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Curriculum Units by Fellows of the National Initiative
2019 Volume IV: Energy Sciences

Analyzing Energy Efficiency Through Energy Transformations

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Our modern electrical infrastructure transforms a myriad of energy sources (i.e., fossil fuel, solar, wind, tidal) into an electric current to provide our 21st-century amenities. Discussions surrounding the complexities of sustainable energy and energy consumption often lack clarity or reference to the law of conservation of energy and the physical constraints that govern energy efficiency. This 3-4 unit seeks to provide enrichment opportunities for 11th and 12th grade students about energy transformations with reference to the law of conservation of energy and thermodynamic principles. Student will examine electric devices at home and in the classroom to deconstruct the variety of energy transformation involved in its utility. In addition, students will construct their own flashlights and measure energy efficiency.

(Developed for Honors Physics, grades 11-12; recommended for Physics, grades 11-12)

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