

Measuring an Ecosystem

Name: _____

Period: _____

Purpose: To find out how many and what kind of organisms live in a field community. To learn how to measure an area. Understand how a natural community reflects an energy pyramid. Create a food web for a given area.

Materials: hula hoop, colored pencils, large field

Procedure:

1. Go to the field and randomly choose a spot by tossing the hula hoop with your eyes shut.
2. Record the number and kind of every plant or animal you see inside the hoop. Draw a picture of the inside of the hoop.

Prediction: Which type of organism (producer, primary consumer, secondary consumer. . .) will be the most numerous?

Data: (drawing on back)

type of organism	number seen

Analysis:

1. Why was it important to randomly pick your site?
2. Which organism was the most numerous on your plot?

3. Biomass is the weight of the living organisms in an area. Which has more biomass in your site, producers or consumers?
4. Did the organisms with the most biomass also have the greatest number of organisms?
5. How do different amounts of biomass of producers and consumers correlate with the energy levels they occupy on the energy pyramid?
6. How does the amount of energy available from producers in your hula hoop compare to consumers?
7. Arrange the organisms you discovered in your hula hoop into a food web according to energy flow. Include at least 2 food chains in your web.
8. What role does the sun play in your hula hoop ecosystem?
9. Why is energy a one way flow?
10. Does the grass in your sight use more energy making sugar (photosynthesis) than it actually gains from consuming that sugar?

Conclusions: Please include at least 2 clear ideas or concepts you learned from this lab. These should relate to energy, food webs, ecosystems etc.

Color Drawing (neat and very detailed!)

Create a key for your drawing:

Key:

