

## **Remote HW #4**

### **Topic: Lemon Battery**

1. What is the role of the electrolyte in a cell?
  
2. Why is Zinc an anode, and Copper a cathode?
  
3. Why does the Zinc start dissolving in the electrolyte?
  
4. Why do electrons from the Zinc move to the copper?
  
5. How does the cell create voltage?
  
6. What is electricity?
  
7. What causes electricity?
  
8. Write the relationship between force and voltage, if any.
  
9. A glass rod becomes positively charged when rubbed with silk. Explain how this happens.

10. A balloon has acquired a charge of  $-3.2 \times 10^{-17}$  coulomb. How many excess electrons does this charge represent?
  
11. How many elementary charges are present in 1 coulomb of charge?
  
12. Calculate the magnitude of the force between  $Q_1 = 3 \times 10^{-6}$  coulomb and  $Q_2 = 6 \times 10^{-5}$  coulomb, separated by a distance of 9 meters.
  
13. Create a diagram representing the above situation