

## Separate Salt and Pepper with Static Electricity

**Introduction:** Static electricity is the build-up of electrical charges on the surface of an object or material. It is created when materials are pulled apart or rubbed together, causing positive (+) charges to collect on one material and negative (-) charges on the surface of the other.

**Procedure:** Kids will learn all about static electricity as they complete this fun and simple experiment. They will appreciate the properties of static electricity and its effects.

### Materials:

- Salt
- Pepper
- Plastic Spoon
- Wool cloth or clothing



### Safety:

- No eating or drinking is allowed during the activity.

### Procedure:

1. Measure about a teaspoon of salt and a teaspoon of pepper, then use the spoon to mix them together as well as you can.
2. Ask students what they think is the best way to separate the salt from the pepper. Can they think of a way to separate them using only the spoon?
3. Rub the plastic spoon on a piece of wool cloth.
4. Hold the spoon about an inch above the pile of salt and pepper. Both salt and pepper will be attracted to the spoon, but pepper is lighter, so if you hold the spoon in the right place, the pepper should jump up and cling to the spoon!

### Discussion:

1. What happens when you rub the spoon with the wool cloth?
2. What are the three types of charges that materials can exhibit?
3. What effects does static electricity have?
4. Which charges attract?
5. Which charges repel?
6. What is the best condition for static electricity to form?

As you rub the plastic spoon, you are giving it a negative charge. Something that is negatively charged will attract things that have a different charge, like the salt and pepper in this case. Materials can have positive, negative, or neutral charge. Positively or negatively charged materials exhibit static electricity. Static electricity can cause materials to attract or repel each

other. Materials having unlike charges attract, while materials having like charges repel. Static electricity is formed much better when the air is dry because when the air is humid, water molecules collect on the surface of various materials, preventing the build-up of electrical charges.

**Source:** This lab is a modified version of an activity from the website [education.com](http://education.com) that goes by the same name.