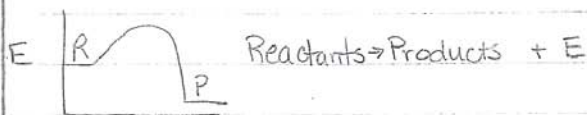


## Energy

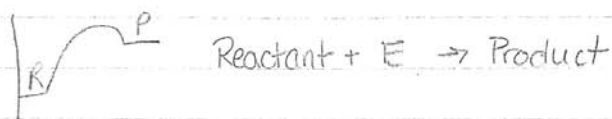
Temp. A measure of the random motion of particles in a substance

Heat. Flow of energy due to temp. diff.

exothermic - heat released



endothermic - heat absorbed



Symbol Q

Units (J) Joules or (cal) calories

Conversion 1 cal = 4.184 J

Factor 1000 cal = 1 Kcal = 1 Cal (food)

ex.  $37 \text{ J} = ? \text{ cal}$   $\frac{37 \text{ J}}{4.184 \text{ J}} = \boxed{8.8 \text{ cal}}$

Egn:  $Q = m C_p \Delta T$

$Q$  Heat in J or cal

$m$  mass in grams

$C_p$  Specific heat (look up)  
J or cal  
g°C g°C

$\Delta T$  ( $T_{\text{final}} - T_{\text{initial}}$ ) in °C  
( $T_f - T_i$ )  
change in temp.