Balloons and Static Electricity

1. Set the option box in the bottom left to Show no charges. Move the balloon directly to the wall.

a. Explain the results.

b. Give the overall charge (positive, negative, or neutral) for each: the balloon, wall and sweater.

2. Reset the simulation. Move the balloon onto the sweater and then to the wall.

a. Explain the results.

b. Give the overall charge (positive, negative, or neutral) for each: the balloon, wall and sweater.

3. Reset the simulation and click the button for two balloons. Move one to the wall and one to the sweater. Then bring the balloon on the sweater near the balloon near the wall.

a. Explain the results.

b. Give the overall charge (positive, negative, or neutral) for each: both balloons, wall and sweater.

4. Repeat parts 1-3 but this time select Show all charges. Use the additional information to correct any earlier incorrect statements made above. Replace any now incorrect statements with correct ones justified by the charges shown in the interactive.

5. Using the results from questions 1-4 answer the following questions about static electiricty:

a. True or False: *Two objects only stick together when one is positive and the other is negative.* Justify your answer.

b. True or False: *Electrons will transfer between any two objects in contact.* Justify your answer.

c. True or False: *A positively charged object picks up extra protons and a negatively charged object picks up extra electrons*. Justify your answer.