



MAD SCIENCE MONTHLY



MAD SCIENCE OF Vancouver Island

March 2018 Edition

Science and technology are all around us and understanding it helps to guide our decisions from what we eat to what we do to our home planet.

We strive to provide a fun access to the most complicated ideas of science and technology in our programs. Join in any time!

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MAD SCIENCE SPRING BREAK

Get ready for fun science during the March break

Check our programs & register at the camp location

<i>Week</i>	<i>Theme</i>	<i>Location</i>
March 19 - 23	<i>Mining and Crafting</i>	Victoria West Community
March 19 - 23	<i>Eureka</i>	Panorama Recreation Centre
March 26 - 29	<i>Red Hot Robots</i>	Victoria West Community
March 26 - 29	<i>Mining and Crafting</i>	Panorama Recreation Centre
March 26 - 29	<i>Eureka</i>	Esquimalt Recreation Centre



MAD SCIENCE IN YOUR NEIGHBORHOOD

Bring science to your school, to your community, to your home

After-School Programs

Spring & Summer Camps

Birthday Parties

[REGISTER](#)

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[REGISTER](#)



NASA OPSPARC 2018

A NASA and Mad Science Collaboration!

Are YOU up to the task to "Be the Spark" to help NASA and OPTIMUS PRIME discover NASA spinoff technologies that can help humankind?

Students will research spinoffs, and just like an engineer, use an engineering design process to take an everyday object and use it in new ways that will solve a problem.

OPSPARC winners will come to NASA's Goddard Space Flight Center in Greenbelt, MD for a 2-day workshop and awards ceremony.

Don't forget to submit your Glog by March 5th!

[Learn More](#)



60 SECOND SCIENCE CHALLENGE

Experiment: The Delicious Density Drink



Scientists never eat their experiments in the lab, but for this density experiment, you can make it in your kitchen. Best of all, you can drink it!

Density can sometimes be a challenging concept to explain. But a visual and edible activity involving liquids, is a great way for kids to learn.

You will need:

- Juices that have different density levels. The sugar or fruit content affects the density of a juice. We recommend avoiding canned or powdered juices as they tend to be predominantly water. Different colored juices are more visually appealing so keep that in mind when making your selection. We suggest starting with three to four juice options.
- A narrow glass (the narrower the glass, the easier it is to see the different density layers)
- Soup spoon

What you do:

Step 1: Before you start, guess which juices will be denser. Juice drinks often provide the percentage of juice on the information label. They also list the ingredients in descending order of content. Have your kids read the ingredients and the nutrition label to make their hypotheses in the form of a list or a chart.

Step 2: In order to achieve the separated layers in the glass, you will need to test out your hypothesis by determining the density of each juice. Pour one of type of juice into the glass and ensure you fill it about 1 inch (2.5 cm) high. Next, carefully pour or use the spoon to dribble another juice down the inside wall of the glass. Watch to see if the juice sinks or if it stays on top. Note: If the juices mix, it means either the liquid was poured too quickly or the two liquids are the same density. Try again to confirm your test.

Step 3: Continue experimenting the density of each juice - the least dense will be at the top, and the most dense will be at the bottom. Set up the order of your juices as you determine their density level.

Step 4: Once you have your juices lined up, start over with a clean glass. Pour or use the spoon to create each level and enjoy your delicious density drink!

Step 5: Is it easier to create the layers by dribbling the less dense drink over the denser one, or is the opposite true? Why do you think this is the case? Send us your scientific guess!

How density works

Density is how close together the molecules of a substance are or how much mass a substance has in a given space.

To put it as a formula; density = mass / volume

In this experiment, we see how denser liquids sink beneath less dense liquids. Juices with a heavier mass, such as grape, have greater density than orange juice. This is because the molecules are closer together - more molecules in the same volume - making it heavier, sinking down and leaving the orange juice to float above.



STRAIGHT FROM THE MAD SCIENTIST'S MOUTH

Question and Answer

Did you know how the microwave was invented?

It was purely by accident!

In 1945, Percy Spencer, an American Engineer was working on microwave-generating vacuum tubes when he noticed the snack in his pocket had melted.

After some investigation, he realized that the microwaves had in fact cooked his candy bar.

This realization, that microwaves could be used to heat food, led to Percy inventing the world's first working microwave, the RadarRange, in 1947.

Guess what food he tested first? Popcorn!

As with many initial inventions, the cost was very expensive. The RadarRange cost \$5,000 USD, and was almost six feet tall! It wasn't until the late 1960's that microwaves became a more affordable appliance and a fixture in modern kitchens.



Sparking Imaginative Learning

STAY CONNECTED

