**Heat of Reaction HW**

1. 2NO2 🡪 NO + O2 Find ΔHrxn
2. Pb + O2 🡪 PbO Find ΔHrxn
3. HCl + Mg(OH)2 🡪 H2O (l) + MgCl2 (s)
	1. Find ΔHrxn
	2. Find ΔH if 20g of Mg()H)2 are used
	3. Find ΔH if 13g water is produced
	4. If 150 kJ is produced, what mass of HCl is used?
	5. If 150 kJ if produced, what mass MgCl2 is produced?
4. 2C2H2(g) + 5O2(g) —> 4CO2(g) + 2H2O(g)
	1. If 10 grams of C2H2 are burned, how much heat is released?
	2. What amount of ice could be melted using this heat?

**Challenge Questions (not optional):**

1. The heat produced from the burning of CH4 in O2 is used to take 2000g of water from 10°C to 95°C. What mass of CH4 was burned?

*Hint: Write out the combustion reaction first.*

1. H2S + 2KOH 🡪 2H2O (l) + K2S ΔHrxn = -410 kJ/mole

Find ΔHf of K2S.

*Hint: The “f” in Hf stands for “formation.” Look at the title of the table I gave out in class*.