

# Energy: Grades 9-12

Adopted 2013

## Energy HS-PS3

**HS-PS3-1.** Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known. HS-PS3-1

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**HS-PS3-2.** Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as either motions of particles or energy stored in fields. HS-PS3-2

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**HS-PS3-3.** Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. HS-PS3-3

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**HS-PS3-4.** Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics). HS-PS3-4

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**HS-PS3-5.** Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction. HS-PS3-5