Name:_____ Period: _____

Ecological Pyramids

1. Draw a rectangle that is 2 cm high and 20 cm long at the bottom of your blank piece of paper.

2. Label this rectangle “Producers/Autotrophs.”

3. Measure the strip in millimeters and record the value in the Energy Pyramid Data Table. **The length of the strip represents the energy available in the producer feeding level, which is 2,000 kcal/m2/year.**

4. Determine the length of the strip for the primary consumers/herbivores based on the 10% rule of energy transfer. Record the value in the data table. The length represents the energy available in the second trophic level.

5. Draw a rectangle that is 2 cm high and the correct length directly on top of the rectangle that represents the producers.

6. Label this rectangle “Primary Consumers/Herbivores.”

7. Determine the length of the strip for the secondary consumers based on the 10% rule of energy transfer. Record the value in the data table. The length represents the energy available in the third trophic level.

8. Draw a rectangle that is 2 cm high and the correct length.

9. Label this rectangle “Secondary Consumers.”

10. Determine the length of the line for the tertiary consumers based on the 10% rule of energy transfer. Record the value in the data table. The length represents the energy available in the fourth trophic level.

11. Draw a line that is the correct length at the top of the pyramid.

12. Label this line “Tertiary Consumers.”

13. Color the producer strip green, the primary consumer strip brown, and the secondary consumer strip red.

14. Calculate the amount of energy transferred at each feeding level and record that data in the appropriate place in the data table.

Name:_____ Period: _____

Energy Pyramid:

Name:_____ Period: _____

Energy Pyramid Data Table:

Trophic Level	Organism	Energy (kcal/m2/yr)	Length of Strip (mm)	Amount of Energy Transferred
1	Producer/Autotroph	2,000	200 mm	10%

Answer the following questions following completion of your energy pyramid.

1. On average, how much energy is transferred between each trophic level? _____

2. Why is a pyramid the best graphic representation of energy transfer in an ecosystem?

_____
_____

3. How are the number of organisms at each trophic level affected by the amount of energy transferred? Explain why.

_____
_____

4. What happens to the energy that is not transferred between trophic levels? List at least 3 examples.

_____

5. Define biomass. DO NOT USE THE GLOSSARY!

_____

6. How is the amount of biomass affected between trophic levels? Explain why.

_____
_____

7. How would a pyramid reflecting biomass be similar to or different from an energy pyramid?

_____