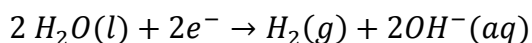


NOTE: Use engineering format for problems 1 through 3, and use non-engineering format for problem 4-5. This is an individual assignment.

1. Assume you have 8 Liters of water to which you add salt to create a mixture with 0.5wt% NaCl. Determine:
 - a. the mass of the water $m_{\text{water}}=8\text{kg}$
 - b. the mass of the salt $m_{\text{salt}}=0.0402\text{kg}$
 - c. the number of moles of NaCl 0.687 mol NaCl
 - d. the number of Cl^- ions $4.14 \times 10^{23} \text{ ions Cl}^-$
2. If a constant current of 0.25mA passes through the probes of the conductivity sensor, how many OH^- molecules would be formed over a 3.5-minute period? $3.276 \times 10^{17} \text{ molecules of OH}^-$



3. A 10-gallon aquarium contains 3.5% salt by weight. How much 9% salt by weight water would you need to add to bring the salt concentration to 5% salt by weight? $31.2\text{lb } 9\% \text{ salt water}$
4. Fill out the self/peer evaluation form found in the downloads page under Class 11. This is to serve a mid-project check on team and self-participation; please be honest with your answers. **Turn in the form in the next class in a separate stack from your homework.** Only your instructor will see the results of the form.
5. Prepare with your group for the temperature evaluation. Download the evaluation document (found under Class 8 on the downloads page). Have the first page filled out and all required components ready to be turned in during your team's evaluation.