**Grade 9 Ecology Test**

SNC1D1

23 October 2013

**Name:** _____

**Part A** – Place the letter of the correct response in the space on the right. (10x1 mark)

1. Ecology is the study of:
   a. Aquatic areas
   b. Biotic and abiotic parts of a certain area
   c. Living animals
   d. Living organisms in a certain area

2. An ecotone is the transition between
   a. Two communities
   b. Two biotic areas
   c. Two similar areas
   d. Two bordering ecosystems

3. Albedo is a measurement of the
   a. Amount of light absorbed at the surface
   b. Percentage of light an object reflects
   c. Amount of light reflected by water
   d. Both a and c

4. An autotroph is an organism which
   a. Converts dead matter into living matter
   b. Consumes food from other organisms
   c. Converts sunlight into sugar
   d. None of the above

5. Trophic levels help explain
   a. The transfer of energy
   b. What organisms eat plants
   c. The transfer of water
   d. The transfers in the carbon cycle

6. An ecological niche is
   a. An organism's role
   b. An organism's address
   c. An organism's size
   d. An organism's age

7. One of these is not a major carbon sink
   a. Sedimentary rock
   b. The atmosphere
   c. Fish in the sea
   d. The ocean

8. Nitrogen gas composes nearly ———— of the Earth's atmosphere.
   a. 50%
   b. 79%
   c. 35%
   d. 50%
   e. None of the above

9. The organisms which convert nitrogen in the atmosphere into nitrates in the soil are
   a. Fungi
   b. Bacteria
   c. Plants
   d. Both b and c

10.     Plants and animals use nitrogen for
   a. Protein
   b. Strong teeth and bones
   c. Energy
   d. Both b and c

**Part B – Answer the following questions in the space provided.**

11. What is the word formula for photosynthesis? (5 marks)

_____

12. What is the word formula for respiration? (3 marks)

_____

13. State two human activities that place carbon dioxide in the atmosphere. (2 marks)

_____

14. Explain what happened to the Atlantic cod off the coast of Newfoundland. How did this event impact humans and why? (4 marks)

15. Define the following terms. (10x2 marks)

a) Biodiversity _____

_____

b) Overexploitation _____

_____

c) Introduced Species _____

_____

d) Ecological Niche _____

_____

e) Condensation _____

_____

f) Keystone Species _____

_____

g) Sustainability _____

_____

h) Greenhouse Gas _____

_____

i) Trophic Level _____

_____

j) Watershed _____

_____

16. Create a food web for the grasslands with the following organisms. Make sure you provide a label for each level. (8 marks)

Fescue grasses, wild flowers, grasshoppers, hawks, wolves, snakes and mice.

17. Trees are an important part of ecosystems. List three reasons for why. Explain. (3x2marks)

a)




b)




c)




18. Place a T for true and an F false on the line provided. (10 marks)

_____ a)    99.9% of life on Earth is carbon based.
_____ b)    Layers of rocks and fossil fuels contain carbon that will
              eventually be worked into the carbon cycle.
_____ c)    Trees are a non-renewable resource.
_____ d)    Deforestation is when all the trees in an area are cut down and
              the land is converted to a different use.
_____ e)    Desertification cannot be caused by humans.
_____ f)    Usually trophic efficiency is only about 10%.
_____ g)    20% of the world's forests are located in Canada.
_____ h)    The human population has multiplied by six in the past 100
              years.
_____ i)    The population levels of Atlantic Cod, off the coast of
              Newfoundland, have returned to normal levels.
_____ j)    Long lining is a method that is used for harvesting trees.

19. Explain the term carrying capacity. (2 marks)

20. The carrying capacity of an area is determined by a combination of _____ and _____ factors. (2 marks)

21. Look at the graph below and answer these two questions. (3 marks)

a) What may have caused the down turn at point A?

b) Explain what could happen at point B?

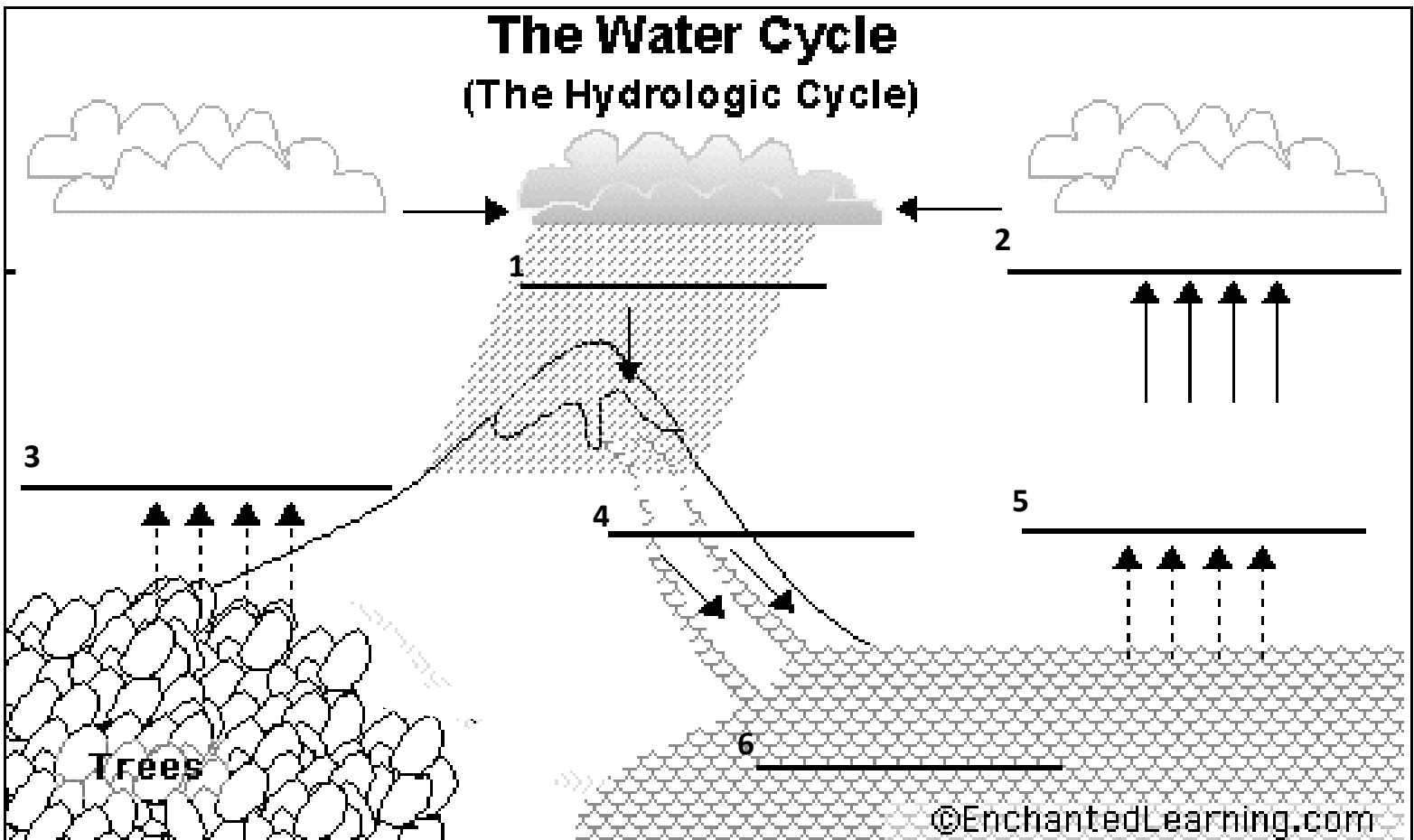22. Fill in the six blanks on the water cycle. Explain each stage below. (12 marks)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

# The Water Cycle
## (The Hydrologic Cycle)

1

2

3

4

5

6

Trees

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23. Fill in all the blanks on the carbon cycle diagram. (8 marks)

(Diagram attached through photocopy after printing)

23.

a) What is a histogram? (2 mark)

_____

_____

b) Below are three histograms. Label each one as young, stabilized, or declining. (3 marks)

(Diagrams attached through photocopy after printing)