

DATE - \_\_\_\_\_

NAME - \_\_\_\_\_

## SCIENCE 10 – ECOLOGY UNIT REVIEW

### 1. ECOLOGICAL LEVELS

List the 7 ecological levels in order from smallest to largest.

1. \_\_\_\_\_

5. \_\_\_\_\_

2. \_\_\_\_\_

6. \_\_\_\_\_

3. \_\_\_\_\_

7. \_\_\_\_\_

4. \_\_\_\_\_

Name 3 examples of abiotic factors in a lake ecosystem.

\_\_\_\_\_

Name 3 examples of biotic factors in a lake ecosystem.

\_\_\_\_\_

Which ecological level is represented by the following?

\_\_\_\_\_

A field between a lake and a forest

\_\_\_\_\_

A pond and its surroundings

\_\_\_\_\_

All caribou that exist in the world

\_\_\_\_\_

All of the deer in Millidgeville

\_\_\_\_\_

Lions, zebras, and elephants on the savannah

\_\_\_\_\_

One red rose

\_\_\_\_\_

Raccoons, groundhogs and deer in Millidgeville

\_\_\_\_\_

The dogs at the Animal rescue league

\_\_\_\_\_

The Northern Coniferous Forest

\_\_\_\_\_

The thin layer of life that surrounds earth

\_\_\_\_\_

The Tundra

## 2. FOOD CHAINS

Define the following:

CARNIVORE - \_\_\_\_\_

COMSUMER - \_\_\_\_\_

DECOMPOSER - \_\_\_\_\_

HERBIVORE - \_\_\_\_\_

OMNIVORE - \_\_\_\_\_

PRODUCER - \_\_\_\_\_

SCAVENGER - \_\_\_\_\_

Identify the following based on how they get their food.

_____	Bear	_____	Lion
_____	Dandelion	_____	Oak tree
_____	Deer	_____	Human
_____	Mushroom	_____	Cow
_____	Pig	_____	Bacteria
_____	Raccoon	_____	Vulture

## 2B. PESTICIDES

What are pesticides? What are they used to protect? \_\_\_\_\_

\_\_\_\_\_

What is a pest? Give 2 examples. \_\_\_\_\_

\_\_\_\_\_

What is DDT? \_\_\_\_\_

List 2 ways humans were exposed to it: \_\_\_\_\_

**Bonus:** What does DDT stand for? \_\_\_\_\_

### 3. ROLES IN ECOSYSTEMS

List the 7 types of species interactions.

_____	_____
_____	_____
_____	_____
_____	

Which type of species interaction is taking place in each of the following situations?

_____	2 plants growing in the same pot
_____	A tiger chasing a gazelle
_____	Bees and daisies
_____	Caribou and lichen
_____	Grass and trees
_____	Remora fish attached to a shark
_____	Spider and a fly
_____	Thorns on a rose
_____	Ticks on a deer

Explain the difference between a niche and a habitat.

_____
_____

One survival tactic some organisms use is "MIMICRY". What is it? Give an example of an organism that uses this tactic. \_\_\_\_\_

_____
_____

#### 4. BIODIVERSITY AND SUSTAINABILITY

Define the following terms:

SUSTAINABILITY - \_\_\_\_\_

BIODIVERSITY - \_\_\_\_\_

- Low diversity = \_\_\_\_\_
- High diversity = \_\_\_\_\_

NATALITY - \_\_\_\_\_

MORTALITY - \_\_\_\_\_

CARRYING CAPACITY - \_\_\_\_\_

List 7 things that can affect the size of a population.

_____	_____
_____	_____
_____	_____
_____	_____

List 4 reasons why biodiversity is important.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

#### 5. CYCLING OF MATTER

How is solar energy transformed into cellular energy? \_\_\_\_\_

Energy can only be \_\_\_\_\_, it cannot be \_\_\_\_\_ or \_\_\_\_\_

What is the only type of matter that can form a continuous cycle? \_\_\_\_\_

Organic matter is matter that contains atoms of \_\_\_\_\_ and \_\_\_\_\_. It might also contain \_\_\_\_\_ and \_\_\_\_\_ atoms as well.

Give 3 examples of organic compounds our bodies need: \_\_\_\_\_, \_\_\_\_\_  
and \_\_\_\_\_.

What is the primary method humans use to get organic matter? \_\_\_\_\_

What is inorganic matter? \_\_\_\_\_

Give 2 examples of inorganic compounds: \_\_\_\_\_ and \_\_\_\_\_

### **NITROGEN CYCLE:**

- Nitrogen gas isn't useful to most living things—what form of nitrogen is useable?

\_\_\_\_\_

- What helps with this process that lives within the roots of some plants?

\_\_\_\_\_

- Give several examples of plants that fix nitrogen:

\_\_\_\_\_

- Describe the **MUTUALISTIC RELATIONSHIP** (both benefit) between bacteria and the plants: \_\_\_\_\_

\_\_\_\_\_

### **CARBON CYCLE:**

- When do producers take  $CO_2$  from the atmosphere? \_\_\_\_\_

- How do consumers get the carbon they eventually breathe out?

\_\_\_\_\_

- What do plants and animals that eventually decay become? \_\_\_\_\_

- What happens when fossil fuels are burned?

\_\_\_\_\_

## **6. CANADIAN BIOMES**

What are the 4 major Canadian biomes?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Classify each of the following, as either:

**T**  
(Tundra)

**G**  
(Grasslands)

**D**  
(Temperate  
Deciduous Forest)

**C**  
(Northern  
Coniferous Forest)

- \_\_\_\_\_ a cold desert
- \_\_\_\_\_ aka Boreal Forest or Taiga
- \_\_\_\_\_ broad leaves allow for maximum capture of sunlight for photosynthesis
- \_\_\_\_\_ dominated by coniferous trees, which have needle-shaped leaves (e.g. pine trees)
- \_\_\_\_\_ dominated by hardwood (leafy) trees like oak and maple
- \_\_\_\_\_ has extremely rich soil, so many plants grow there, which in turn causes a very biodiverse biome
- \_\_\_\_\_ has LOTS of moss and lichens, which caribous love
- \_\_\_\_\_ has PERMAFROST, a layer of soil that never thaws
- \_\_\_\_\_ has the longest growing season
- \_\_\_\_\_ has the MOST rainfall out of all of the Canadian biomes
- \_\_\_\_\_ large trees cannot grow here
- \_\_\_\_\_ once supported herds of migrating bison
- \_\_\_\_\_ rainfall varies greatly (25-75 cm per year), so it is difficult for large trees to grow
- \_\_\_\_\_ receives very little precipitation, and has an extremely short growing season, so it does not have very many organisms that live there
- \_\_\_\_\_ soil is acidic, as needle-shaped leaves (which are acidic) decompose in the soil

## 7. **BIOACCUMULATION**

What is bioaccumulation? \_\_\_\_\_

\_\_\_\_\_

Describe what happened during the 1980's when DDT washed off into streams. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_