

## 19.2 Hydrogen Ions and Acidity

- The reaction in which water molecules produce ions is called the self-ionization of water
- $\text{H}_2\text{O}(\text{l}) \rightleftharpoons \text{H}^+(\text{aq}) + \text{OH}^-(\text{aq})$
- $2\text{H}_2\text{O}(\text{l}) \rightleftharpoons \text{H}_3\text{O}^+(\text{aq}) + \text{OH}^-(\text{aq})$



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**AW Chickering**



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web  $m \times c \times \Delta t$  equation 1 where m is the total mass of the solution solute plus solvent c is the specific heat of the solution and  $\Delta t$  is the observed temperature change the specific heat of the solution is generally assumed to be the same as that of *guided inquiry designing the ideal hand warmer* - Dec 27 2022

web the heat of reaction  $\Delta H_{\text{soln}}$  is written after the products in units of kJ mol rxn for example sodium hydroxide dissolves exothermically releasing 44 2 kilojoules per mole dissolved this process is represented as  $\text{NaOH (s)} \rightarrow \text{NaOH (aq)}$   $\Delta H_{\text{soln}} = -44.2 \text{ kJ}$

mol rxn write equations to similarly represent the dissolving process for

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