

In-class Exercise: Electrostatics

In today's class we will investigate charge distributions and electric forces using online simulation "applets." You can find the applet [here](#). Alternatively, you can go to [the course web site](#) and follow the link there. The password & username to access these applets will be given in class.

Exercise I

1. Open up "**Exploration 22.2: Explore the Effect of Multiple Charges.**"ⁱ
2. Follow the procedures and answer the questions at the bottom of the page. **Type your responses into, e.g., Word or Notepad as you are doing this.** You will need to include screenshots in your lab report at later stages. Be sure to **include all group member's names** at the top of this document.
3. When you have finished question g, **take a screen shot** of your configuration (hint: four charges works well). Instructions on how to do this are below. Put this screenshot into your lab report document. If you use Microsoft Word, this is easily accomplished – ask if you are unsure.
4. Finish all the questions for this exercise. Your lab report document should contain all of your answers, clearly marked by exercise and question number, all group member's names, *and your screenshot*.
5. Keep your document open for the second exercise ...

Exercise II

After you have finished the first exercise:

1. Go back to the table of contents (the link above).
2. Open up "**Exploration 22.6: Run Coulomb's Gauntlet.**"
3. Follow the procedures and answer the two questions at the bottom of the page. Finding a working configuration of charges is difficult, but it can be done with 3 additional charges if you think carefully before you start.
4. Record these responses in the same document as Exercise I.
5. When you have finished question g, **take a screen shot** of your best configuration. You will not be penalized if you could not find a working solution, only if you do not try.

ⁱBe sure you choose "Exploration 22.2," not "Illustration" or "Problem" 22.2

Finishing

1. Your lab report document should contain clearly marked, well-reasoned, and grammatically correct responses to all of the questions for both exercises.
2. Your lab report should also include 2 screenshots, which should be embedded within your report with proper captions.
3. All group members' names should be included at the top of the document.
4. When you are satisfied with your report, print it and hand it in.

Taking Screenshots

Should the procedure below not work correctly, Google will quickly find the correct one.

1. Maximize the window you'd like to capture.
2. To copy/capture the current window, hold down ALT + Print Scrn at the same time. To capture the entire screen, just press Print Scrn.
3. Open a new document in, *e.g.*, MS Word, MS Photo Editor, or Adobe PhotoShop.
4. Paste the screen shot by holding down CTRL and V at the same time.