Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_

[**Answer Document for Electrostatic Webquest**](file:///H%3A%5CAP%20Physics%20-%202011%5CChapter%2019-20%20Charges%20%26%20Fields%5Celectrostatic%20webquest.htm)

[**Part I. TRIBOELECTRICITY**](https://www.school-for-champions.com/science/static_materials.htm#.WuBt7W4vxkg)

1. What is a triboelectric series?
2. Give two examples of materials that are more likely to give up electrons, and two examples of materials that are more likely attract electrons.
3. Which material is neutral in the triboelectric series?

[**Part II. ELECTROSTATIC GENERATORS**](https://www.school-for-champions.com/science/static_generating.htm#.WuBuDm4vxkg)

1. Name two electrostatic generators.
2. Briefly describe how the [Van de Graaf](https://science.howstuffworks.com/transport/engines-equipment/vdg3.htm) generator works.
3. What is wrong with the cartoon on the right?

[**Part III. LIGHTNING**](http://www.centennialofflight.net/2003FF/lightning/types.html)

1. Describe the creation of a ground strike of lightning.
2. Explain why there is a time difference between the sight of lightning and the sound of thunder?
3. Name [three types of lightning and](https://www.windows2universe.org/?page=/earth/Atmosphere/tstorm/lightning_thunder.html) explain how they are different from each other.
4. Lightning can take many forms as it appears on the sky. Briefly describe six forms of lightning.
5. Give [**three safety**](http://www.lightningsafety.com/nlsi_pls/lst.html) guidelines to follow during a lightning storm
6. **Discuss** in detail four lightning myths.

[**PART IV. DETERMINATION OF THE CHARGE OF THE ELECTRON**](http://ffden-2.phys.uaf.edu/212_fall2003.web.dir/Ryan_McAllister/Slide3.htm)

1. Describe Millikan's experiment [in **detail**](http://dev.physicslab.org/Document.aspx?doctype=3&filename=AtomicNuclear_MillikanOilDrop.xml)using your own words.
2. **Draw a labeled sketch** of the experiment.
3. **Draw a neat-labeled** free body diagram of the forces on the oil drop