Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_ **Organisms, Energy and Ecology Test 2013**

**Part 1: Multiple Choice and Active Reading. Read each question and underline the important information. Draw a circle around the letter of the best answer. Then draw and label a picture to show that you understand the question. (16 points)**

1. This sentence about organisms (living things) is true:

a. All organisms use energy b. All organisms are made up of cells

c. All organisms grow and develop d. Choices a,b, and c are true  
  
Draw and label a picture to support your answer:

2. All organisms need these things to survive:

a. a source of heat energy b. oxygen

c. a habitat d. a and c

Draw and label a picture to support your answer:

3. An open glass jar has an old banana. Three days later there are insects in the jar. This happened because:

a. One insect went into the jar and divided into 2 new insects (asexual reproduction)

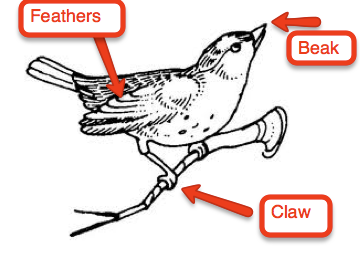
b. Insects went into the jar and laid eggs (sexual reproduction)

c. Baby insects come from the banana (spontaneous generation)

d. Choices A and C

Draw and label 3 pictures to support your answer in the boxes below:

|  |  |  |
| --- | --- | --- |
| 1st Sentence: | 2nd sentence: | Answer: |
|  |  |  |

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**Part 2: Actively Read the short story. Underline the important information then answer the questions below. (17 points)**

Charles Darwin, an English scientist, traveled to the **Galapagos Islands** in the 1800’s to collect samples of **plants** and **animals**. While on the island he discovered a small **bird** called a finch. The finch had a short sharp beak for eating seeds and tiny  
claws on its feet for holding onto small **tree** branches. Its feathers were dark brown- the same color as the trees that it built its nest in.

4. List 3 examples of the bird’s symbiotic relationship with the tree. (15 points)

The bird uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the tree.

5. In the community of Urbana there are populations of humans, dogs, and cats. Use the story above about Charles Darwin and the finches to identify the words below:  
  
i. The bird’s habitat is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I know this because habitat means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
  
ii. Two populations are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I know this because population means\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

iii. One organism is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I know this because organism means\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
  
  
iv. The community is located on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   
and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I know this because community means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6. What is one other important piece of information from the story? Write it below, then please explain why it is important? (2 points)

**Part 3: Dissect the words below and identify the parts and their meanings. Write a definition for each word then use the word correctly in a sentence. (21 points)**

|  |  |  |
| --- | --- | --- |
| Vocabulary Word | Word Parts | |
| 7. Biology | Part 1:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Part 2:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Definition:  Example sentence: | | |
| 8. Ecologist | Part 1:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Part 2:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Part 3:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Definition:  Example sentence: | | |
| 9. Producer | Part 1:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Part 2:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Definition:  Example sentence: | | |
| 10. Omnivore | Part 1:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Part 2:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Definition:  Example sentence: | | |
| 11. Choose your own biology vocabulary word from Part 4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Part 1:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Part 2:\_\_\_\_\_\_\_\_\_ means:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Definition of the word you chose:  Example sentence: | | |

**Word Parts Meanings**  
  
a. a person or thing   
b. to make  
c. un- or not  
d. all  
e. dead things

f. meat  
g. plants  
h. to use

i. a process

j. a relationship

k. living

l. to eat

m. to breathe

n. a person

o. not

p. the study of  
q. to make  
p. describes  
r. light

**Part 4: Use the picture of a marine ecosystem to complete the charts below . (5 points)**

|  |  |  |
| --- | --- | --- |
| Producer | Consumer | Decomposer |
| What does it do? | What does it do? | What does it do? |
| Example: | Example: | Example: |

12. (6 points)

13. (8 points)

|  |  |  |  |
| --- | --- | --- | --- |
| Herbivore | Carnivore | Omnivore | Detritivore |
| What does it do? | What does it do? | What does it do? | What does it do? |
| Example: | Example: | Example: | Example: |

14. Use these 4 organisms from the marine ecosystem picture to create a food chain:   
 Red cod   
 Seaweed  
 Bacteria   
 Dolphin   
  
 Draw arrows 🡪 to show which way the energy moves. Label the organisms above as either Producers, Consumers, or Decomposers. (8 points)  
  
  
  
  
  
  
15. Use your food chain and the ecosystem picture to make predictions:  
 i. What would happen to the ecosystem if the seaweed all died? Why? (2 points)  
  
  
  
 ii. What would happen to the ecosystem if the bacteria all died? Why? (2 points)

**Part 5: Photosynthesis and Respiration**  
16. Draw and label an organism that does Photosynthesis and an organism that does Respiration. Use arrows ---> to show how the following molecules move between them:  
  
**H20 CO2 C6H1206 (glucose) 02**(10 points)  
   
Organism that uses Photosynthesis: Organism that does respiration:

17.This is my first day in biology class and I do not know anything about Photosynthesis. Use the words **Carbon Dioxide, Sugar, Water, Oxygen**, and **Solar Energy** to answer my questions below. You can draw pictures to help you explain.  
  
i. What is photosynthesis? (Hint: Use the word parts to help you) (3 points)  
  
A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to make\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_  
ii. Where does it happen? (Be specific) (2 points)  
  
  
iii. What are the biotic and abiotic factors of photosynthesis? Give 4. (4 points)  
 Biotic:  
 Abiotic:  
  
  
iv. What is the chemical equation of photosynthesis? (6 points) Draw the arrow 🡪 below.  
  
  
  
\_\_\_\_\_\_\_\_\_\_\_+\_\_\_\_\_\_\_\_\_\_\_\_\_\_+\_\_\_\_\_\_\_\_\_\_\_\_\_\_ arrow\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_+\_\_\_\_\_\_\_\_\_\_\_\_\_

v. Why is photosynthesis important? Give at least 3 reasons (3 points)