## Exothermic Reaction:

- heat energy is produced by the reaction
- lower chemical potential state
- heat is a product
- heat comes out

$$C_3H_8(g) + 5O_2(g) \rightarrow 3CO_2(g) + 4H_2O(1) + heat$$

## Endothermic Reaction:

- heat energy is absorbed by the reaction
- higher chemical potential state
- heat is a reactant
- heat goes in

 $2Fe_2O_3(s)$  + heat  $\rightarrow$  4Fe(s) +  $3O_2(g)$