*Go to* [*http://phet.colorado.edu/web-pages/simulations-base.html*](http://phet.colorado.edu/web-pages/simulations-base.html)

*Under “Electricity, Magnets and Circuits” load “Electric Field Hockey”.*

Activity One:

Describe in your lab book using both words and/or pictures, the concept of the Electric Field.

Activity Two: Place a single positive charge upon the screen. Sketch in your lab book what you think the “Electric Field” will look like. After your prediction, turn the “Field” on to see what the E-Field looks like.

Observation

Prediction

If your observation is different than your prediction, explain here what was wrong in your original thinking.

Write the E-field equation for a positive point-charge here:

Activity Three: Place a positive charge and a negative charge close to each other to create a dipole. Again, predict what the field will look like. Then, test your prediction.

Prediction

Observation

If your observation is different than your prediction, explain here what was wrong in your original thinking.

s

d

Include in your labbook the equation of the E-field at the black point for the above dipole where d >> s.

Activity Four: Make a line of positive charge. Predict what the field will look like. Then, test your prediction.

Prediction

Observation

If your observation is different than your prediction, explain here what was wrong in your original thinking.

r

L

Write in your labbook how to find the electric field of a uniformly charged rod of length L at a distance r away from the center of the rod.

Activity Five: Draw a Parallel-Plate capacitor on the slightly-resistive paper using the conductive ink. Predict what the E-Field is going to look like, then test your prediction using the “E-Field Meter”. After that, test your prediction on the website.

Activity Six: Describe, in words and picture again, just what an E-field is. Are there any changes from your original definition?