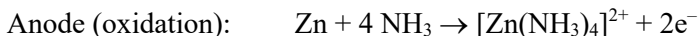


1) Common Dry Cell: LeClanché Battery (A primary Cell)

a) Write in the important oxidation numbers in the two half reactions:



b) What is the electrode at the anode? \_\_\_\_\_

c) What is the electrode at the cathode? \_\_\_\_\_

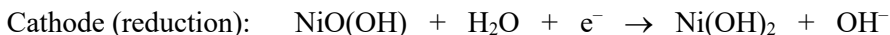
d) What is one large concern about the anode?

2) Alkaline Battery

a) What two improvements did this make on the LeClanché battery?

3) Nickel-Metal Hydride Battery (Ni-MH): A Rechargeable Battery (Secondary Cell)

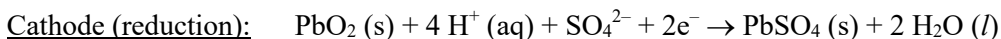
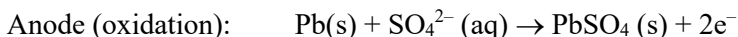
a) Write in the oxidation numbers in the two half reactions:



b) How does an external power source recharge the Ni-Cad battery?

4) Lead Storage Battery (Car Battery: Lead-Acid Battery)

a) Write in the oxidation numbers in the two half reactions:



b) What is the electrolyte in the battery? \_\_\_\_\_

c) What happens to the lead (Pb) when run? \_\_\_\_\_

d) What happens to the lead(IV) oxide (PbO<sub>2</sub>)? \_\_\_\_\_

e) How much voltage does each cell produce? \_\_\_\_\_  
How many cells does the typical 12V car battery have? \_\_\_\_\_

f) One advantage of the lead storage battery is that it can be recharged many times (it recharges when you are driving). What is one major disadvantage of the lead storage battery?

5) Fuel Cells

a) What is a fuel cell? \_\_\_\_\_

b) What are the two major advantages of fuel cells? \_\_\_\_\_

c) Write in the oxidation numbers in the two half reactions:

