

Ecology Elevator

Name: _____

Date: _____

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

Bare Bones (11B): An organism is an individual. Population refers to number of organisms of the SAME SPECIES. Community tracks the populations of ALL SPECIES in an area.

Match the level of organization with the impact (Individual, Population, and Community).

- 1) A Best Buy was built on top of a den of moles: _____
- 2) The watering hole on the savannah dried up: _____
- 3) A Cypress tree that was home to a Great Horned Owl was cut down : _____

Bare Bones (11C): Bacteria play a key role in "Fixing" Nitrogen. 78% of the air we breathe is Nitrogen, but we cannot use it in that form. That's why bacteria convert the Nitrogen in the air into more usable forms (NH₃, NO₃, and NO₂) that are stored in plants.

- 1) What key organism is responsible for making Nitrogen we need for DNA and Proteins available? _____

Bare Bones (11D):

Types of Succession	
Primary	First type; starts with <u>BARE ROCK</u> . Lichen is the pioneer species.
Secondary	Second type; always has <u>SOIL</u> . Simple grasses and shrubs usually pioneer area.

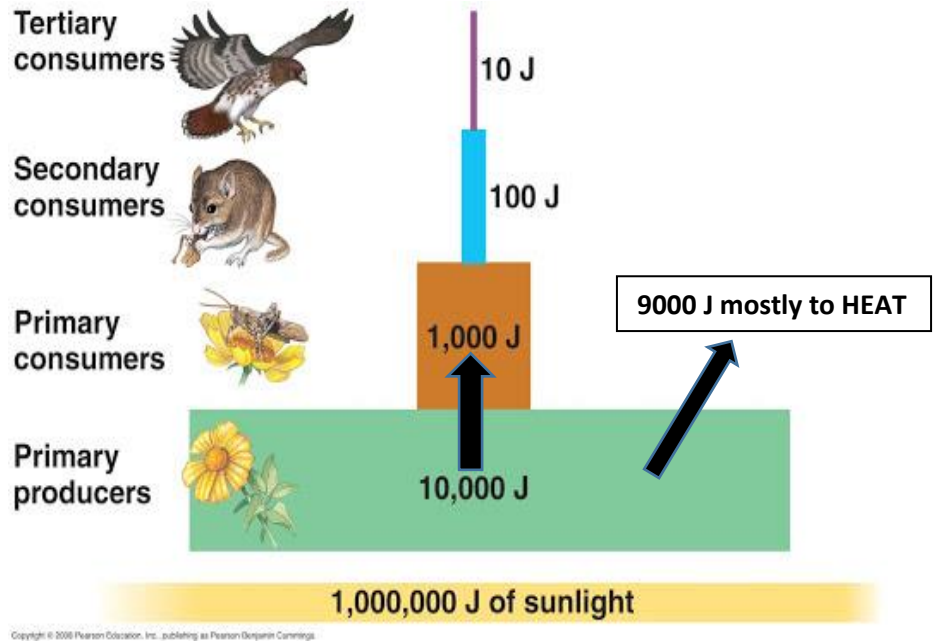
- 1) What kind of disaster would require Primary succession? _____
- 2) What kind of disaster would require Secondary succession: _____

Bare Bones (12A): Three types of Symbiosis: 1) Parasitism +/-, 2) Commensalism +/-0, and 3) Mutualism +/+.

- Match the scenarios below with their respective type of symbiosis: (P, C, M)
- 1) A lion has swam across a stagnant pond and is now covered in leeches: _____.
 - 2) The same lion attracts birds which eat the leeches off its hide: _____.
 - 3) The birds leave behind a residue which microorganisms eat: _____.

Bare Bones (12C):

- What % of energy goes to the next trophic level?
- CIRCLE** the organism level that has the most energy:
- Are primary consumers carnivores or herbivores?
- How much energy (J) gets wasted from Primary Producers?
- In what form does the energy get wasted?



Bare Bones (12D): Limiting Factors and Carrying Capacity

We did an "Oh Deer" activity to model these two terms. When the number of deer was too high (exceeded Carrying Capacity) the number of resources was low because the deer consumed all the resources (Limiting Factors).

Question: Can populations go on growing forever? Why or Why not?

Bare Bones (12E): Disrupting the Nitrogen and Carbon Cycles

Disruption Types	
Carbon Cycle	Nitrogen Cycle
1) Burning Fossil Fuels - Global Warming	1) Burning Fossil Fuels - Smog/Acid Rain
2) Deforestation - Fewer photosynthesizers	2) Overuse of fertilizer - Algae Blooms

Question: Do humans have an effect on the Carbon and Nitrogen Cycles? Explain:

Bare Bones (12F): Explaining Ecosystem Stability

Question: If a forest fire kills all of the wild flowers and a lot of the grass, how would that impact the community of that biome?

