**Science 10 – Chapter 3 Assignment – Value 60**

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**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE: November 21, 2016 DUE: NOV 22, 2016**

**Part A: Matching**

1. Match the biome with correct abiotic factors by writing the ***LETTER*** of the biome in the space next to the appropriate description. **Value 8**

 **Biome Description**

|  |  |
| --- | --- |
| 1. Tundra
 | \_\_\_\_\_\_\_\_\_\_\_\_\_ rich fertile soil with 25 to 75 cm of precipitation per year  |
| 1. Boreal forest/taiga
 | \_\_\_\_\_\_\_\_\_\_\_\_\_ higher temperatures with up to 100 cm of precipitation per year |
| 1. Temperate deciduous forest
 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_ permafrost and very low precipitation each year |
| 1. Grasslands
 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_acidic soil containing some water and 40 cm of precipitation or more per year |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rich layer of undergrowth as well as upper storey; deer, black bear, wolves, and woodpeckers |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rapid-flowering plants, mosses, and lichens; and lemmings |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_fescue grasses with trees only along rivers; grasshoppers, bison, wolves, and hawks |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_evergreen trees; squirrels, deer, pine martens, and seed-eating birds |

1. Match the name of the soil layer with the soil contents up by writing the name of the layer in the space next to the correct materials. **Value 4**

**Layer Contents**

1. bedrock \_\_\_\_\_\_\_\_\_\_\_\_ partially decomposed leaves and grass
2. subsoil \_\_\_\_\_\_\_\_\_\_\_\_ solid underlying layer
3. litter \_\_\_\_\_\_\_\_\_\_\_\_ small pieces of rock and humus
4. topsoil \_\_\_\_\_\_\_\_\_\_\_\_ stones and small amounts of organic matter

**Part B: Multiple Choice** **– Value 15**

1. The most *fragile biome* in Canada is the:

(a) Tundra

(b) Boreal/taiga forest

(c) Temperate deciduous forest

(d) Grasslands

2. A sustainable ecosystem is one that:

(a) is always remains the same;

(b) changes to meet the changing needs of society;

(c) meets the needs of present generations without compromising the needs of future generations;

(d) allows for a continuously expanding economy for all countries.

3. The biome with the *greatest biodiversity* in Canada is the:

(a) Tundra

 (b) Boreal/taiga forest

 (c) Temperate deciduous forest

 (d) Grasslands

4. The biome that *covers the greatest amount of area in Canada* is the:

 (a) Tundra

 (b) Boreal forest

 (c) Temperate deciduous forest

 (d) Grasslands

5. Which of the biomes has *the least amount* of precipitation on an annual basis?

(a) Temperate deciduous forest

 (b) Grassland

 (c) Tundra

 (d) Boréal/taïga

6. Which of the biomes has *the greatest amount* of precipitation on an annual basis?

 (a) Temperate deciduous forest

 (b) Grassland

 (c) Tundra

 (d) Boreal/taiga

7. Which of the biomes has the *highest mean (average) annual temperature*?

(a) Temperate deciduous forest

 (b) Grassland

 (c) Tundra

 (d) Boreal/taiga

8. Which of the following layers are in the correct order from the top downward?

(a) bedrock, litter, topsoil, subsoil (b) litter, topsoil, subsoil, bedrock

 (c) topsoil, subsoil, bedrock, litter

 (d) litter, bedrock, subsoil, topsoil

9. The biome which has the *richest layer of topsoil* is the:

(a) Tundra

 (b) Boreal/taiga forest

 (c) Temperate deciduous forest

 (d) Grasslands

10. The greatest number and variety of soil organisms is found in the following biome:

(a) Tundra

 (b) Boreal/taiga forest

 (c) Temperate deciduous forest

 (d) Grasslands

11. Indicate which of the following is *NOT* a benefit of a monoculture.

(a) The amount of fertilizer applied, the irrigation (watering) and timing of the harvest can be adjusted.

(b) It supports a high populations of a limited number of species.

(c) Its designed to produce multiple foods and is costly to maintain.

12. Which of the following statements regarding pesticides is false?

(a) Pesticides may cause damage to other crops.

(b) Pesticides kill insects that pollinate crops (bees).

(c) Pesticides and can also affect people.

13. In natural ecosystems, populations of all species are controlled or limited by biological and environmental factors including:

 (a) availability of habitat;

 (b) availability of food;

 (c) populations of predators and parasites;

 (d) all of the above.

14. Strategies to manage or cope with pests/predators associated with monocultures include:

 (a) remove sick or infected plants;

 (b) build or install birdhouses;

 (c) crop rotation;

 (d) all of the above.

15. Crop rotation reduces the build-up of certain:

 (a) predators

 (b) pests

 (c) parasites

**Part D: Short Answer** – **Value 33**

**ANSWER ALL OF THE FOLLOWING ON YOUR OWN PAPER IN FULL CLEAR SENTENCES!!!**

**DO NOT WRITE OUT THE QUESTIONS, INDICATE THE QUESTION NUMBER ONLY ON SHEETS**

**IF YOU HAVE UNDERSTOOD THESE INSTRUCTIONS PLACE A PEACE SYMBOL HERE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!**

1. Compare the temperate deciduous biome to the grassland biome (two main differences). (4 pts)
2. What factors makes an area sustainable? Give examples. (2 pts)
3. What changes or conditions do conifers in the boreal forest adapt well to? (2 pts)
4. Which biome has the *thickest layer of topsoil*? *And why*? (2 pts)
5. (a) What *compounds* most often lead to acid rain? (2 pts)

 (b) What do they (the compounds in part a above) combine with and what do they form? (2 pts)

 (c) Where do most of these chemicals come from? (Be specific) (3 pts)

 (d) What are *two effects of acid rain*? (2 pts)

1. *Describe how* *soil forms*. (3 pts)
2. If the grassland biome has most fertile, rich/thick soil, *explain why there is less biodiversity*? (2 pts)
3. What are *two effects of water leaching*? (2 pts)
4. (a) What is meant by the term *permafrost*? (1 pt)

(b) Which Canadian biome has permafrost? (1pt)

1. (a) What are advantages of pesticides? (2 pts)
2. What are disadvantages of pesticides? (3 pts)

**TOTAL VALUE 60**