Description

3.

Terrestrial Biomes

a.

Identify the four major categories used to classify a **biome**.

b.

List the terrestrial biomes.

Example(s)



Ecological Levels of Organization

a.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the portion of the Earth which contains life.

b.

In order from *smallest to largest*, what makes up the biosphere?



2.







\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

BIOSPHERE

b.

Principles of Ecology **–** Chapters 2, 3 and 4

1.

Ecology

a.

Define ***ecology***.

What is the difference between *biotic and abiotic factors* in an ecosystem?

c.

Identify 3 examples of both biotic and abiotic factors in the rainforest.

Community

Organism

Population

Ecosystem

Biome

Biosphere

c.

For each level of organization, describe and give an example of its contents.

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_



5.

An organism’s **niche** is the \_\_\_\_\_\_\_ that an organism has in its environment.

b.

Define **habitat**.

a.

Ecosystem Interactions

are these zones able to support such a large number and variety of living organisms?

The most ***biodiverse*** aquatic ecosystems, both freshwater and marine, are the *shallowest zones*. Why

b.

Approximately \_\_\_\_\_\_\_\_\_\_% of all water on Earth is **salt water**.

a.

The graph illustrates an ecosystem with a carrying capacity for approximately \_\_\_\_\_\_\_\_\_\_\_\_ deer.

c.

What is the maximum number of a certain species that an ecosystem can hold?

b.

A ***limiting factor*** is anything which limits the size of a population. Give 4 examples of limiting factors.

a.

Community Ecology

6.

Give an example of an organism’s niche.

i.

precipitation of 150cm and an average annual temperature of 10°C?

Use the top left graph to answer the following question: Which biome has an average annual

e.

Can you think of any **adaptations** *plants in the coniferous forest* might have?

d.

Chose a terrestrial biome and describe its temperature, rainfall, plants and animals.

c.

g.

Aquatic Biomes

4.

biome?

the right to represent data from which

You would expect the climatogram seen to

forest or the coniferous forest?

to the equator, the temperate deciduous

Use the top right graph to answer the following question: Which biome would you expect to find closer

f.

**Mutualism**

**Description**

**Symbiotic**

**“Symbols”**

**Example**

**Relationship**

**Parasitism**

**Commensalism**

*ii.*

b.

*Primary succession* takes place on newly exposed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which lacks topsoil.

i.

Identify events which can lead to primary succession.

Summarize the process of primary succession.

c.

*Secondary succession* takes place in a newly cleared area where the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ remains.

i.

d.

What is the difference between *density dependent and density independent* limiting factors?

e.

Give 2 examples of each, density dependent and density independent factors.

Identify events which can lead to secondary succession.

7.

Ecological succession

a.

Describe ***ecological succession***.

Fill in the chart on the three symbiotic relationships. Use smiley, sad or straight faces for “symbols.”

9.

Symbiotic Relationships

a.

What is a long, close term relationship between two different species? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b.

ii.

Summarize the process of secondary succession.

8.

Community Interactions

a.

Define competition.

b.

Predation takes place when one organism hunts and kills another. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the

hunter, which the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the hunted.

Energy Pyramids

12.

secondary consumer and tertiary consumer.

Why would large carnivores, such as an orca (killer whale), be at the top of an energy pyramid?

d.

Which type of organism has the *most available energy* and therefore the largest biomass?

c.

Draw a simple food chain in the box below. Label the following terms: producer, primary consumer,

Describe the purpose of an **energy pyramid**.

b.

\_\_\_\_\_\_\_\_\_% of energy is **lost** at each trophic level, while only \_\_\_\_\_\_\_\_% is **retained**.

a.

b.

Models of Energy Flow

11.

What do **omnivores** eat?

c.

**Herbivores** eat \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. **Carnivores** eat \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

a.

Explain the difference between *autotrophs and heterotrophs* and the way they obtain energy/food.

a.

Energy in an Ecosystem

What does an **arrow** in a food web or food chain illustrate?

e.

A food \_\_\_\_\_\_\_\_\_\_ shows ALL feeding relationships within a biological community.

d.

10.

c.

Which type of organism ALWAYS makes up the *first trophic level*? Why?

b.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ level of an organism identifies its position in the food chain/web.