**Electrostatics **

1. **Go to** [**https://phet.colorado.edu/sims/html/balloons-and-static-electricity/latest/balloons-and-static-electricity\_en.html**](https://phet.colorado.edu/sims/html/balloons-and-static-electricity/latest/balloons-and-static-electricity_en.html)
2. **Observe the fact that you have a balloon, a sweater, and a wall. The charges (normally invisible) are indicated. At this point the sweater is (charged positively, charged negatively, not charged).**
3. **The wall is (charged positively, charged negatively, not charged).**
4. **The balloon is (charged positively, charged negatively, not charged).**
5. **Now drag the balloon over until it is near, but not touching, the wall. What happens? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
6. **Now rub the balloon on the sweater. What is the charge on the balloon now? (charged positively, charged negatively, not charged).**
7. **What is the charge on the sweater now? (charged positively, charged negatively, not charged).**
8. **What you just observed is called “conservation of charge”, charge is not created or destroyed, but it is moved around.**
9. **Drag he charged balloon until it is about halfway between the wall and the sweater. Describe what happens when you release it.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
10. **Now drag the balloon over near the wall. What do you observe?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
11. **What happened to the charge on the WALL? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
12. **What you observed in step 11 was that the charge on the wall remained neutral (no charge was gained or lost), but it separated a bit. That is called polarization. That put the positive charge slightly closer to the sweater than the negative charge. The balloon was (attracted, repelled) from the wall.**
13. **Opposite charges (like the positive sweater and the negative balloon (attract, repel) each other.**
14. **A charged object may be attracted to a neutral object (True, False).**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Electrostatics Answers:**

**Answers:**

1. **(charged positively, charged negatively, not charged).**
2. **(charged positively, charged negatively, not charged).**
3. **(charged positively, charged negatively, not charged).**
4. **What happens? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
5. **(charged positively, charged negatively, not charged).**
6. **(charged positively, charged negatively, not charged).**
7. **Describe what happens when you release it.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
8. **What do you observe?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
9. **What happened to the charge on the WALL? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
10. **(attracted, repelled) from the wall.**
11. **(attract, repel) each other.**
12. **(True, False).**