

## INTRODUCTORY PHYSICS: STATE FRAMEWORKS

### 2. Conservation of Energy and Momentum

*Central Concept:* The laws of conservation of energy and momentum provide alternate approaches to predict and describe the movement of objects.

- 2.1 Interpret and provide examples that illustrate the law of conservation of energy.
- 2.2 Interpret and provide examples of how energy can be converted from gravitational potential energy to kinetic energy and vice versa.
- 2.3 Describe both qualitatively and quantitatively how work can be expressed as a change in mechanical energy.
- 2.4 Describe both qualitatively and quantitatively the concept of power as work done per unit time.
- 2.5 Provide and interpret examples showing that linear momentum is the product of mass and velocity, and is always conserved (law of conservation of momentum). Calculate the momentum of an object.