**ACTIVITY: DETERMINATION OF ELECTROSTATIC SERIES**

Purpose: To determine which objects produce the most static charge

Hypothesis: Predict which combination of objects from group A and group B will produce the most static charge: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Materials:

* Paper circles from 3 hole punch or Styrofoam chips

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Group A** | |  | **Group B** | | | Comb | Styrofoam cup |  | Paper Towel | Silk | | Plastic ruler | Copper wire |  | Hair | Plastic Bag | | Straw | Aluminum rod |  | Fur |  | | Glass rod | Steel rod (from retort stand) |  | Wool |  | | Ebonite rod | Acetate strip |  | Cotton |  | |  |

Procedure:

1. Choose an object from Group A.
2. Rub it with a material from Group B.
3. Bring the rubbed end of the object from Group A close to a small pile of paper circles.
4. Record the number of paper circles picked up by the object
5. Remove the paper circles from Object A and hold them in your hand.
6. Repeat steps 2-6 for at least 15 different combinations of materials.
7. When all combinations of these materials have been tested, indicate in the table whether the charge was **STRONG, GOOD, FAIR, WEAK, NOT PRESENT.**

Observations

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| **Object A** | **Object B** | **# of circles picked up** | **Strength of Charge**  (strong, good, fair, weak, none) |
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Questions:

1. Which materials produced the strongest charge?
2. Which materials produced the weakest charge?
3. Why was it necessary to hold the paper circles in your hand between each test
4. You have experienced many small shocks at home or at school. Describe the situation in which they occurred. What pair of materials do you think might have been responsible for producing this shock?

Conclusion

Rank the objects used in A in order from most “staticky” to least “staticky”.