Electric Fields PhET Lab

1. Google "PhET"
   a. Click on the "physics" tab on the left
   b. Click on the "Electricity, Magnets, and Circuits"
   c. Click on the "Charges and Fields" simulations
   d. Click on "**Run Now!**"
2. Perform the following tasks.

Click on "Show E-Field"

   a. Place 1 "+ nC" on the board
      Draw what you see
      Clear the board
   b. Place 1 "- nC" on the board
      Draw what you see
      Clear the board
   c. **Read what you are GOING to do and make a hypothesis on what you are going to see.**
      Place 1 "- nC" in the center of the arrows (so 2 arrows are point at it)
      Place 1 "+nC" directly to the right of the"-nC" and in between the arrows. (so the 2 arrows are pointing away)
      Draw what you see
      Clear the board
   d. **Read what you are GOING to do and make a hypothesis on what you are going to see.**
      Place 1 "+ nC" on the board
      Place an "E-Field Sensor" very close to the "+ nC"
      Move the "E-Field Sensor" 3 cm from the "+ nC"
      Explain what you are seeing
      Clear the board
   e. Repeat "d" but with a "-nC"
   f. **Read what you are GOING to do and make a hypothesis on what you are going to see.**
      Place a "+nC" (on the left) and a "-nC" about 5 cm to the right (horizontally)
      Place an "E-Field Sensor" to the left of the "+nC"
      Record the direction of the arrow
      Move the "E-Field Sensor" in between the 2 charges
      Record the direction of the arrow
      Place an "E-Field Sensor" to the right of the "-nC"
      Record the direction of the arrow
   g. **Read what you are GOING to do and make a hypothesis on what you are going to see.**
      Place 2 "+nC" in between the arrows
      Draw what you see
      Clear all
   h. Repeat "g" but with "-nC" instead
   i. **Read what you are GOING to do and make a hypothesis on what you are going to see.**
      Make a horizontal line of 6 "+nC"
      Make a horizontal line of 6 "-nC" below the line of "+nC"
      Draw what you see

3. Find and run the "Electric Field of Dreams" simulation
   a. Click the pause button
   b. Add 2 charges
   c. Record what happens