Name:

Date:

Block 4 Biology w/ Mr. Howe & Mrs. Creed

Chapter 1 Study Guide

Domains and Kingdoms

Domain	Kingdom	Example
		Humans and Sponges
		Kelp, Diatoms, and Amoebas
		Mosses, Flowers, Trees
		Thermophiles and Halophiles
		E. coli and Staphylococcus
		Mushrooms, Yeast and Molds

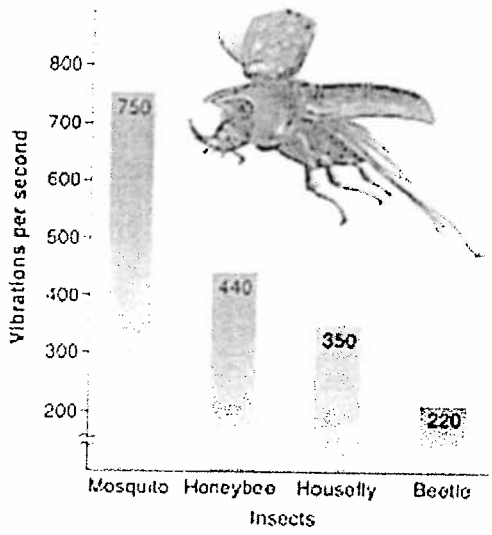
The Characteristics of Life

cells	The smallest unit of life. Living things can be unicellular (made of one cells) or multicellular (made of many cells)
	Living things react to changes in their environment in complex and simple ways.
	Living things are able to maintain internal living conditions from the amount of water inside a cell to maintaining a specific body temperature
	Living things change of thousands of generations to adapt to changes in the environment
	Living things carry a genetic code in the form of nucleic acids
	Living things expand by increasing in the number of cells or increasing the size of individual cells
	Living things create the next generation individually (asexually) or with a partner of the opposite gender (sexual)
	Living things transform the energy in food into a form cells can use

Levels of Organization (from smallest to largest)

Term	Description
Molecule	Group of 2 or more atoms covalently bonded together.
Organelle	
	Smallest unit of life. A collection of living material enclosed by a barrier that separates the cell from its surroundings
Tissue	
	Groups of tissues that work together towards a particular function
Organ System	
	An individual living thing
Population	
	Groups of different organisms living in the same place
Ecosystem	
	Different ecosystems found in different places around the Earth that demonstrate the same precipitation and climate
Biosphere	

Graphing



What does the graph tell us about the different insects? _____

How many vibrations per second can a honeybee make per minute?

_____

Which insect has the fastest wing beat?

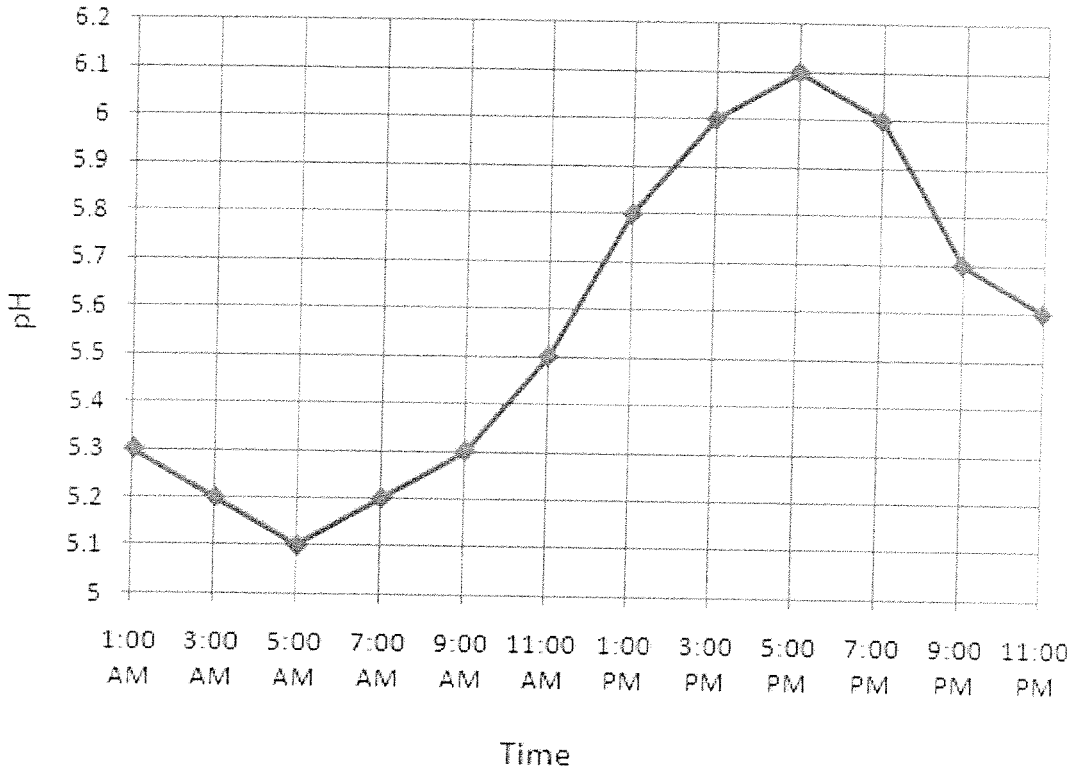
_____

Which insect has the slowest wing beat?

_____

How many vibrations per second can a beetle make? _____

Figure 1. Change in pH of a pond in Clinton County NY in July 2009. Measurements were obtained from samples of water taken 2 m from the shore at a depth of 10 cm.



What does the x axis in this graph measure? _____

What does the y axis in this graph measure? _____

What was the lowest pH measured in the pond? _____

What is the pH and Time of the highest pH in the lake? _____

What was the range of the pH measured in the lake? _____

Controlled Experiments

1. Describe 2 characteristics of a controlled experiment

Farmer Smith enjoys growing worms for sale to the local bait shop. Farmer Smith grows worms in large kiddie pools. Farmer Smith is interested in seeing if warm soil increases worm reproduction. Farmer Smith starts 2 "worm pools" with 100 kg of dirt and 100 worms. Farmer Smith leaves one "worm pool" outside the barn and puts the other "worm pool" in a warm part of the barn. In 3 months Farmer Smith will count all the worms in each "worm pool."

Write a Hypothesis for Farm Smith's experiment _____

_____

Identify the Independent variable in Farmer Smith's experiment _____

Identify the dependent variable in Farmer Smith's experiment _____

What is the difference between Quantitative and Qualitative Data?

1. Quantitative Data: _____

   Examples of quantitative data = _____

2. Qualitative Data: _____

   Examples of qualitative data = _____

Which statement describes quantitative data about beef stew and which statement describes qualitative data about beef stew.

a. Chef James describes the color, taste and smell of the beef stew_____

b. Chef James measures the temperature of the stew and the number of carrot pieces in stew _____

Additional Vocabulary

1. Biology is the study of _____

2. Scientific Theory = _____

_____

3. Scientific Law = _____

_____

Name _____ Date _____

Biology Unit 1 Vocabulary Review

Fill in the blanks using your vocabulary list.

1. **Science** is evidence based knowledge gained through _____ and _____.
2. **Biology** is the study of _____.
3. _____ is the study of relationships between organisms and their environment.
4. In an ecosystem, all of the living things are _____ factors while the non-living things are known as _____ factors.
5. The _____ is the basic unit of life.
6. Living things are _____ if they are made of more than one cell or _____ if they are only one cell.
7. A proposed testable explanation for an observation is considered a _____, which could become a _____ once evidence supports the idea.
8. No exceptions have been found for a _____.
9. **Scientific mechanism** is the combination of components and processes that serve a common _____.
10. If general agreement is present, a concept based on laws and axioms becomes a _____.
11. An open _____ is able to interact with its environment while a closed _____ is not.
12. Genetic engineering is one application of _____.
13. A measure of the amount of a substance when combined with another substance is its _____.
14. **Extinction** describes a _____ that no longer has any known living individuals.
15. **Temperature** is a measure of average _____.

Match the word with its correct definition.

1. _____ biome	a. lowest taxonomic level of classification consisting of offspring capable of reproduction
2. _____ biosphere	b. contributes to maintaining a state of equilibrium
3. _____ homeostasis	c. large area with distinct plant and animal groups
4. _____ homeostatic mechanism	d. composed of cells organized to perform a similar function
5. _____ organ	e. subunit within a cell that has a specialized function
6. _____ organ system	f. regulatory process in which an organism regulates it internal environment
7. _____ organelle	g. composed of tissues serving a common function
8. _____ population	h. zone of life on Earth , total of all ecosystems
9. _____ species	i. group of organs that work together to perform a specific function
10. _____ tissue	j. group of individuals of the same species living in a specific geographical area and reproducing