Worksheet for Exploration 26.3: Conductors and Dielectrics



Wait for the calculation to finish. There are hidden conductors and dielectrics in the animation. The light red circles represent positive charges and the light blue circles represent negative charges. This charge can be either bound or unbound (free); in other words it could be the charge on a dielectric or on a conductor. You can measure electric potential using the probe and you can click-drag to measure position and electric potential (position is given in meters and electric potential is given in volts). Clicking an add marker link will add a circular marker at the current position of the probe.

- a. Sketch and label your best guess as to the configuration of the hidden conductors and dielectrics. You may want to use the markers to outline conductors and/or dielectrics.
 - i. You can sketch this right onto the figure above.

- b. What is the minimum number of external batteries needed to produce the system? Show the voltage values of these batteries and how they should be connected to the system.
- c. Where is the electric field strongest? Where is it the weakest?

d. Sketch the electric field using electric field lines; that is, draw a representative number of field lines.

e. Sketch the equipotential lines.