Explore STATIC ELECTRICITY

STATIC CHARGES

Name: _____ teacher: _____

Fill in the chart before beginning. Use the different materials to "charge" the items found in your kit. After the object is charged, use the static charge to collect tissue paper pieces. Count the number of tissue paper pieces collected and record the data in the chart below. Wipe down the charge on the object using your hands. Repeat the same steps with the different types of materials, and then again with your hair, recording the data as you go.

1. Before you begin, make a hypothesis! 1. Which object do you think will be the best at holding a static charge? 2. Do you think material 1, material 2, or your hair will create the best static charge. Provide an explanation for both of your hypotheses!

Hypothesis One: _____

Hypothesis Two: _____

Objects	Material 1 Wool Fabric	Material 2 Fur Fabric	Your Hair
Metal Rod	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Glass Rod	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Comb	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Wooden Pencil	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Pen	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Plastic Spoon	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Key	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Coin	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Paper clip	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Balloon	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Straw	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Popsicle Stick	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper

1. Which objects were able to best hold the static charge? Were you surprised? Explain. _____

2. What did these items have in common? _____

3. What did the items that didn't hold a charge have in common? _____

4. What conclusions about static Electricity can you draw from your findings? _____

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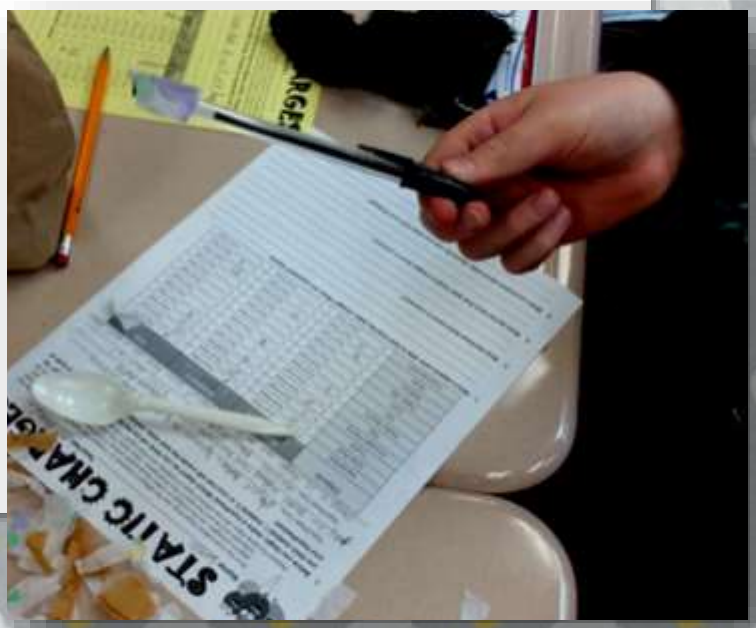
ENGAGING

>>>FUN<<<

Hands on

This static electricity lab is a favorite of both mine and my students. This can be completed with everyday items that can be found around the classroom. On the graphic organizer I have included the objects that I use as a guide. I also have included a blank graphic organizer that will allow students to either find/bring their own materials, or write down the materials you provide.

I use this lab as an inquiry lesson to introduce the topic of static electricity. Most students have schema of static electricity. This lab allows them to explore and take it further. Students are required to make hypotheses and use their schema to provide evidence of their thinking. From that point they explore what types of materials will create a larger static charge (Their hair included ;D) as well as which types of objects are better able to hold a static charge.



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They determine which object holds the most charge by holding the object over tissue paper pieces. Tissue paper works great, but so will Styrofoam pieces...etc!

Above I have included a picture of the objects that I include in each students kit. I simply keep each kit in a ziplock bag. I also keep the pieces of tissue paper in a bag. I tell my students we do not throw it away, that I want every piece back in the bag. This helps with clean up, and allows me to use this every year with little to no prep! >>>ENJOY<<<

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STATIC CHARGES

Name: Ellie Teacher: Doxey

Fill in the chart before beginning. Use the different materials to "charge" the items found in your kit. After the object is charged, use the charge to collect tissue paper pieces. Count the number of tissue paper pieces collected and record the data in the chart below. Wipe away the charge on the object using your hand. Repeat the same steps with the different type of material, and then again with your hair, recording the data as you go.

1. **Before you begin, make a hypothesis! Which object do you think will be the best at holding a static charge? Do you think material 1, material 2, or your hair will create the best static charge. Provide an explanation for both of your hypothesizes!**

Hypothesis One: Object: I think the balloon will pick up the most because I've seen balloons stick to the wall.

Hypothesis Two: Material: I think my hair because I've rubbed a balloon on my hair and it worked really good

Object	Material 1	Material 2	Hair
Metal	# 3 Tissue Paper	# Tissue Paper	# 0 Tissue Paper
Glass	# 1 Tissue Paper	# 1 Tissue Paper	# Tissue Paper
Comb	# 8 Tissue Paper	# Tissue Paper	# Tissue Paper
Wooden Pencil	# 0 Tissue Paper	# Tissue Paper	# 0 Tissue Paper
Pen	# 0 Tissue Paper	# 0 Tissue Paper	# 2 Tissue Paper
Plastic Spoon	# 6 Tissue Paper	# 0 Tissue Paper	# 10 Tissue Paper
Key	# 0 Tissue Paper	# 0 Tissue Paper	# 0 Tissue Paper
Coin	# 0 Tissue Paper	# 0 Tissue Paper	# 0 Tissue Paper
Paper clip	# 0 Tissue Paper	# 0 Tissue Paper	# 0 Tissue Paper
Balloon	# 26 Tissue Paper	# 58 Tissue Paper	# 15 Tissue Paper
Straw	# 0 Tissue Paper	# 1 Tissue Paper	# 1 Tissue Paper
Popsicle Stick	# 0 Tissue Paper	# 4 Tissue Paper	# 0 Tissue Paper

1. Which objects were able to be ... the static charge? Were you surp... ? Explain. The balloon held ... the best ... because I ... balloons stick to ... I've ... balloons have ... charge.

2. What did the items ... Some are ... another thing they have in common is some worked with every material and some didn't

3. What did the items that didn't hold a charge have in common With the popsicle stick and the wooden pencil, something had in common was they are both wood so I'm guessing wood doesn't have electric charge.

4. What conclusions about static Electricity can you draw from your findings? That there isn't static charge in wood. Also the type of material that the key and coin are made out of doesn't have electric charge.

Student Work Example

STATIC CHARGES

Name: _____ Teacher:_____

Fill in the chart before beginning. Use the different materials to "charge" the items found in your kit. After the object is charged, use the static charge to collect tissue paper pieces. Count the number of tissue paper pieces collected and record the data in the chart below. Wipe away the charge on the object using your hand. Repeat the same steps with the different type of material, and then again with your hair, recording the data as you go.

1. Before you begin, make a hypothesis! *1. Which object do you think will be the best at holding a static charge? 2. Do you think material 1, material 2, or your hair will create the best static charge*. Provide an explanation for both of your hypothesizes!

Hypothesis One:_____

_____

Hypothesis Two:_____

_____

Objects	Material 1 (Wool/Fake Fur)	Material 2 (Fur/Fabric)	Your Hair
Metal Rod	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Glass Rod	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Comb	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Wooden Pencil	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Pen	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Plastic Spoon	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
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Paper clip	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Balloon	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Straw	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper
Popsicle Stick	#_____Tissue Paper	#_____Tissue Paper	#_____Tissue Paper

1. Which objects were able to best hold a static charge? Were you surprised? Explain _____

_____

_____

_____

2. What did these items have in common? _____

_____

_____

3. **What did the items that didn't hold a charge have in common** _____

_____

_____

4. What conclusions about static Electricity can you draw from your findings? _____

_____

_____

STATIC CHARGES

Name: ___________________________________ Teacher:______________

Fill in the chart before beginning. Use the different materials to "charge" the items found in your kit. After the object is charged, use the static charge to collect tissue paper pieces. Count the number of tissue paper pieces collected and record the data in the chart below. Wipe away the charge on the object using your hand. Repeat the same steps with the different type of material, and then again with your hair, recording the data as you go.

1. Before you begin, make a hypothesis! *1. Which object do you think will be the best at holding a static charge? 2. Do you think material 1, material 2, or your hair will create the best static charge*. Provide an explanation for both of your hypothesizes!

Hypothesis One:____

____

Hypothesis Two:____

____

Objects	Material 1 (____________)	Material 2 (____________)	Hair
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper
	#__________Tissue Paper	#__________Tissue Paper	#__________Tissue Paper

1. Which objects were able to best hold a static charge? Were you surprised? Explain ______________________

____

____

____

2. What did these items have in common? ____

____

____

3. **What did the items that didn't hold a charge have in common** ____________________________

____

____

4. What conclusions about static Electricity can you draw from your findings? ____________________

____

____

STATIC CHARGES

Name: _____ Teacher:_____

Fill in the chart before beginning. Use the different materials to "charge" the items found in your kit. After the object is charged, use the static charge to collect as many pieces of _____ as you can! Count the number of pieces collected and record the data in the chart below. Wipe away the charge on the object using your hand. Repeat the same steps with the different type of material, and then again with your hair, recording the data as you go.

1. Before you begin, make a hypothesis! *1. Which object do you think will be the best at holding a static charge? 2. Do you think material 1, material 2, or your hair will create the best static charge*. Provide an explanation for both of your hypothesizes!

Hypothesis One:_____

_____

Hypothesis Two:_____

_____

Objects	Material 1	Material 2	Hair

1. Which objects were able to best hold a static charge? Were you surprised? Explain _____

_____

_____

_____

2. What did these items have in common? _____

_____

_____

3. **What did the items that didn't hold a charge have in common** _____

_____

_____

4. What conclusions about static Electricity can you draw from your findings? _____

_____

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