Does an Object Have Energy?

Part 1

What is energy?

- An objects ability to do work. Such as exert a force over a distance, move something, change something.

What are the different types if energy?

- Wind energy
- Solar energy
- Magnetism energy
- Nuclear energy
- Thermal energy
- Mechanical energy
- Electrical energy
- Light energy
- Gravitational energy
- Chemical energy

Part 2

- There are two ways an object can have energy:
  1.) Kinetic energy (E_k) – energy of movement. Object is moving from energy.
  2.) Potential energy (E_p) – energy of storage. Object is not moving, but, has the energy or ability to move.
- How do I determine (solve) for amount of energy in an object?
  1.) Kinetic energy - $E_k = \frac{1}{2}mv^2$ where m is the mass (kg), and v is the velocity ($\frac{m}{s}$).
  2.) Potential energy - $E_p = mgh$ where m is the mass (kg), g is the acceleration from gravity ($-9.81\frac{m}{s^2}$), and h is the height (m) above the surface of the earth.