STATIC ELECTRICITY WITH BALLOONS AND DRYER SHEETS

In this activity you will attempt to determine characteristics that affect the attraction of different balloons to different surfaces.

In addition, you will then determine what is the best way to remove static electricity from a charged balloon using fabric softener dryer sheets.

This activity uses **static electricity**. Static electricity is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**PART ONE**

1. Obtain three different balloons and blow them up.

2. Rubbing a balloon on your head was probably your first experience with static electricity. Rub one of the balloons on top of your head for 2 seconds to charge it. Attempt to stick the balloon to the wall. Record your result in the table below.

**NOTE : if you rub the balloon on your head for 2 seconds and it DOES NOT stick to the wall, take both your hands and rub them all over the balloon to neutralize it.**

3. Repeat using 5, 10, or 30 seconds of rubbing (if needed). If the balloon does not stick after 30 seconds of rubbing, move on to the next balloon. Continue to record your results in the table.

4. Repeat the procedure with the other two balloons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Result after 2 seconds of rubbing | Result after 5 seconds of rubbing(if needed) | Result after 10 seconds of rubbing(if needed) | Result after 30 seconds of rubbing(if needed) |
| Balloon 1 (describe it) |  |  |  |  |
| Balloon 2(describe it) |  |  |  |  |
| Balloon 3 (describe it) |  |  |  |  |

* *Part One conclusion :*
1. Rank the balloons in order of their attractiveness to the wall.

b) What factor(s) might have affected the results you found?

**PART TWO**

1. For part two, choose the balloon from part one that stuck to the wall with the LEAST amount of time rubbing.

2. Neutralize this balloon by rubbing it all over with your hands.

3. Charge the balloon by rubbing it in your hair for 10 seconds. Now try to stick the balloon to the blackboard. Record your observations in the table below.

**NOTE : Between each test, neutralize the balloon by rubbing it with both hands.**

4. Now repeat step 3 and attempt to stick the balloon to the other locations in the classroom. **Don’t forget to neutralize the balloon between each test!**

|  |  |
| --- | --- |
| Location in classroom | Observation when balloon is attempted to be stuck to location |
| Blackboard |  |
| White board |  |
| Laminated paper or poster |  |
| Wood cabinet |  |
| Window |  |

* *Part Two conclusion :*
1. Rank the classroom locations in order of their attractiveness to the balloon.

b) What factor(s) might have affected the results you found?

**PART THREE**

1. For part three, use the same balloon that you used in part two. Obtain a new dryer sheet.

2. Rub this balloon in your hair for 10 seconds. TOUCH the dryer sheet to the charged balloon. Now see if the balloon sticks to the wall. Record your observations in the table below.

**NOTE : Between each test, neutralize the balloon by rubbing it with both hands.**

3. Rub the balloon in your hair for 10 seconds. Rub the dryer sheet all over the surface of the balloon before seeing if the balloon sticks to the wall. Record your observations. **Don’t forget to neutralize the balloon between each test!**

4. Rub the balloon in your hair for 10 seconds. Rub the dryer sheet into your other hand and then rub this hand all over the surface of the balloon. See if the balloon sticks to the wall. Record your observations.

|  |  |
| --- | --- |
| What to do with dryer sheet | Observation when balloon is brought to wall |
| Dryer sheet touches balloon |  |
| Dryer sheet rubbed all over balloon surface |  |
| Dryer sheet rubbed on hands then rubbed on balloon |  |

* *Part Three conclusion :*
1. Which method was the most successful at disabling the balloon from sticking to the wall?

b) How do you think fabric softener sheets work in the dryer?