

Name: _____

The Inefficiency of Energy Transfer

Think about the overall flow of energy in an ecosystem. How much energy makes its way from one feeding level to the next?

1. Try to guess how much is lost because of inefficiency or non-growth day-to-day activities. **90% is lost to inefficiency of energy transfer (released largely as heat) and non-growth activity (movement, etc).**
2. Support your guess with reasoning.
 - a. **The processes of photosynthesis and cellular respiration are not perfectly efficient. About 60% of the energy held in glucose bonds is lost to heat during the reactions of cellular respiration.**
 - b. **Remind students of the list of daily activities they generated in activity #2. The non-growth activities on their lists use up a lot of ATP.**
3. Use the diagram below to indicate the percentage of energy that is lost (**90%**) and the percentage that can be transferred (**10%**), at each feeding level.

