Inspiring Greatness

ISD

INDEPENDENCE SCHOOL DISTRICT

High School Science Virtual Learning

College Biology
Chapter 20 Recap

May 22, 2020

High School College Biology
Lesson: May 22, 2020

Objective/Learning Target:

Students will be able to discuss and identify different types of diversity, risks to that diversity, and different interactions within a biological community, identify the flow of energy through ecosystems and how ecosystems change through succession, and discuss how chemicals are cycled through an ecosystem and the importance of conservation and restoration of ecosystems.

Let’s Get Started:

1. A lion kills and eats a zebra. This is called predation. What is the name/role of the lion in this relationship? The zebra?

2. You’re eating a pizza. At what trophic level(s) are you feeding?

Answers:

1. The lion is a predator. The zebra is the prey.

2. You're a primary consumer when you eat flour (in the crust) and tomato sauce, and you're a secondary consumer when you eat cheese or meat on the pizza.

Lesson Activity:

1. Read over the Chapter 20 Notes. (Linked Here)
2. Watch this Stated Clearly video on Ecosystem Interactions.
3. Watch these Crash Course videos on
   Energy Transfer
   Succession
   Biogeochemical Cycles 1
   Biogeochemical Cycles 2
   Conservation and Restoration

Practice:

1. What are some of the ecosystem services that humans benefit from?

2. Why is mutualism such an important symbiotic relationship?

3. People find most bitter-tasting food objectionable. Why do you suppose we have bitter-taste receptors?

Practice Answers:

1. Air and water purification, climate regulation and erosion control.

2. In mutualism both species benefit. This is important because without really doing anything “extra” both species get something that they need out of the relationship.

3. Often times a bitter taste is an indication of a poison or toxin. Bitter taste is meant to inform the consumer not to consume the material.

More Practice:

1. What are the four main causes of declining diversity?

2. Match each organism with its trophic level (you may choose a level more than once).

a. alga	1. decomposer
b. grasshopper	2. producer
c. zooplankton	3. tertiary consumer
d. eagle	4. secondary consumer
e. fungus	5. primary consumer

More Practice:

3. Local conditions, such as heavy rainfall or the removal of plants, may limit the amount of nitrogen, phosphorus, or calcium available to a particular terrestrial ecosystem. Why is the amount of carbon available to the ecosystem seldom a problem.

4. Over a period of many years, grass rows on a sand dune, then shrubs grow, and then eventually trees grow. This is an example of ecological _____.

More Practice:

5. According to the concept of competitive exclusion,
    a. two species cannot coexist in the same habitat.
    b. extinction is the only possible result of competitive interactions.
    c. Intraspecific competition results in the success of the best-adapted individuals.
    d. two species cannot share exactly the same niche in a community.

More Practice Answers:

1. Habitat destruction, invasive species, overexploitation, and pollution.
2. a2, b5, c5, d3 or d4, e1
3. Many nutrients come from the soil, but carbon comes from CO_2 in the air.
4. Succession
5. D

Review Tools:

-Kahoot 1

-Kahoot 2

-Kahoot 3

- Mr. Anderson videos about ecosystem ecology and diversity: Video 1 (start at 5:05), Video 2.

- Mr. Anderson videos about biogeochemical cycles: Video 1, Video 2.

-Restoration Ecology Video.