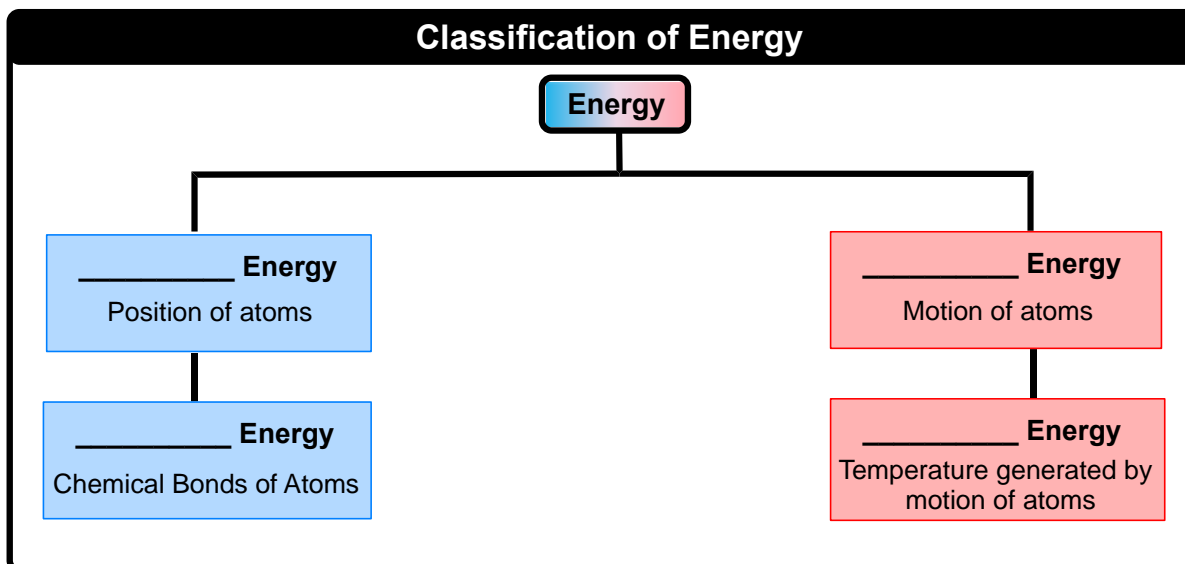


CONCEPT: NATURE OF ENERGY

- **Thermochemistry:** the study of matter and *energy* associated with chemical reactions or physical changes.

□ **Energy:** The capacity to do _____ or to produce _____.



Energy Conversion Factors

- The SI Unit for Energy is the _____ (J) named after the English scientist James Joule.

Energy Conversion Factors		
1 calorie (cal) = _____ J	1 Calorie (Cal) = _____ J	1 kilowatt-hour (kWh) = _____ J

EXAMPLE: Which of the following statements deals with potential energy with nonchemical energy associated?

- a) A car traveling with a velocity of 51.0 m/s with a mass of 1250 kg.
- b) Your chemistry book sitting on a table counter near the trashcan weighing 12 N at a height of 1.2 m.
- c) A chunk of coal being thrown into a furnace to generate heat.
- d) The warmth coming from a campfire.

PRACTICE: An energy efficient refrigerator uses 780 kWh of electrical energy per year. How many kilocalories of electricity does it use in three years?