SUMMARY SHEET: ENERGY and LIFE

I. ENERGY UPTAKE BY LIFE:
   SOURCE: SUN
   PROCESS: PHOTOSYNTHESIS
   \[ \text{CO}_2 + \text{H}_2\text{O} + \text{LIGHT} \rightarrow \text{GLUCOSE} + \text{O}_2 \]
   chlorophyll and enzymes
   ORGANISMS: All Green Plants and Algae

II. ENERGY RELEASE FOR LIFE PROCESSES:
   SOURCE: Organic FOOD (Carbohydrates, etc.)
   PROCESSES: RESPIRATION and FERMENTATION
   ORGANISMS: in Animals & Plants in Yeasts & some Bacteria
   RESPIRATION: Glucose + O_2 \rightarrow \text{Energy in ATP} + \text{CO}_2 + \text{H}_2\text{O}
   in cells
   FERMENTATION: Glucose \rightarrow \text{Energy in ATP} + \text{CO}_2 + \text{Alcohol}
   (No Oxygen)
   in cells

III. BIO-CYCLES powered by the ENERGY CHAIN: --> Ecological Balance
   Seeing Life as a “Bottleneck in the Outflow of Energy from the Sun.”