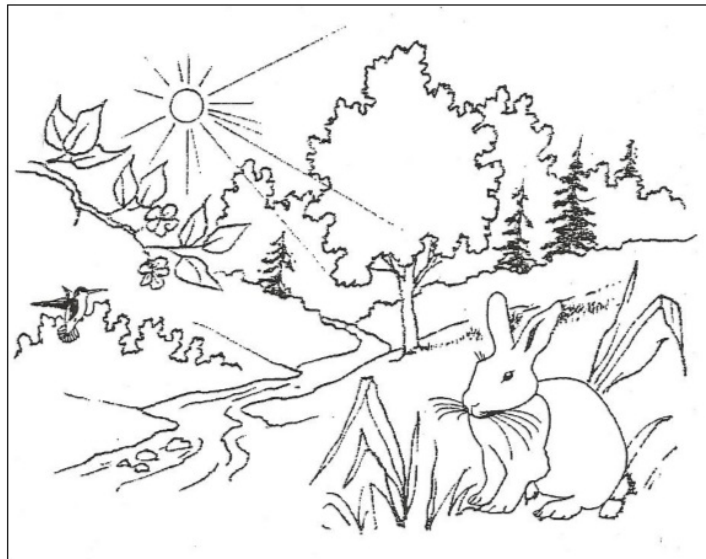
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4.   What abiotic factors might affect a dandelion growing in a lawn? Explain why you think so.

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5.   (a)   In what kind of ecosystem would you expect to find the habitat of a beaver?

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     (b)   Identify three biotic parts of its ecosystem that would be important
           for a beaver.

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     (c)   Identify three abiotic parts of its ecosystem that would be important
           for a beaver.

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6.   Identify the abiotic and biotic factors of the ecosystem shown below

Biotic Factors	Abiotic Factors

7.   Using the term "range of tolerance," explain why swallows fly south from
     Newfoundland and Labrador during the winter.

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