exothermic

energy transferred out of system

to surroundings

SYSTEM ***LOSES*** EITHER

Decrease kinetic energy

changes __motion_____ of particles – they move __slower__

_temperature____ decreases

Decrease potential energy

changes __position____ of particles – attractions __form___

enthalpy __decreases__.

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

KINETIC ENERGY –

DUE TO

____motion_____

goes ***into***

the system

Increase kinetic energy

changes __**motion**___ of particles – they move __faster___

__**temperature**____ increases

OR

Increase potential energy

changes ___**position**___ of particles – attractions __break___

__**enthalpy**__ increases.

Enthalpy

(PE of the particles)

REACTANTS

PRODUCTS – higher PE

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