

## KE and PE STUDY GUIDE

### KINETIC ENERGY

What is kinetic energy?

→ Kinetic energy is the energy of moving things.

What are some examples of kinetic energy?

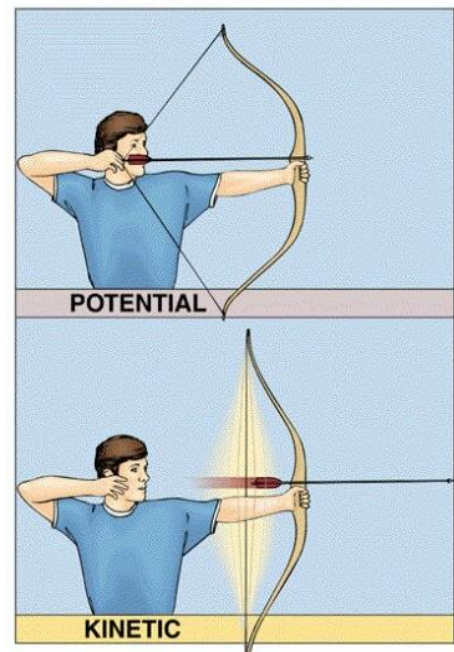
→ A rolling ball, a swinging rope, a vibrating spring, small particles moving in matter (such as particles in air or water)

How does kinetic energy transform into potential energy?

→ Kinetic energy transforms into potential energy when an object moves uphill, when an elastic object such as a spring stretches out to its longest position, or when a pendulum swings up to its highest points

#### KEY IDEAS

- Kinetic energy is energy in action.
- Energy can be converted from potential energy to kinetic energy.
- Energy can also be converted from kinetic energy to potential energy.



### POTENTIAL ENERGY

What is potential energy and what are some examples of it?

→ Potential energy is energy that is stored in an object and can be released at a later time. Examples of potential energy include the energy in a book resting on a table above the ground, a stretched rubber band, and a battery.

What are two types of potential energy?

→ Gravitational potential energy, chemical potential energy

What is the difference between potential energy and kinetic energy?

→ Potential energy is stored energy while kinetic energy is the energy of motion.

How does potential energy turn into kinetic energy?

→ Sometimes energy changes from one form to another. A book resting on a table has potential energy. If it is moved to the edge of the table, it will fall to the ground. As it falls the potential energy changes into kinetic energy, which is the energy of motion.

#### KEY IDEAS

- Energy comes in many forms.
- Potential energy is energy stored and ready to be released.

1 when an object is displaced in the direction of the net force acting on it

force

2 the energy present when you run

3 when pushing a box across a floor, it is the pushing force times the distance between the starting and ending point

work

4 gravity and friction

5 energy of motion

potential Energy

6 energy that is stored

7 something that pushes or pulls an object

kinetic Energy

8 the energy present when you stand on a high dive