

Name \_\_\_\_\_

WS Heat of Reaction (Bond Energies)

Use the given bond enthalpy data to estimate the  $\Delta H^\circ$  (kJ) for the following reaction. (Draw each molecule)

$$\text{C} - \text{H} = 414 \text{ kJ}$$

$$\text{H} - \text{N} = 389 \text{ kJ}$$

$$\text{H} - \text{Cl} = 431 \text{ kJ}$$

$$\text{H} - \text{H} = 435 \text{ kJ}$$

$$\text{Cl} - \text{Cl} = 243 \text{ kJ}$$

$$\text{C} \equiv \text{N} = 879 \text{ kJ triple bond}$$

$$\text{C} - \text{Cl} = 331 \text{ kJ}$$

$$\text{C} - \text{N} = 293 \text{ kJ single bond}$$

