**Charging by Friction**

Remember: Charging an object can only occur by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of electrons from one object to another.

**How does friction help with electron transfer?**

What is ***friction?*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How does this help with electron transfer? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Electrostatic Series**

What is the electrostatic series? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What can we tell from looking at the electrostatic series? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



*Use the chart to answer the following questions:*

1. What type of charge does rubber acquire when it’s rubbed with a nylon cloth? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What type of charge does the nylon cloth acquire? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. How does the size of the charge on the rubber compare to the size of the charge on the cloth? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Rules for Charged Objects:**

Like charges will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Opposite charges will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**REVIEW:**

1. Explain how an object becomes charged by friction. Use a diagram as part of your answer:
2. Use a diagram to show what happens when a negatively charged object touches an uncharged (neutral) pith ball.

**Insulators and Conductors:**

*Use page 282 in your text to complete the table:*

|  |  |  |
| --- | --- | --- |
| **Description** | **Insulators** | **Conductors** |
| *Definition* |  |  |
| *Electron transfer* |  |  |
| *Examples* |  |  |

**Homework: Static Charge History – Main Players**

Read through Section 9.1 (p.274-275 and 285-286). Also look for some information about these scientists online. How did each of the following contribute to information on static charge?

1. Benjamin Franklin
2. Charles de Coulomb
3. Robert Van de Graaf

**Rank them in order of most important to least important and explain/justify your answer. (There is no right answer!)**