

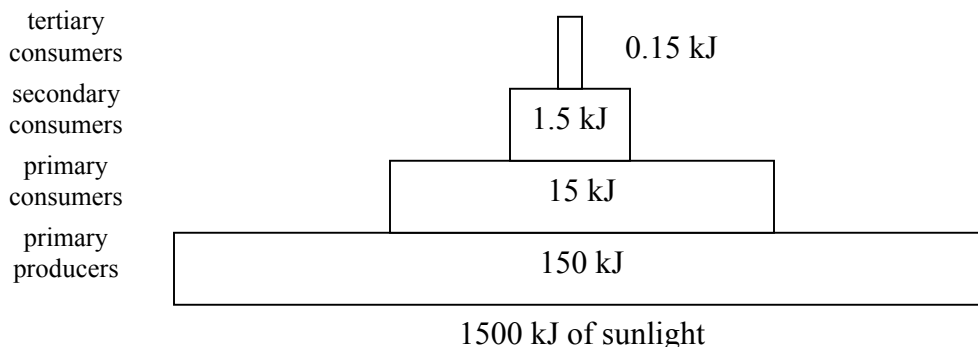
CHAPTER 1**ANSWER KEY****BLM 1.2.10A**

Ecological Pyramids

Question and Answer

Exercise Answer Key

1. a) Pyramid of numbers
 - b) This pyramid is inverted. It does not collapse because there is still a greater amount biomass/energy available at the first trophic level (trees) than at the second trophic level (herbivorous insects).
 - c) It decreases.
2. a) Pyramid of biomass; a pyramid of biomass is an ecological pyramid that shows the relative dry mass, in grams per square metre, of living or once living organisms in an ecosystem.
 - b) 1. One complication with pyramids of biomass arises because scientists define biomass in different ways. Some scientists include only living materials in their calculation of biomass. Other scientists also include once-living materials, such as dead trees, shrubs, and grasses.
 2. There are also exceptions to the upright pyramid shape, as occurs with pyramids of numbers. For example, in an ocean ecosystem, at any moment in time, the biomass of the producers (phytoplankton) may be much less than the biomass of the primary consumers (zooplankton), as the producers are being consumed faster than they can reproduce. The result is an inverted pyramid of biomass.
- 3.a)



- b) Because the buffalo have reduced the grass biomass, less energy is being stored at the first trophic level of the community. This means that the amount of energy transferred to the higher trophic levels will also be reduced, as less energy is available for transfer up the food chain.