Task Card #1: Text "Electrostatic Series"

Directions: Please use this sheet to help you complete task card #1.

The Electrostatic Series

A list called the **electrostatic series** is used to determine the kind of electric (positive or negative) produced on each substance when any two substances on the list are rubbed together.

	Weaker Hold on electrons
Acetate	
Glass	
Wool	
Cat's fur, Human hair	
Calcium, Magnesium, Lead	
Silk	Increasing Tendency
Aluminum, Zinc	To Gain Electrons
Cotton	(become negatively charged)
Paraffin Wax	
Ebonite	
Polyethylene (plastic)	
Carbon, Copper, Nickel	
Rubber	
Sulfur	
Platinum, Gold	**Stronger Hold on electrons**

How does the list work?

Objects that are found at the top of the list have a **weaker hold on electrons**. This means that these objects want to give away their electrons. Electrons are negatively charged, therefore if an object gives away negatives it becomes less negative – meaning it becomes **positively charged**.

Objects that are found at the bottom have a **stronger hold on electrons**. This means that the objects want to keep their electrons; as well they will attract any other electrons from other objects with weaker holding abilities. Electrons are negatively charged; therefore if an object keeps its negative charges, and adds more then it obviously stays **negatively charged**.

What are some examples?

1. An acetate strip is rubbed against a piece of plastic. What charges have both of these objects become?

   Acetate is located closer to the top of the chart so it has a weaker hold on its electrons, and plastic is located closer to the bottom making it have a stronger hold on its electrons. Therefore, acetate becomes positively charged and plastic becomes negatively charged.

2. A piece of cotton is used to clean a nickel coin. What charges have both of these objects become?

   Cotton is located closer to the top of the chart and nickel is located closer to the bottom. Therefore, cotton becomes positively charged and nickel becomes negatively charged.

3. A platinum rod is rubbed against a rubber hammer. What charges have both of these objects become?

   Rubber is located closer to the top of the chart and platinum is located closer to the bottom. Therefore, rubber becomes positively charged and platinum becomes negatively charged.

Acetate	**Weaker Hold on electrons**
Glass	
Wool	
Cat's fur, Human hair	
Calcium, Magnesium, Lead	
Silk	Increasing Tendency
Aluminum, Zinc	To Gain Electrons
Cotton	(become negatively charged)
Paraffin Wax	
Ebonite	
Polyethylene (plastic)	
Carbon, Copper, Nickel	
Rubber	
Sulfur	
Platinum, Gold	**Stronger Hold on electrons**