

Tips for controls:

You can use the *Balloon* sim to show repulsion, but it is a little tricky. You have to lightly charge one balloon, quickly charge the other. Then you can make the first one move by repulsion. If the balloon touches the wall, you won't be able to make it move by repulsion. You can grab it and place it somewhere else. Small charge seems to work better than large amounts. I recommend practicing this before you do it in class. The effect of the wall is always present even if you uncheck WALL.

Important modeling notes / simplifications:

The + and – are just meant to give a relative idea of charge. It is important to help students understand that the electrons are transferred or relocated not the protons.

Suggestions for sim use:

- For tips on using PhET sims with your students see: [Guidelines for Inquiry Contributions](#) and [Using PhET Sims](#)
- The simulations have been used successfully with homework, lectures, in-class activities, or lab activities. Use them for introduction to concepts, learning new concepts, reinforcement of concepts, as visual aids for interactive demonstrations, or with in-class clicker questions. To read more, see [Teaching Physics using PhET Simulations](#)
- For activities and lesson plans written by the PhET team and other teachers, see: [Teacher Ideas & Activities](#)
- Gold Star Activities: