

Lab: John Travoltage Simulation

CONCEPTUAL PHYSICS: UNIT 6

Learning Goal: To experiment with and gain a greater understanding of static electricity in our everyday life.

Access: Go to <http://phet.colorado.edu>, click on 'Travoltage' simulation.

1. Open the 'Travoltage' simulation.
2. Experiment with rubbing his foot against the carpet and touching his finger to the door handle.
3. Try leaving his hand pointed upwards and moving his foot on the carpet.
What happens?

Why?

4. Now try building up charge while his finger is on the door.
What happens?

Why?

5. Build up charge in his body while his finger is away, and then move his finger closer. Notices how far away his hand is when he starts getting shocked.
6. Repeat step five, varying the amount of charge built up in his body. Does he start getting shocked at a different distance depending on how much charge he has built up?

Why?

6. Watch the path of the charges as they move through his body. Why do they move this way?
7. Why must you rub his foot on carpet? Why does the door handle discharge his body?
8. What other materials could he touch that would give the same reaction?