

SCIENCE FAIR

LOGBOOK

Names: Rayan\Lexy
STATIC MYSTERY

TOPIC:

Write about the topic you chose. Why did you choose this topic? What do you hope to find out?

The topic that me and my partner chose is “What's the best way to avoid static?” We chose this topic because we noticed that people are getting hurt by static electricity every single day. By at least touching dry stuff with dry hands. Or touching people when both of your hands are really dry. So me and I decided to do this topic so less people get hurt by static.

TESTABLE QUESTION

How does _____ affect _____?

What is the effect of _____ on _____?

Which _____ is/does/makes/etc _____?

Does the different material you rub your hand on change the amount of static electricity?

BACKGROUND INFORMATION

What questions/information do you need to find out about your topic? What is some important vocabulary?

The humidity in the air can also change the amount of static electricity
The more the humidity the less the static electricity so I have to test this experiment in the same location

BACKGROUND INFORMATION

Research your topic and write about what you find out IN YOUR OWN WORDS. Add slides as necessary. Make sure to note your sources of information on the Sources page.

How static is created is friction, so if you rub your skin against something, positive electrolytes stick your hand, and to release it, you put your hand on a metal (ex. Steel). Also, the internet says that moisturizing your hands helps avoid static, too.

SOURCES OF INFORMATION

Note all sources used – websites, books, experts, etc. (*Google is not a website, follow links to find the page information.) Add slides as needed.

Title	Author	Information (web link, publisher, etc)	Year
Prevent Static Electrical Shock	Comfort Air Heating and Cooling.	https://comfortac.com/blog/5-ways-to-prevent-static-electrical-shock/	2024
How to prevent myself from getting electrical shock	Assistant	https://www.quora.com/How-do-I-prevent-myself-from-getting-shocked-by-static-electricity-in-winter	2024
5 life hacks to eliminate static electricity	Osim	https://www.osim.com.hk/en/Wellness/5-life-hacks-to-eliminate-static-electricity	2006
How To Get Rid Of Static Electricity In The Body	Blake Flournoy	https://www.sciencing.com/rid-static-electricity-body-5862942/#:~:text=The%20fastest%20way%20to%20get,or%20a%20metal%20streetlight%20pole	2022

Title	Author	Information (web link, publisher, etc)	Year
How to remove static out of clothes	Lenor UK	https://www.lenor.co.uk/en-gb/fabric-conditioner-tips/how-to-do-laundry/how-to-get-rid-of-static-in-clothes	2024
Quick hack for removing static cling from clothes/hair?	has2give	https://www.reddit.com/r/lifehacks/comments/11i4o95/quick_hack_for_removing_static_cling_from/?rdt=34338	2022
static Hair in Winter: What Is It & How Do I Get Rid of It?	Color Wow UK	https://uk.colorwowhair.com/blogs/all/how-to-get-rid-of-static-hair	2024

VARIABLES

Manipulated / Dependent Variable

ONE thing that you will test/change:
Whether the person has gloves, wet, or dry hands.

Responding / Independent Variable

The thing(s) I think will
change or be affected:
The intensity of static
How will you measure it? :
Notebook, writing, level of
static (lvl 1 is weakest lvl
10 is strongest).

VARIABLES

Controlled Variables

Things we have to be very careful to keep the same every time we test so that they do not affect the results/outcome of the experiment:

- The different static levels (KEEPING THE STATIC LEVEL LOW.)
-

HYPOTHESIS

Your prediction, or what you think will happen:

If _____ then _____ because _____.
(I do/change this...) (I think this will happen) (Why?)

*use info from your research or background knowledge
to help explain)

If the human contestants rub their dry hands against something like wood, then they'll quickly pick up electrolytes because as they rub against the object, since their hands are dry, and electricity is okay with dry things. But if the we\human contestants have moisturized hands, it'll be harder to pick up static

MATERIALS

What materials will you use for your experiment? Be specific about amounts whenever possible.

- 3 people
- Rug/carpet
- Gloves
- Water

PROCEDURE

List the step-by-step procedure you will follow to conduct your experiment. Be as specific as possible and include exact measurements, quantities, times, etc.

1. Get 3 people to help with your experiment
2. One has to have dry hands 1 has to have wet hands and 1 has to have gloves.
3. Try out with dry and wet hands. people do they feel something?
4. After 2.5 minutes try with next one. Do they feel something?
5. Use 3-4 one more time for each trial.
6. Repeat 3-5 steps for all the trials.
7. To record, use a level from 1-10 (1 is weakest)
8. Record the data

EXPERIMENT: TRIAL 1

Data: (measurements)

Wet hands	Tingling
Dry hands	Shock[powerful]
Both wet hand dry hands	Shock as well[small]
AFTER 5 MINS Wet hands	Moved up to a shock[mild]
AFTER 5 MINS Dry hands	Steamed down to a little shock[small]
AFTER 5 MINS both wet and dry	Got to a lil big shock[mild]

Date: December 29 2024

Observations:/Notes I thought the wet hands wouldn't have felt a thing but the person who had wet hands felt it

AFTER 5 MINS ;

Wet hands before 5 mins ago was a tingling but now its it's a shock. Dry hands didn't shock much before 5 mins ago both wet hands and dry hands turned up to be a lil hugger shock then the others.

TRYING TOMORROW AGAIN.

I also added gloves but I didn't have enough space to put it so its it's in my journal. Also gloves didn't feel like anything at all

EXPERIMENT: TRIAL 1

Photos:

EXPERIMENT: TRIAL 2

Date: January 1st 2025

Data: (measurements)

Gloves	Mildly shock
Wet hands	No shock
Dry hands	Huge shock
Wet and dry hands[1 and 1]	tingle
After 5 mins Gloves and wet hands	Gloves started to hurt a little and wet nothing again
After 5 mins dry hands	nothing

Observations/Notes: wet and dry hands made a tingle. wet hands stopped tingling honestly, I'm shocked since trial 1 worked properly.

EXPERIMENT: TRIAL 2

Photos:

EXPERIMENT: TRIAL 3

Date: Monday January 6th 2025

Data: (measurements)

Gloves	no shock
Wet and dry hands	no shock
Wet hands	Small shock
Dry hands	mild shock

Observations/Notes: During the experiment wet and dry hands were shocking because during in trial 1 and 2 it was like a pinch or a tingle or maybe a shock but it didn't do anything.

EXPERIMENT: TRIAL 3

Photos:

RESULTS: CHART

Put your data together into a chart.

Example: (you can change the chart)

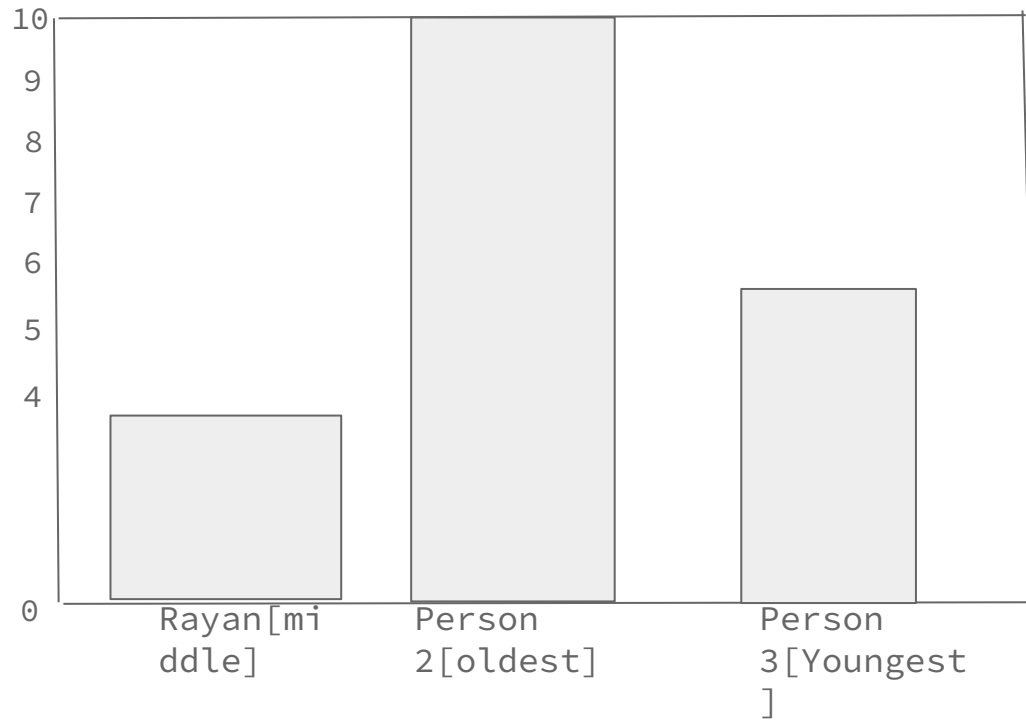
	Person #1 (Wet and dry)	Person #2 (dry)	Person #3 (wet and gloves)
Trial 1	small	Powerful	Wet: tingling gloves: mild
Trial 2	Tingle	Powerful	Gloves: mild Wet:No shock
Trial 3	Tingle	powerful	Gloves:no shock Wet:small shock

RESULTS: ANALYZE

Look at your data and observations. Look for patterns and trends.
Explain what happened in your experiment and what you found out:

WET AND DRY HANDS [1 and 1]:had really small static.DRY HANDS were really powerful.GLOVES:also really had small- mild shock.WET HANDS mild shocking-no shock.

RESULTS: GRAPH



CONCLUSION

My question was: **What is the best way to avoid static electricity**

The answer to my question is: Not getting near dry stuff or have dry hands and always keeping to be moisturized and having a good hygiene

My hypothesis was correct because: if you have moisturized hands or have wet hands then you would be safe from static electricity but on the other hand if you don't have a good hygiene or keeping your hands wet or moisturized hands then you would get really bad shocking when you touch dry stuff like wood or metal.

APPLICATIONS

In what ways are your findings useful?

Who could benefit from your results and how?

These findings are useful because if a person gets static often, they can use these findings to help them keep themselves from getting shocked by the static. This can help people who go to laundromats so that they can leave the laundromat without a bit of static.

SOURCES OF ERROR

Do you think your results were reliable? Were there any other factors or conditions that could have affected the results of your experiment in unexpected ways?

What could have affected your results, that would need to be controlled differently if you were to repeat the experiment?

Yes, we think they are. How humid the air was, or the weather could've changed the results completely. We could've changed the amount of hand moisturizer we put on each person's hands

EXTENSIONS

If you were to conduct this experiment again, what would you do differently?

The different types of rugs \ Carpets.

Little more moisturized hands for dry hands

No more wet hands because the static holds onto the water thus making it mid

CONGRATULATIONS!!

You have completed your experiment!

Make sure that you enter information from this logbook into the CYSF Digital platform.

You are now ready to create your tri fold display and practice your presentation.

