

## **Where Did the Light Go?**

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This unit is intended for a tenth-grade Biology course where students study life's metabolic processes and the transfer of energy in ecosystems. The unit has a strong modeling component as it aligns with the Next Generation Science Standards. Students model the inputs and outputs of photosynthesis and cellular respiration. The analysis questions and classroom discussions are heavily focused on the transformation of energy and the conservation of matter. In the second part of the unit, students are challenged to follow the energy and determine where it goes as it enters the biosphere and moves between trophic levels. Students are asked to calculate the energy transferred between organisms and demonstrate an understanding of where the remaining energy has gone. At the completion of this unit, students are able to explain the conservation of matter and energy in a system, explain how energy flows through an ecosystem, and the basic processes of photosynthesis and cellular respiration. Students are asked to model, collaborate, and participate in classroom discussions as major components of this unit.