**Ecology Unit Guide Due October 1st**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| 14Biochemistry Test Corrections | 15Introduce Part 1 - Choose & Research Country  | 16Continue Part 1 | 17Part 2 Climate Experiment**UG-Questions 1-7** | 18Part 2 – Climate Experiment  |
| 21Part 3Environmental Change | 22Part 4Natural DisasterSuccession Game | 23Part 5  | 24Part 6RelationshipsSymbiosis Game**UG-Questions 15-20** | 25Part 7 Biogeochemical Cycles |
| 28Part 8Food Chains | 29**Vocab QUIZ****Vocab exercises due**Finish and complete Poster  | 30Part 9Travel the world(Gallery Walk) | Oct 1 **Unit Guide Due** Finish Part 9Test Review | 2**Test #2- Ecology**  |

**Read**:Chapters 13, 14, 15, and 16 **Unit Test**: October 2nd

**Watch (Supplemental Resource):** <https://www.youtube.com/watch?v=Gu2EzAIsVQU>

Biology – The Science of Life – Ecology – Organisms in Their Environment

**Book Online at**: <http://my.hrw.com>

Use your username and password to get to the biology book -or-

* Username: student26761 Password: n8j2x
* Mrs. Wheatley’s website: [www.wheatleybiology.weebly.com](http://www.wheatleybiology.weebly.com)

**What the state of Texas wants you to know!**

* TEKS 11B-Investigate and analyze how organisms, populations and communities respond to external factors.
* TEKS 11C-Summerize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems
* TEKS 11D-Describe how events and processes that occur during ecological succession can change populations and species diversity.
* TEKS 12A-Interpret relationships, including predation, parasitism, commensalism, mutualism and competition among organisms.
* TEKS 12B-Compare variations and adaptations of organisms in different ecosystems.
* TEKS 12C-Analyze the flow of matter and energy through trophic levels using various models, including food chains, food webs and ecological pyramids.
* TEKS 12D-Recognize that long term survival of species is dependent of changing resource bases that are limited
* TEKS 12E-Describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles.
* TEKS 12 F-Describe how environmental change can impact ecosystem stability.

**Listen and Look**

Here is a list of key terms you will hear and see during the reading and video. Get to know them!

**Directions:** Your objective in this activity is to earn 100 points. Choose any activities you wish and complete by the due date assigned.

|  |  |
| --- | --- |
|  **Activity** | **Points** |
| 1. Complete a Frayer diagram for each word. Divide your diagram into the following categories: definition, Sentence, Diagram, and Example. (Diagram is a labeled picture.) | 100 |
| 2. Create a Vocabulary Booklet. Each page must have the term at the top, the definition at the bottom, an example and an illustration in the middle with a sentence or description using the term. | 100 |
| 3. Word Detective for all words. Use your textbook and a dictionary…Do they provide the same definitions? (Make a chart that has the word, definition from book and page #, definition from dictionary, name of dictionary and page #, and sentence using word.) | 100 |
| 4. Complete a Vocabulary Log with all vocab words: (word, definition, and example or illustration). | 50 |
| 5. Create a rap, song, riddle, or poem including words and meanings. (25 points extra if you perform it for the class) | 50 |
| 6. Diagram representation of each word. Needs to be no more than 4 on a page (A diagram is a labeled picture) | 25 |
| 7. Create and complete a crossword puzzle including all words. You MUST give clues or definitions for the Across and Down Sections. You may not use the same clues or definitions as word search. | 50 |
| 8. Create and complete a word search including all words. You MUST give clues or definitions. DO NOT list the actual key word. You may not use same clues or definitions as the crossword puzzle. | 50 |
| 9. Write an essay or story including all words. Only one word per sentence. Words must be used correctly. Spelling and grammar will be considered. Essay/story must be at least 3 paragraphs long. | 50 |
| 10. Write a sentence for each word that shows the meaning of the vocabulary. This is NOT simply writing the definition. | 25 |
| 11. Create a detailed and logical concept or word map. Use linking words on the lines or arrows. Must show relationship between words. | 50 |
| 12. Create a set of flashcards. | 25 |

Visit: <http://bit.ly/1umMyTO> or 

<http://lakeridgesciencelamkin.weebly.com/biology-vocab-templates.html>

to obtain templates and link to websites to help with your assignment.

VOCABULARY EXERCISES: due September 29th

VOCAB QUIZ: September 29th

* **Abiotic**: nonliving factor in an ecosystem, such as moisture, temperature, wind, sunlight, soil and minerals.
* **Biotic**: living things, such as plants, animals, fungi and bacteria.
* **Habitat**: combined biotic and abiotic factors found in the area where an organism lives.
* **Biodiversity**: variety of life within an area
* **Detritivore**: organisms that eats dead matter.
* **Commensalism**: ecological relationship in which on species receives a benefit but the other species is not affected one way or another.
* **Consumer**: organism that obtains its energy and nutrients by eating other organisms.
* **Decomposer**: Detritivore that breaks down organic matter into simpler compounds, returning nutrients back into an ecosystem.
* **Ecology**: study of the interactions among living things and their surroundings.
* **Ecological Niche**: all of the physical, chemical and biological factors that a species needs to survive, stay healthy, and reproduce in an ecosystem.
* **Biomass**: total dry mass of all organisms in a given area
* **Competition**: ecological relationship in which two organisms attempt to obtain the same resource.
* **Carrying Capacity**: number of individuals that the resources of an environment can normally and persistently support.
* **Keystone Species**: organism that has an unusually large effect on its ecosystem.
* **Ecosystem**: collection of organisms and nonliving things such as climate, soil, water, and rock in an area.
* **Pioneer Species**: organism that is the first to live in a previously uninhabited area.
* **Generalist**: species that does not rely on a single source of prey.
* **Limiting Factors**: environmental factor that limits the growth and size of a population.
* **Community**: collection of all the different populations that live in one area.
* **Mutualism**: ecological relationship between two species in which each species gets a benefit from the interaction.
* **Predation**: process by which one organism hunts and kills another organism for food.
* **Symbiosis**: ecological relationship between members of at least two different species that live in direct contact with one another.
* **Specialist**: consumer that eats only one type of organism.
* **Parasitism**: ecological relationship in which one organism benefits by harming another organism.
* **Biosphere**: all organisms and the part of Earth where they exist.
* **Biogeochemical Cycle**: movement of a chemical through the biological and geological, or living and nonliving, parts of an ecosystem.
* **Secondary Succession**: reestablishment of a damaged ecosystem in an area where the soil was left intact.
* **Energy Pyramid**: diagram that compares energy used by producers, primary consumers and other trophic levels.
* **Primary Succession**: establishment and development of an ecosystem in an area that was previously uninhabited.
* **Trophic Level**: level of nourishment in a food chain.
* **Climate**: average long-term weather pattern of a region.
* **Scavenger**- organism that feeds on dead or decaying matter.

**Recall and Review: ANSWER ALL THE QUESTIONS IN COMPLETE SENTENCES.**

Use the video and your textbook to help you answer the following questions in your binder.

**A. Chapter 13**

1. **State** the difference between abiotic and biotic factors. **List** two abiotic and two biotic factors found in your habitat.

1. **Distinguish** between autotrophs and heterotrophs. **State** another name for each.

1. **Describe** the connection between food chains and trophic levels.

1. **Compare and contrast** a food chain and a food web in a T-Chart.

|  |  |  |
| --- | --- | --- |
| Food Chain | Both | Food Web |
|  |  |  |

1. **Explain** what happens to energy as if flows through a food web.

1. **Describe** how microorganisms affect the health of an ecosystem.

1. **Draw** either the carbon or the nitrogen cycle and list the key processes involved in the cycling of the element.
2. **Describe** a human activity that disrupts the carbon cycle and the consequences of that disruption.

1. **Draw** an energy pyramid for the desert food chain introduced in Section 4. Use arrows to illustrate the flow of energy.



**B. Chapter 14**

1. **Describe and give examples of the three types of symbiosis.**

1. **Compare and contrast** predation and parasitism in a Venn Diagram



 Predation Parasitism

 Both

1. **Explain** the difference between primary succession and secondary succession.

1. **Describe** how pioneer species are important for primary succession.

**C. Chapter 15**

1. **List** **and describe** the six major biome types.

1. Polar bears have white fur but black skin underneath. Consider the climate in which the bears live.  **Predict** what might be the adaptive advantage of the bear’s black skin.

**D. Chapter 16**

1. **Name** and **describe** two ways in which pollution affects ecosystems.

1. **List** three factors that can limit the growth of the human population.

1. **Explain** why biodiversity is highest in tropical rain forests.

1. **Predict** the types of damage that introduced species can cause.

1. **Provide** one example of how you could reduce the amount of waste produced by Lake Ridge.

NOTES: