

## SOL 4.2 -- MOTION

SOL 4.2 Motion -- Key concepts:

- motion is described by an object's direction and speed;
- changes in motion are related to force and mass;
- friction is a force that opposes motion; and
- moving objects have kinetic energy.



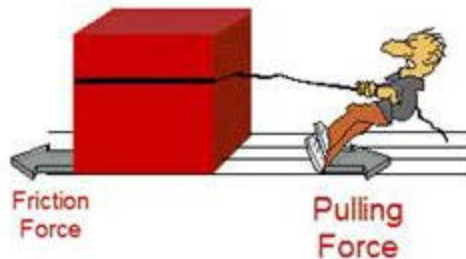
## KINETIC AND POTENTIAL ENERGY

- Energy may exist in two states: kinetic or potential.
- Kinetic energy is the energy of motion.



## FORCES

- A force is any push or pull that causes an object to move, stop, or change speed or direction.
- The **greater the force**, the greater the change in motion will be. The **more massive** an object, the **less effect** a given force will have on the object.
- Unless acted on by a force, objects in motion tend to **stay in motion** and objects at rest remain at rest.



## FRICTION

- Friction is the **resistance to motion** created by two objects moving against each other.
- Friction creates **heat**.