

Sticky Tape Experiments

Two students are conducting a lab investigation involving charging methods and electrostatic attraction and repulsion. The students know that oppositely charged objects attract, like charged objects repel, and charged and uncharged objects attract.

Experiment 1

In **Experiment 1**, the students place a piece of scotch tape on the table and label it **X**. They place a second piece of tape on top of tape **X** and label the top tape as **Y**. They peel the two pieces of tape off the table and then peel them apart from one another. They observe that both tapes attract neutral bits of paper. They also observe that the two tapes attract one another.

Experiment 2

In **Experiment 2**, the students rub a vinyl tube with animal fur. The vinyl tube becomes charged negatively. They bring the vinyl tube near Tape **Y** and observe that it attracts Tape **Y**.

Experiment 3

In **Experiment 3**, the students hang their two separated pieces of scotch tape from different locations on a bar above the table. They then rub a sample of ebonite (a hard rubber) with animal fur and bring it near the two tapes. They observe that the ebonite attracts neutral bits of paper. They also observe that the ebonite repels tape **X** and attracts tape **Y**.

Experiment 4

In **Experiment 4**, the students rub a sample of acetate with Saran™ wrap. They bring the acetate near tape **Y** and observe that it repels tape **Y**.