

# exothermic

**energy transferred out of system  
to surroundings**

SYSTEM LOSES EITHER

Decrease kinetic energy

changes motion of particles

– they move slower

temperature decreases

**motion**

Decrease potential energy

changes position of particles

– attractions form

enthalpy decreases.

**position**

KINETIC ENERGY –

DUE TO

motion

goes out  
of the system

Enthalpy

(PE of the particles)

REACTANTS

PRODUCTS –

lower PE

# endothermic

**energy transferred into system  
from surroundings**

SYSTEM GAINS EITHER

Increase kinetic energy

changes motion of particles –  
they move faster

temperature increases

**motion**

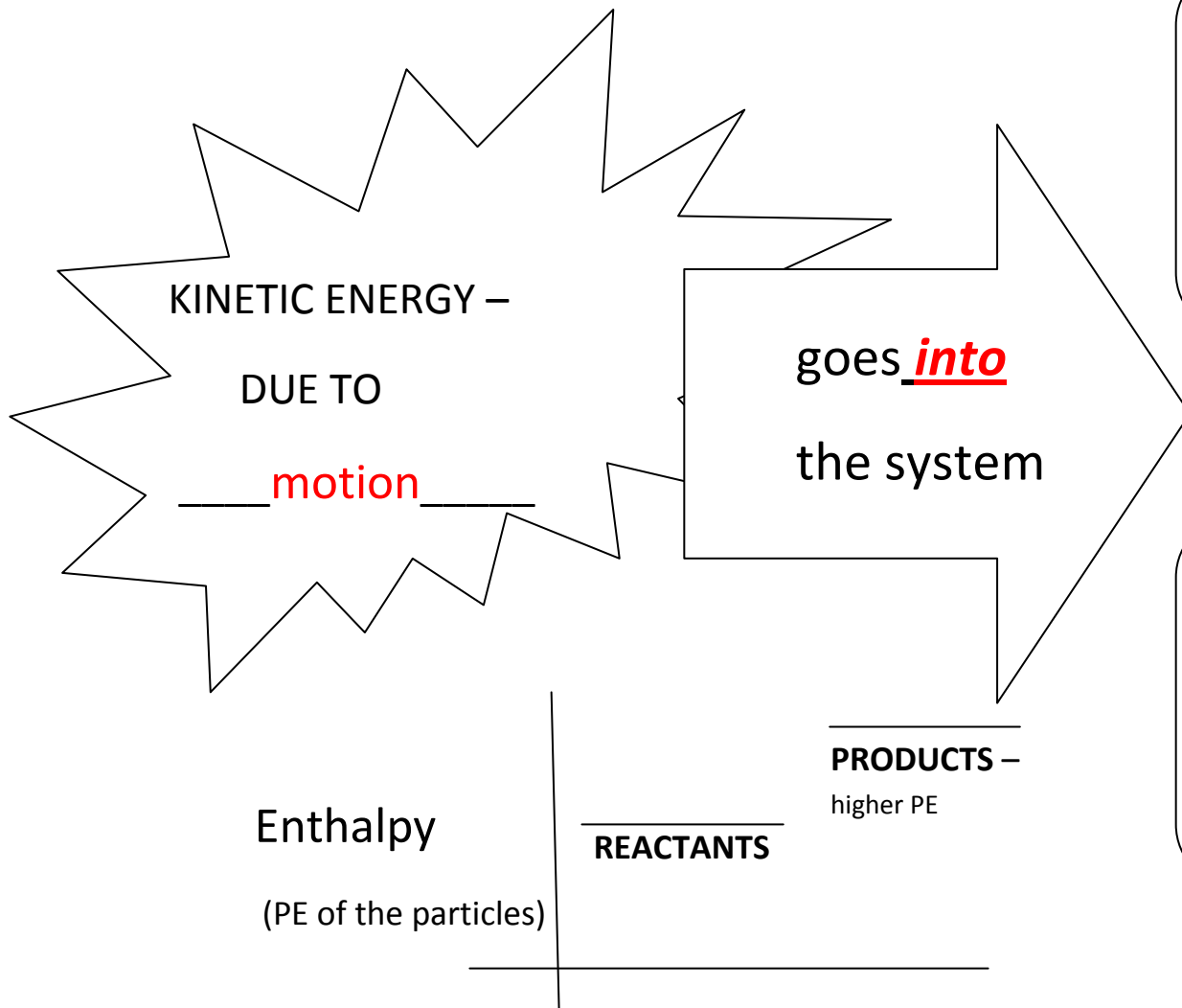
OR

Increase potential energy

changes position of particles  
– attractions break

enthalpy increases.

**position**



Energy transferred **into** system

**from** surroundings

**Endothermic**

Enthalpy (PE) **increase**

Since energy went **in**

Draw enthalpy graph going

**up** hill

The products have **more** PE

(otherwise known as enthalpy)

So, the products are

**less** stable

And the reaction is **not favored**

based on enthalpy

since things want to become more stable

Energy transferred **out** system

**to** surroundings

**Exothermic**

Enthalpy **decrease**

Since energy went **out**

Draw enthalpy graph going

**down** hill

The products have **less** PE

(otherwise known as enthalpy)

So, the products are

**more** stable

And the reaction is **favored**

based on enthalpy