

How does Static Electricity work?

Usually, a particle has an equal number of protons and electrons. Electrons have a negative charge of electricity and protons have a positive charge of electricity (this is very similar to opposite sides of a magnet).

Opposite charges attract, so when materials rub together and one material becomes negatively charged and one is positively charged, static electricity is created.

Our Experiment:

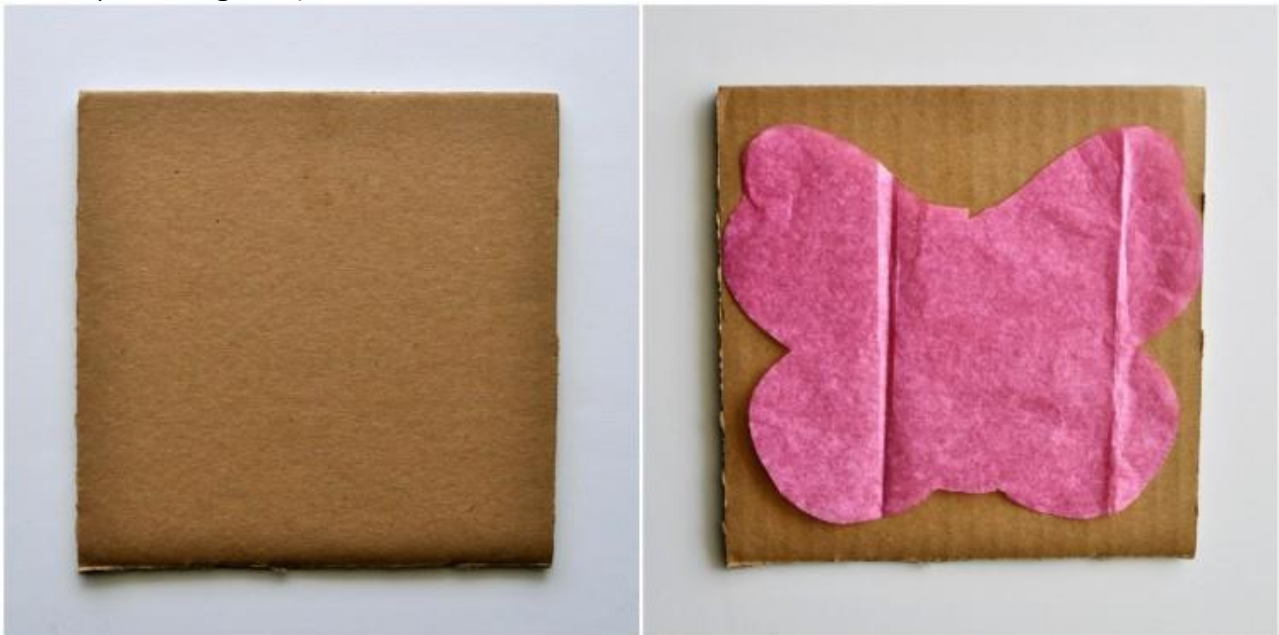
To demonstrate the effects of static electricity. What will happen if we charge a balloon by rubbing it in our hair, and then hold it over tissue paper wings of a butterfly?

Supplies you will need:

- cardboard
- tissue paper
- cardstock paper
- pencil
- scissors
- googly eyes
- balloon
- glue stick

Directions:

1. Start by cutting a square of cardboard. I made mine about 7 inches x 7 inches.



2. Use your pencil to draw butterfly wings on your tissue paper. Since my cardboard square was 7" x 7", I just made sure to make them smaller than my square. Cut them out and set them onto your cardboard. **DO NOT** glue them onto the cardboard!

3. Cut a butterfly body out of your cardstock paper and glue it down the middle of your butterfly, overlapping it onto your cardboard. Again, **DO NOT** glue the tissue paper wings down. You will want the wings loose like shown in my picture below. Glue your googly eyes down onto your butterfly. You could add antennae on your butterfly.



4. Now comes the fun part. Blow up your balloon. We used water balloons that we had leftover from this summer so they were small in size, but using regular sized balloons would have been even better.

5. Rub your balloon in your hair to give it an electric charge. Now hold the balloon on top of your butterfly, close but not touching it, and watch the wings raise and lower as you move the balloon closer and farther away.

Results: Why did the butterfly wings move?

When we rubbed the balloon onto our hair, electrons were lost from our hair and gained by the balloon giving it a static charge. When the negatively charged balloon gets close to the positively charged tissue paper they are attracted to each other, and the pull of attraction is so great that the lightweight tissue paper moves toward the balloon.

