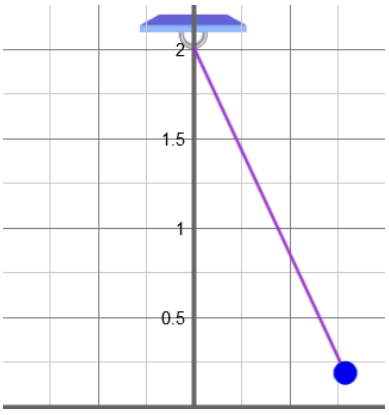
Vocabulary: Energy of a Pendulum

Vocabulary

- Conservation of energy – the principle that the total energy in a closed system remains constant.
- Gravitational potential energy – *potential energy* that depends on an object's position within a gravitational field such as that exerted by Earth.
  - Gravitational potential energy is represented by several symbols: *GPE*, *PE*, or *U*.
  - On Earth, an object's gravitational potential energy depends on the object's weight and height above Earth's surface.
  - The formula for gravitational potential energy is $GPE = wh$ or $GPE = mgh$.
- Kinetic energy – energy of motion.
  - Kinetic energy is represented by the symbol *KE* or simply *K*.
  - The formula for kinetic energy is $KE = mv^2 \div 2$.
- Pendulum – a weight that can swing freely.
- Potential energy – the energy an object has because of its position or shape.
  - Potential energy that is dependent on an object's position above earth is known as gravitational potential energy.
  - Potential energy that is dependent on an object's shape (such as a stretched rubber band) is known as *elastic potential energy*.



Pendulum

- Velocity – the speed and direction of a moving object.
  - The velocity of an object can be described by a vector.