Announcements – 9/22/00

- **Exam #1: Results**
  - -Exams handed back at the end of class today
  - -Exam ***solutions key*** is available on class website
- **Quiz#2** - handed back at end of class
- **Solutions to Assigned Problems**
  - -on reserve NOW in Phys/Chem Library
- **Demo Today!**

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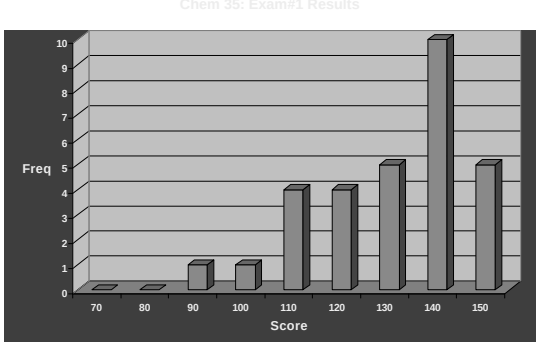
Exam #1: Results

- **Average**: ***126*** (out of 150) - 84%
- **Range:** **83- *152***



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Reactions in Aqueous Solution

- Reactions in **water** are especially of interest (for obvious reasons), so let's look at:
  - Properties of Aqueous Solutions
  - Acid/Base Reactions in Water
  - Solubility of Compounds in Water
  - Oxidation/Reduction (Redox) Reactions

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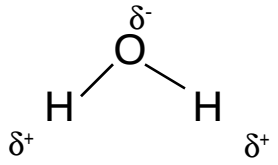
Properties of Aqueous Solns

- Water is a ***Polar*** molecule:



-*negatively* charged <u>oxygen</u> will attract positive ions in solution

-*positively* charged <u>hydrogens</u> will attract negative ions in solution

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Electrolytes

- **Ionic compounds** break up into ***ions*** in aqueous solution and are called *electrolytes.*

  Examples:
  - **NaCl** - *strong* electrolyte (dissolves completely)
  - **HCl** - *strong* electrolyte (dissolves completely)
  - **$HC_2H_3O_2$** - *weak* electrolyte (partially dissolves)

- **Molecular compounds** do not ionize when they dissolve in water and are called *nonelectrolytes.*

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Acid/Base Reactions

- Most common definition:

Bronsted-Lowry

Acid: *proton donor*

Base: *proton acceptor*

$$\underset{\text{Acid}}{HA} + \underset{\text{Base}}{BOH} \rightarrow \underset{\text{Salt}}{BA} + \underset{\text{Water}}{H_2O}$$

-an example of a *double displacement reaction (metathesis)*

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