

Lab #1

Experiment:

1. Use a pair of scissors to cut a strip from the open end of the produce bag. Once the strip is cut, you should have a plastic band or ring.
2. Blow up a balloon to its full size and tie off the end.
3. Rub the cotton towel over the surface of the balloon for 30-45 seconds.
4. Flatten the plastic band on a hard surface and gently rub the towel on the band for 30-45 seconds.
5. Hold the plastic band about one foot over the balloon and release it.

Questions:

6. Describe the behavior of the plastic bag. Why do you think it behaves this way?
7. What charge did the balloon gain?
8. What charge did the plastic bag gain?

Lab #2

Experiment

1. Place 15-20 scraps of paper from a hole punch on the table.
2. Take a plastic ruler and rub it with a piece of wool.
3. Bring the ruler close to the pieces of paper.
4. Observe the effect the ruler has on the scraps of paper.

Questions:

1. When the ruler and the wool are rubbed together, the ruler gains electrons. a. what is the charge on the ruler? b. what is the charge on the wool?
2. What is the charge on the pieces of paper on the table?
3. Can a negative object attract a negative object? Why or why not?
4. Can a negative object attract a neutral object? How?

Lab #3

Experiment:

1. Blow up two balloons.
2. Rub each balloon in your hair for about 30 to 45 seconds.
3. Place the balloons next to each other without touching them together.
4. Observe the interaction of the balloons.

Questions:

1. Each balloon gained electrons from your hair.
 - a. what was the charge on each balloon?
 - b. what was the charge on your hair?
2. What happened when you placed the charged balloons next to each other? M

Lab #4

- 1) Sprinkle some salt onto a plate or tabletop.
- 2) Bring a charged balloon near the salt. What happens? Why?
- 3) Then, sprinkle some pepper onto the table so that you have a mixture of salt and pepper. How do you think you might be able to separate the salt from the pepper?
- 4) Bring your charged balloon near the pile of salt and pepper particles. What happens? Which pieces were picked up more easily? Is this a good way to separate salt and pepper if they accidentally get mixed?

Lab #5

Experiment:

1. Rub an inflated balloon with fur, wool, or your hair to charge the balloon.
2. Turn on a faucet so a thin, steady stream of water comes out.
3. Bring the balloon or comb near the stream of water, but not touching.

Questions:

1. Describe the behavior of the water.
2. Why do you think the water behaves this way?

Lab #6

Experiment:

1. Blow a bubble, and then catch it on your bubble blower.
2. Move a charged balloon or comb around near the bubble.
3. **Or**, blow the bubble into the air, and then bring the charged balloon or comb near the bubble.

Questions:

4. Describe the behavior of the bubbles
5. Can you get the bubble to follow your comb or balloon around in the air?

Lab #7

Experiment:

1. Charge a comb or balloon.
2. Place a ping-pong ball on a level surface such as a tabletop or smooth, bare floor.
3. Bring the charged comb or balloon near the ball.

Questions:

1. What happens to the ping pong ball when the charged balloon is brought near? Why do you think that is?