E-Day Chemistry Lesson Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Charge of an Electron Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

Question: How was the strength of the negative charge on an electron determined?

Find out! Go online to Tyler Dewitt’s YouYube video called: Charge of an Electron (<http://www.youtube.com/watch?v=2HhaQtvICe8>) Plan to view this video more than once!

1. What is the name of the experiment that was used to discover the charge on an electron?
2. What are the full names of the two scientists who made this discovery in 1913?
3. Draw and label 3 diagrams showing an oil drop and the electric plates in the experiment. Use vector arrows to show the relative magnitude (strength) and direction of the forces pulling on an oil drop. Be sure to show the charges on the oil drop and the electric plates.

Diagram 1: High Voltage Plates

If the voltage is high, which way

does the oil drop move?

Diagram 2: Low Voltage Plates

If the voltage is low, which way

does the oil drop move?

Diagram 3: Voltage is “Just Right”

If the electric force and gravity

force are equal, which way does

does the oil drop move?

4. When the drop is balanced in the chamber, what factors are depended on in the equation:

Force of Gravity = Force of Electricity

5. What is the measured amount of charge on an electron? Write this charge in BOTH scientific notation and in standard format.