Name: _____ Date: _____

Magnet and coil interactions investigation

Investigation Question

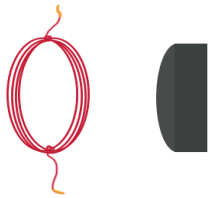
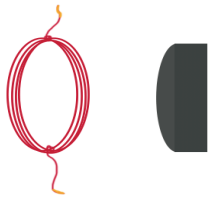
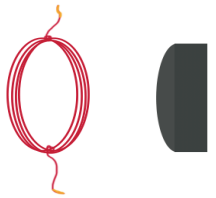
What is the effect on the coil and the magnet when we connect the coil of wire to a battery?

Investigation Procedures

1. Set up your coil and magnet so that the two are repelling (pushing against) each other. Mark the surfaces that are facing each other with a sticker.
2. Fill in the table on the next page. After each observation, remember to return to your initial setup with the stickers facing each other.
3. Discuss the questions below in your group only after you have finished filling out the table on the next page.

Discussion Questions

1. Turn back to the prediction you made in your notebook. How did your results compare to your prediction?
2. Is there a force on the magnet from the coil? How do you know?
3. Is there a force on the coil from the magnet? How do you know?
4. What can we do to switch the direction of the force between the magnet and the coil?
5. Did the kinetic energy of the magnet or coil of wire change? How do you know?

	Change to the system (cause)		The effect on the system		Draw a picture of the forces on the magnet and the coil.
When we	turn the magnet and the coil so that the stickers are facing in	we will observe		because	
When we	turn the coil around so that the magnet sticker is facing in and the coil sticker is facing out	we will observe		because	
When we	turn the magnet around so that the magnet sticker is facing out and the coil sticker is facing in	we will observe		because	
When we	turn both the magnet and the coil around so that both stickers are facing out	we will observe		because