**Static Electricity Investigations**

Homework – Due 9/10

**Lightening on a smaller scale:**

Go to <http://PhET.colorado.edu>. Choose “play with sims”, “By Grade Level”, “Elementary School” and bring up *John Travoltage.*

1. What are the similarities and differences in the two models represented by *Balloons and Static Electricity* and *John Travoltage*?
2. Describe what is happening when John touches the doorknob.
3. If you rub his foot more times on the carpet, will his hand be closer or further from the door knob when the sparks fly?
4. What do you think happens when you scuff your feet, build up a charge and then you touch your friend on the ear and shock them? Draw a picture including some sort of visual of the excess charges and how they move.
5. Do you think all of the excess charge that you had will go to your friend or will some of it stay with you?
6. If all of the extra charge goes to your friend, should they be able to shock you back now? Is this what has happened in your experience? (try it out on your roommate or friend – tell them it’s HW and you had to do it!)