Have one student act as the sun and wear the large yellow circle. This person starts out with the 20 plastic bags of "energy units".

Have 20 students pin or hang the "producers" sign on. These students will play the role of green plants. The sun should give each of them a plastic bag with 20 edible objects representing 20 units of food energy. At the base of this pyramid there are 400 energy units.

Plants use

Each "plant" eats 5 crackers to represent energy that the plant uses for respiration and growth. This leaves 15 units to be stored in plant tissues for a total of 300 energy units stored in the 20 "plants"

3 bags used for

Each herbivore (first order consumer) "eats" five "plants" and takes its bag of energy units. Each herbivore should get 75 energy units in his bag. Each herbivore eats 45 crackers representing 45 units of energy needed for respiration, for movement, and for other body processes that keep the animal alive. This leaves 30 energy units to be stored as fat, flesh, bones, and organs in these animals for a total of 120 unused energy units.

2 bags for

Each of the two carnivores (second order consumers) now "eats" two herbivores and takes their bag of energy units and empties them into his bag. Each herbivore should have 60 energy units. Each herbivore eats 30 crackers representing 30 energy units to supply energy for finding food, staying warm, and other life processes. This leaves 30 crackers as energy units stored in the bodies of these animals.

uses one bag

The top predator "eats" the two-second order consumers and takes their bag of energy units for a total of 60 energy units in the top predator's bag. This predator eats 30 crackers representing 30 energy units used in life processes leaving 30 unused energy units to be stored in body tissue.

Summary of Food Pyramid Activity

	# of students	Energy U's Taken	Energy U's Used	Energy U's Stored	Energy U Total
Producers	20	20	5	15	400
Herbivores	4	75	45	30	300
Carnivores	2	60	30	30	120
Top Predator	1	60	30	30	30

Draw a large food pyramid to represent this data. Label each layer with kind of organism, number in this activity, and the total energy units at each level.

Finished May 2, 2008