

Vancouver Island Regional Science Fair 2026 – Project Summary

Exhibit #	Last, First Name	Project Name	Please describe your project.	Project Type	Project Category	Grade	
1	Ludu, Saheli	Can We Clean Water Using The Sun	Using solar energy to purify contaminated water. Then, using the purified water to show it can sustain life.	Experiment	Environmental Sciences	5	Elementary
2	Saleh, Syrine Trimble - O'Connor, Abigael	Air Pollution Catcher	We caught air pollution using a container and petroleum jelly. We left the container outside for 5 days. Our project is a container with petroleum jelly in the inside and put outside for five days while being monitored daily. It also catches the pollution with the petroleum jelly on the inside of the container, the catcher needs to be hung up somewhere outside but not on the ground because it will get dirt on it.	Experiment	Environmental Sciences	4	Elementary
3	Flores, Avaya	Making milk plastic	My Science experiment is to see which Type of milk makes the best plastic. If milk plastic can be substituted for a regular plastic this would help the environment by reducing greenhouse gasses . we could use milk plastic for such things as beads, straws and other things like that.	Experiment	Environmental Sciences	4	Elementary
4	Card, Parker Horn, Connor	The Juiced Up Electrified Experiment	Experiment using different fruits and vegetables to determine which carries the strongest electrical charge to power a small light bulb. The objective of this experiment is to determine what vegetable or fruit can light up a light build the brightest and be the electric charge champion!	Experiment	Biotech	4	Elementary
5	Clark, Finnley	Homeruns on Hot Days	Home Runs on Hot Days My project was about how the temperature of baseballs affected how high they bounce. My hypothesis was that the hot baseball (heated to 50 degrees) would bounce the highest because there was more elasticity in it. My procedure was to first get 12 balls, and divide them into 4 groups. Then I took 3 balls and put them into our deep freezer (at 0 degrees for 4 hours), another 3 balls and put them into the fridge (at 4 degrees Celsius for 4 hours), 3 balls stayed at room temperature, and the last 3 balls, were put into a ziplock bag and submerged into 50 degree water for 30 minutes. Then labelled the balls, and I set up a slow motion camera, as well as a backdrop and a ruler to measure the bounce height. I also made a ball dropper, which was put on a ladder so that the balls were dropped evenly. Then I dropped each ball and recorded how high they bounced by taking screen shots from my slow motion camera. I took the average bounce height from each group of balls and graphed the information. This helped me form my conclusion, which was that in the end, my hypothesis was correct because the 50 degree ball bounced the highest with an average of 29.66. The 20 degree ball had an average of 28.66. The 4 degree ball bounced with an average of 28.33. Lastly, the 0 degree ball had an average of 22.0.	Experiment	Math and Physics	5	Elementary
6	Kannagara, Makai	You want to cook food faster?	Metal is a strong, durable material that conducts electricity and heat and is usually found in cooking tools that are meant for heating things up. I wanted to know which metal in the kitchen can heat up the quickest, so it could help cook and bake stuff faster. My big question is "Which common kitchen metal heats up the fastest when the same amount of heat is applied". I chose five testing kitchen metals, placed a marshmallow and gummy bear on the metal and heated them on a BBQ. I measured the marshmallow's height, a gummy bear's height, and the marshmallow's temperature before and after heating them on the kitchen metal.	Experiment	Math and Physics	5	Elementary
7	Dubrawski, Reuben Nanninga, Benjamin	Coral Bleaching and Ocean Acidification	We did an experiment to understand the impact of ocean acidification on egg shells, which were used as coral. We also 3-D printed some pieces of coral to show the before and after look of coral. Coral Bleaching is happening on our planet. How does Climate change impact our coral reefs, how does coral bleach and what is the climate impact of increased acid in our ocean attributing to coral bleaching? How does this take place? We did an experiment to understand the impact of ocean acidification on egg shells, which were used as coral. We also 3-D printed some pieces of coral to show the before and after look of coral.	Experiment	Environmental Sciences	4	Elementary

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8	Zappella, Ella	Heat Holders	I tested to see what can keep hot water hot longer . I tested slime and fabric and different thing to	Experiment	Life Sciences	5	Elementary
9	Mukhtar, Zahara	How do fungi glow	My project is about how bioluminescent fungi glow. In my project, i try to help people understand why they live where they live.	Study/Discovery	Life Sciences	5	Elementary
10	Bennett, Liva	Do Mushrooms Have Superpowers?	Mushrooms are sometimes looked at as a yummy treat for your dinner but mushrooms are much more than that, they play an amazing job in our ecosystem, according to scientists recent discoveries, mushrooms could be the key thing to solving some of the most difficult environmental issues on our planet. Understanding the abilities that mushrooms have are remarkable in which case they are the reason our world could be saved. And mushrooms have so much to discover and that's why it' s important to science and our future.	Study/Discovery	Life Sciences	5	Elementary
11	Chabun, Kira Marshall, Violet	On thin ice	Our project is about polar bears living in Canada and their habitat, ice. We will look into how climate change and global warming is affecting polar bears' survival. We will research our topic by reading books and using trustworthy websites on polar bears, ice, global warming, and climate change. We'll ask the question "Why is ice so important for polar bears survival?"	Study/Discovery	Environmental Sciences	5	Elementary
12	Binger, Toni	Sea turtles	my project is about the plastics that get blown into the ocean and turned into micro plastics and how plastic can look like jelly fish to sea turtles and how sea turtles live there lives from a baby going into the ocean to a grown up female to come to were she was born and lay her eggs then goes off into the sea again then dies then that goes on for generations and generations.	Study/Discovery	Environmental Sciences	5	Elementary
13	Jennings, Isadora Weckerle-joyce, Elizabeth	What are the animals of the Salish sea?	We are doing this project together on the Salish sea and how to protect the environment around us. We want to show people how important our sea is and the animals who live in it, so we decided that our Salish sea would be an appropriate topic! We want people to know the truth about it, and also for them to be able to name all sorts of sea animals, fish and mammals alike! Our work includes sections in which we have breaks (people can give us questions!), a very astonishing hockey break, and an overall super fun presentation!	Study/Discovery	Environmental Sciences	5	Elementary
14	Adedeji, Goodness	Electrifying Electrolysis	In my project I will use a small electrolysis set up to explore how water is composed of hydrogen and oxygen and how it can be separated.	Experiment	Math and Physics	5	Elementary
15	Sophonow, Sadie	Why Do Some Soda's Sink, and Some Soda's Float?	My project is to figure out and show what types of sodas float, and what types of sodas sink. I used regular and diet sodas, and different brands to get my answers. I will demonstrate it in a tank of water and cans of soda, and explain why each one does something different. My project is based on density.	Experiment	Math and Physics	4	Elementary
16	Paul, Shae	Ocean Erosion	I made a shoreline simulation and tried 3 different ways to stop erosion.	Experiment	Environmental Sciences	5	Elementary
17	Gao, Enzo In, Noel	Automatic Plant Watering System	We programmed a system to test the moisture of the soil and water it if it's dry	Innovation	Life Sciences	5	Elementary
18	Coleman, Fynn	Fantastic Filters	I am testing different filters to see which ones best filter smoke.	Experiment	Math and Physics	4	Elementary
19	Mackinnon, Victoria Shah, Heeba	Magno Slime: The power of the pull	The project was about how much slime could be pulled using magnetic powder and a magnet. We had different amounts of magnetic powder mixed in with slime, and tested how much slime the magnet would pull with the different amounts of magnetic powder. The project shows how adding iron powder to slime makes it magnetic. We tested how different amounts of iron powder affects the strength of the slime.	Experiment	Life Sciences	4	Elementary

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20	Sandepudi, Gayatri	Hand Dominance with Puzzles	My project is testing how much time one person takes to solve one puzzle with their dominant hand and solve a different puzzle with same number of pieces with non dominant hand	Experiment	Life Sciences	4	Elementary
21	Bennett, Evalyn	Heartbeat & Music	This experiment investigates how different types of music influence a person's heart rate. The participant will sit in a quiet, controlled environment to minimize external distractions. A pulse oximeter will be placed on their finger to measure heart rate accurately. After establishing a baseline reading, various genres of music will be played one at a time. The participant's heart rate will be recorded during each music sample to observe any changes or patterns in response to different musical styles.	Experiment	Life Sciences	4	Elementary
22	Razavi, Aria	The Impact of Exercise on Heart Rate in Grade 4 – 6 Students	This project investigates how heart rate changes with increasing levels of physical activity. Participants' resting heart rates are measured first, followed by recordings taken during different intensities of exercise such as walking, jogging, and running. By comparing heart rate data at each stage, the project aims to determine the relationship between exercise intensity and heart rate. The results are analyzed using a graph to identify trends and show how heart rate responds to increased physical demand.	Experiment	Health Sciences	4	Elementary
23	Powell, Audrey Zhang, Amy	Can people tell the difference between AI-generated photos and real photos?	A test to see how well people can identify a photo as real or AI generated. We presented two images one AI and one real to multiple people and asked them which they thought looked AI and recorded there answer	Experiment	Engineering and Computer Sciences	5	Elementary
24	Busch, Alexander	What takes more energy, walking or running?	I will measure the energy burned walking and running 1.2 km as measured by the treadmill and compare the results with my blood sugar levels pre and post exercise as measured by my Dexcom G6 Continuous Glucose Monitor. I would expect that running will consume more energy and that my blood sugar levels will decrease faster running.	Experiment	Health Sciences	5	Elementary
25	Le Gresley, Vivian	MOTIVATION PROCLAMATION	I am testing the effects of encouragement and motivation on students to see if an early win or praise will help kids have more focus and success	Experiment	Health Sciences	5	Elementary
26	Ajay, Atharv Jerome, Aran	Pixels vs. Performance: An Analysis of Screen Time on Cognitive Function.	Our project is called Pixels vs. Performance because we wanted to see if "pixels" (screen time) change how our brains "perform" on different tasks. We noticed that after playing video games, we sometimes feel a little foggy or distracted. we wanted to find out if this happens to other kids, too! Our plan is to test 25 participants to see how screens affect their brains. First, we will split them into two groups. One group will play a fast-paced video game for 30 minutes, while the other group spends 30 minutes reading or drawing. Afterward, we plan on giving everyone three brain challenges: a ruler-drop test for reaction speed, a word-recall list for memory, and a letter-search puzzle for concentration. We predict that the "Pixel Group" will have faster reactions, but the "Performance Group" will do better at focusing and remembering. We can't wait to see if my hypothesis is right! --- "Our project is about how screen time affects how kids think and learn. Many children spend hours on phones, tablets, computers, and video games. We want to find out if too much screen time changes how well our brains work. Cognitive function means how we use our brain to remember things, focus, solve problems, and understand what we read. In our project, we will ask a small group how many hours they spend on screens each day. Then we will give them small activities like a memory test, a short math quiz, and a focus challenge. After collecting the results, we will compare them to see if students with more screen time do better or worse on the tests. We think too much screen time might make it harder to focus, but some educational games might help learning. This project will help us understand how screens affect our brains and performance."	Study/Discovery	Life Sciences	5	Elementary

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27	Jess, Lulu	The Bio-Barrier: Can the inclusion of aloe vera in soil reduce the effects of flash floods?	My project is about trying to reduce the effects flash floods have on soil. I will be making a DIY flash flood that simulates a flash flood on dry soil. I will test a hydro gel (aloe vera) to see if it allows the soil to absorb more water than dry soil. Hydro gel is a substance that collects excess water. If this experiment works, then this technique could be applied in areas where there is drought.	Experiment	Environmental Sciences	7	Intermediate
28	McDowell, Kellan	How Do Animals Use DNA to adapt and Survive in different environments	I am really interested in DNA and I want to learn more about it. In this study I would like to learn about how DNA affects animals in different environments which can include things like camouflage, temperature and the way the hunt. This will help me understand how animals have adapted to where they live, and I want to show what I learn through my project. im going to research about how animals have adapted over time and how there dna and genetics have changed and adapted in there seperate environments	Study/Discovery	Life Sciences	6	Intermediate
29	Wang, Alex	Yucky bacteria	My project is measuring which surfaces have the most bacteria on them, with the independent variable being the locations like, doorknobs, floor, desks, and control AKA blank. I thought this was a good project to bring awareness to wash your hands and to recommend these surfaces to wash since the results were quite interesting. The dirtiest by far was the desks growing up to 40 boxes on average (Some grid paper I found) the cleanest was the control which makes sense, and the floor was the second dirtiest with the doorknobs actually being the second cleanest.	Experiment	Biotech	6	Intermediate
30	Edwards, Evelyn Xin, Viviana	How Clean Is Your Water?	We are doing an experiment testing how many bacterial colonies are in each type of water using petri dishes. The water samples we used are tap water, rain water, filtered water and cooled down boiled water. After we put the water samples in the petri dishes we put them in the same incubator for 5 days and counted how many bacterial colonies there were three times to make sure we had the proper count.	Experiment	Biotech	6	Intermediate
31	Parker, Korbin	What fluid increases bean height?	My experiment is about watering beans with different types of fluids to see which one is tallest at the end of the experiment. The experimental fluids were coffee, normal water, sugar water, and cola. The results showed that overall the normal water grew the highest, and the sugar water beans grew the least.	Experiment	Life Sciences	6	Intermediate
32	Farah Oliveira, Davi Scott, Luke	Gamer Reaction Time	We tested reaction time of gamers	Experiment	Engineering and Computer Sciences	6	Intermediate
33	Wunderlich, Mikaela	Si Un Panneaux Solaire Bouge Avec Le Soleil Est Ce Qu'il Va Produire Plus D'énergie Qu'un Qui Ne Pas?	i wanted to test if a solar panel moves with the sun will it create more energy than a fixed solar panel. i tested this in two different ways, the first way was using a flashlight every 30 degrees and measuring the volts and the milliamps and the second way was coding a microbit and a servo motor to move a solar panel 180 degrees in 30 degree steps and then go back to where it produced the highest voltage but it didn't work how i had hoped and instead it goes to a random place.	Experiment	Engineering and Computer Sciences	7	Intermediate
34	Bross, Shekinah Dolby, Izzy	Do different types of water affect a hydraulic robot arm?	We tested different liquids in a hydraulic arm to see what difference they make	Experiment	Math and Physics	6	Intermediate
35	Yoon, Anna	AI Recyclable Material Detector	We used a simple AI tool called Teachable Machine. This tool lets us teach a computer how to 'see' and sort things. We created three groups, or 'classes,' for the AI to learn: Mixed Containers, Refundable Drinks, and Paper. To make the AI's sorting better, we gave it 128 different pictures for each group. We took the pictures from all different sides and angles so the AI could learn all the unique features of each type of trash. My question is: How does a complex background included in each photo affect the accuracy of the AI model when sorting trash and recycling?	Innovation	Environmental Sciences	7	Intermediate

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36	Gill, Ahlia Lalani, Arianna	Study Beats or Total Defeat?	In our experiment we tested ten students to see if the genre of music or none at all would affect how they performed on a test. During the experiment we would play no music, pop music, spa music, or rock music. While the music was playing each participant would fill out a category of a five minute math frenzy sheet. Once they finished the test we recorded how many multiplication questions out of one hundred they got correct. To analyze the results and formulate a conclusion we used a graph to see which percent of people got the best score while listening to each genre of music.	Experiment	Health Sciences	7	Intermediate
37	Zhou, Justine Zilber, Alma	Break the Chain: Procrastination Cycle on Students	Our project is about why we procrastinate and how we can fix it. It shows how procrastination can affect students' daily habits and stress levels. We chose this project because thousands of students procrastinate every day and it isn't because they are lazy or can't manage their time. Our project allows students to understand what habits might make their life easier and what you do that causes you to procrastinate and make it harder on yourself. It also allows teachers and parents to understand what strategies and types of support their students and children need, to be able to do their best work and take care of their mental health so they can help them. We do this by making a form with yes or no and multiple choice questions on their study habits, breaks and stress ect. Then we collect all data and analyze what habits lead to what results.	Study/Discovery	Health Sciences	7	Intermediate
38	Klaibert, Remy Banwait, Archer	Is it possible to make a water filter using easily accessible materials?	Innovation- we made a water filter using easily accessible materials . We tested local water sources (Kings pond, Mystic Vale outflow at Cadboro bay and a neighbour's water feature) to assess the performance of the filter to see if improved water quality.	Innovation	Engineering and Computer Sciences	5 4	Elementary
39	Miller, Joshua	Need a Hand?	The big question of my project is "What is the best fingertip material for a robot hand?". I tested the friction of silicone, leather, sandpaper and rubber to see which material would be the best for gripping. I thought silicone would be the best because I thought it had the most friction. In order to test the friction I built a pulley sled out of Lego positioned at the end of a table. First, I put each material under the pulley sled, then I added weight to the hanging bucket until the sled began to move, and I recorded the weight for each surface. Sandpaper had more friction than silicone because it is rough, however, silicone is softer and has almost as much friction so I think that it is still the best.	Experiment	Engineering and Computer Sciences	5	Elementary
40	Wilson, Liam	H2NO SALT	For the science fair, I am building a salt water filter using the distillation process in a mini portable design. This filter makes an easy emergency water filter that you can use to make ocean water safely drinkable.	Innovation	Environmental Sciences	5	Elementary
41	Taylor, Linden	Organic Batteries	The project is about seeing how much voltage is in different fruits and vegetables	Experiment	Engineering and Computer Sciences	4	Elementary
42	Gregson, Maude	Warming Dogs	Our idea is to help dogs stay warm in the winter, so that dogs don't get too cold. Our idea is that the dog's collar has two warming pockets that will keep the dog's neck warm while they are on a walk or outside playing. Our inspiration is our love for dogs of all kinds. We were inspired one day when we took our dog for a walk and we were cold, we thought of how cold our dog would feel as she is a desert dog.	Innovation	Engineering and Computer Sciences	4	Elementary
43	Daluro, Stella Morgan, Isobel	Sprouting Beans	The project is about trying to sprout beans in water, mud water, or pop, to see if they would sprout.	Experiment	Life Sciences	4	Elementary
44	Neis, Kaila	It's Popping Boba!!!	I tested which liquid made the best popping boba	Experiment	Life Sciences	5	Elementary

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45	Crooks, Lucy Verraich, Agiya-liv	The heat beneath our feet	<p>My partner and I's science project is about how different materials affect UHI or Urban Heat Island. UHI is an effect that retains heat in urban areas because of the closeness in cities, the input of greenhouse gasses, and the materials we use to build, hence the project. We tested different materials (brick, concrete, dark shingle, light shingle, aluminum foil, and a patch of grass) under a heat lamp.</p> <p>---</p> <p>Our project is about Urban Heat Island. We chose this project because we wanted to see if we could initially help reduce the climate change effect. We used different kinds of materials to see which one stored the most heat and which one released the most heat. We also tried to figure out why cities shouldn't have buildings very close together. We realized it was because the materials kept the heat and it flowed around the buildings, making them hotter.</p>	Experiment	Environmental Sciences	7	Intermediate
46	MacDonald, Violet Steele, Charlotte	Bacteria, Be Gone!	<p>How long does it take to boil bacteria out of Beaver Lake & Prospect Lake water?</p> <p>We hypothesized that after 1 minute of boiling the water from the lakes at a rolling boil, the bacteria would not show up on our petri dishes.</p> <p>We boiled the water from Beaver lake and Prospect Lake for 1 minute and three minutes, grabbing a sample of water each time interval and keeping a sample from the non boiled water. We placed these water samples on petri dishes along with our controls, a plate with nothing and a plate with feces water. We observed 48 hours later, then 96 hours after that.</p> <p>The hypothesis was not supported. Beaver lake 1 minute was contaminated with 100% visible coverage after 144 hours in the incubator. Prospect lake 1 minute was not visibly contaminated with bacteria after 48 hours, but after 144 hours, there was 70% bacterial coverage.</p>	Experiment	Environmental Sciences	7	Intermediate
47	Fountain, Sofia	Sunscreen efficacy under real world conditions	<p>My project looked at effectiveness of sunscreen when applied as a thin film and rubbed in, and compared this to the expected effectiveness of sunscreen based on the SPF value. I also tested whether sun protective clothing and cotton clothing provided good UV protection both wet and dry.</p>	Experiment	Health Sciences	7	Intermediate
48	Cheung, Tessa	Mineral vs. Chemical Sunscreen: Which is Best?	<p>This project focuses on which type of sunscreen is best: mineral or chemical? Through 1 experiment and 2 parts of research, this project is testing which sunscreen is best based on three topics: Skin health & ingredients, earth impact, and UV ray protection. Using other sources of research, I found facts for the two parts of research in my project. The experiment part was conducted at school using a UV lamp and UV detection card. That topic has its own conclusion and the whole project has an overall conclusion as well. I was intrigued to do this project because I had learned that there was a different type of sunscreen last year and I was curious to learn more about it. This can also benefit most people by telling them which sunscreen is best based on the project and their personal preference.</p>	Experiment	Health Sciences	7	Intermediate
49	Crawford, Kate	Life without a jet stream	<p>I made a simulation of the jet stream and tested what would happen if the world did not have a jet stream.</p>	Study/Discovery	Environmental Sciences	7	Intermediate
50	Scott, Bless	Making Biodegradable Plastic	<p>For my project, I wanted to try to design a biodegradable plastic. I wanted to do this because so many people use things like plastic bags and plastic cups everyday, but that's bad for the environment, so I was wondering if it was possible for me to create a biodegradable plastic.</p>	Innovation	Environmental Sciences	6	Intermediate

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51	Budd, Emma Lewis, Callia	Natural Pigments: Investigating Fruit Blush in a Spray Bottle	For our science fair project we invented a fruit made blush in a spray bottle with no aerosol or harmful ingredients. We were very concerned about the chemicals and artificial ingredients that were put into makeup because skin is very important to us and it needs to be taken care of properly. So, with that in mind we decided to make a blush with only four ingredients that doesn't contain anything harmful or detrimental to your health. Our blush consists of jojoba oil, water, freeze dried dragonfruit, and phenoxyethanol. Unnatural ingredients may irritate skin and lead to eczema, and itching. Dyes such as red 40, yellow 6, and yellow 5 are proven to cause hives, and swelling. Red 3 has even been shown to cause tumors in rats during testing. Lots of fake dyes can have microscopic traces of lead and arsenic which can cause many skin problems and even cancer. Many makeup products contain carcinogens such as benzidine which can cause various different types of health risks. The preservative we used Phenoxyethanol is not a carcinogen and scientists have no proof that it causes or contributes to cancer which means it is safe. It is also considered safe for acne prone skin and can even help make skin clearer. Almost half of all popular makeup and skincare products are unnaturally scented which can cause skin allergies and skin irritation. As you can see, our blush is just as pigmented as any other, its hydrating, its smooth, and its fully acne safe and skin friendly. If you want your skin to look flawless and feel as healthy as possible every time, this blush is for you.	Innovation	Health Sciences	7	Intermediate
52	Marks, Elizabeth	Emotional Triggers of Addiction: A Study of Students Perspectives	This project investigates addiction and its potential triggers. Addiction occurs when a person may be trying to cope with a stressor and they use a certain behaviour to help them feel better. This experiment plans to specifically demonstrate the connection of emotions to addictive behaviour responses. In the experiment participants will complete a survey asking about emotional triggers to addiction	Experiment	Health Sciences	7	Intermediate
53	Lo, Saul Shun	All about Cancer	Cancer is when a certain part of your body starts to multiply uncontrollably. There are many types of cancer. Some of these can be deadly, while some are not. To get cancer, mutations have to alter the genes that keep the cell from having cancer. After they corrupt these genes, the cancer cell will begin multiply rapidly. They will then turn into another sort of living organism. Over your entire life, some of your cells might have turned into cancer cells that were eventually wiped out by your immune system. Though on some occasions your immune system will miss a couple of cancer cells and those cells will find ways to fight back against your immune system, such as turning the off switch on your immune cells. The cycle of constantly battling cancer will eventually lead to death (by cancer, old age or disease) when the cancer is removed by a type of therapy. Humanity has also found ways to detect the first signs of serious cancer, such as regular checkups and screening.	Study/Discovery	Health Sciences	7	Intermediate
54	Behn, Branson Yao, Michael	The Secret to Happiness	Our project is about Real World vs. Online Happiness Ratings. We did a test of what makes people our age happier in the real world or online world. So we used the oxford happiness questionnaire to test our participants' happiness. We felt that the adult version of the Oxford happiness questionnaire was too long so we shortened it from 29 to 10. The way we chose it was first we eliminated the ones that were very confusing. Next we chose until there are only two @ questions left. Lastly we eliminated the ones that did not make sense. Out of the 14 subjects, 2 people have the same happiness level, 7 people have a higher rating in ADST than PE. 5 people have a higher rating in PE than ADST. The next chart shows the percentage: _14.3% had the same rating for both. Also we noticed that the boys average score is higher than the girls average score for both exercise and online. The range between online scores is a lot wider than real world exercise scores :online range is 24 and real world exercise range is 15. The mean/ average for online is 50.86 and for real world exercise is 50.36 which is very close. The highest score online is 60 and for exercise it is 57. The lowest score is 36, 42. The average for boys in real world exercise and online are; 51.29 and 52.14. On the other hand the girls only scored a mean of 39.43 and 49.71.	Experiment	Health Sciences	6	Intermediate

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55	Bratzer, Bowen	Electrical Generator Greatness (EGG)	In this project, I'm building an electrical generator to test the optimal spacing between the coils and magnets. I'm using 24 AWG magnet wire, six stacks of three 3x18 millimeter N42 neodymium magnets, and a fixed gear ratio. If the magnets get too close, the flywheels could collide with the coils. If they get too far, the magnetic field will be too far away from the coils and produce minimal or no watts. My hypothesis is that two to three millimeters will be the optimal spacing between the coils and magnets	Experiment	Engineering and Computer Sciences	6	Intermediate
56	Pinilla, Jude	Winging It: How Wing Shape Affects Flight	I tested 5 styles of paper airplane to see which wing style flew the best	Experiment	Math and Physics	7	Intermediate
57	Zhang, Ino	Tiny Hockey Sticks	I make tiny Hockey Sticks with different types of Popsicle sticks to see which one was most flexible	Experiment	Math and Physics	7	Intermediate
58	de la Plante, Dana Fry, Vivienne	Do birds in BC prefer red, white, green or blue bird feeders?	We set out four bird feeders that were painted red, white, green and blue we then watched to see how many birds went to each colour. We moved the bird feeders around various locations and found the same results. --- We wanted to find out which colour of bird feeder birds like the best. This experiment is important because we think it's necessary that birds have a reliable food source that they can see.	Experiment	Life Sciences	5	Elementary
59	Zhao, Ariel	Which angle of light is best for plants?	My project was to see how the different angles of light affect plant growth	Experiment	Environmental Sciences	5	Elementary
60	Steeper, Elizabeth	Co2 Heros	My question was: which houseplant reduces carbon dioxide levels in the air? I chose this Question because my family gets sick often, and I wanted to know which plants reduce sickness the most. I was curious about which houseplants can help lower carbon dioxide levels in the air. I chose this question because my family often gets sick, and I wanted to find out which plants might help improve our health and create a better indoor environment. I used three types of plants in my experiment: a snake plant, a spider plant, and a prayer plant. I hypothesized that the snake plant would reduce carbon dioxide levels the most because it has large dark leaves that will absorb lots of light aiding photosynthesis.	Experiment	Environmental Sciences	5	Elementary
61	Macklam, Winter Yu, Angie	Make It or Buy It	For our science fair experiment, my partner and I created our own natural moisturizer and compared it to commercial skincare products. We selected Bubble Cloud Surf moisturizer, Laneige Water Bank moisturizer, and a low-cost drugstore moisturizer because they are affordable, popular, and easy to access. The purpose of our experiment was to determine how a homemade, natural moisturizer compares to store-bought products in hydration, texture, absorption, and ingredients. Our moisturizer was made using simple, skin-safe ingredients commonly found in natural skincare. We tested our moisturizers using cotton pads to measure hydration retention in a controlled way.	Experiment	Health Sciences	6	Elementary
62	Lee, Taylor	Origami's Effect on Heart Rate	I tested five people to see how their heart rate would react to learning something new which in this case is origami. They had to sit quietly in a cold, quiet room for five minutes to get to a resting heart rate. I tested their heart rate before, during, and after the procedure.	Experiment	Life Sciences	6	Elementary

Vancouver Island Regional Science Fair 2026 – Project Summary

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63	Ding, Jayson Grant, Brady	The battle against bacteria: soap vs. sanitizer	My project's goal is to find out which of the five, 20 second liquid soap, five second liquid soap, 20 second bar soap, five second bar soap or hand sanitizer until it dries, removes the most bacteria from your hands. The controls are; the same two student participants, the same brand of soaps and sanitizer, the same amount of hand sanitizer and soap dispensed at the time, the same amount of time touching a basketball, the same water pressure, the same washing and scrubbing technique, the same handwashing time for each participant, the same method of swabbing and collecting samples from the hands, the same amount of time for the collected samples in the incubator to grow. --- We tested the efficacy of liquid soap, soap bar and sanitizer in removing bacteria from our hands. We also analyzed whether there is any difference in the amount of bacteria left on our hands if we scrub for 5 seconds or 20 seconds. We swabbed and collected samples from the participants' hands and transferred them to petri-dishes that were incubated at 37 C (mimicking body temperature) for 16 hours, before we assessed the bacteria growth for each individual test. We used the quantification from the Clinical Microbiology Procedures Handbook as a guideline.	Experiment	Health Sciences	6	Elementary
64	Chen, Kara	The Life-Saving Layer: Finding the Most Resilient Emergency Insulation Materials for Victoria's Wet Climate	The Life-Saving Layer explores which budget-friendly insulation materials are most effective for staying warm in wet conditions like Victoria's climate. This project examines the real-world issue of heat loss faced by unhoused individuals and those in outdoor emergency situations. Using principles of heat transfer conduction, convection, and radiation. The experiment tests how well different materials insulate when dry versus when exposed to moisture. Small model shelters made from common materials such as cardboard, Styrofoam, aluminum foil, cotton, and newspaper were constructed and tested using heated water bottles to simulate body warmth. By analyzing temperature changes over time, the project investigates how moisture affects insulation performance and aims to identify practical, low-cost materials that could improve warmth, safety, and survival in cold, damp environments.	Experiment	Engineering and Computer Sciences	7	Intermedaite
65	Storry, Zenna	Clear Sight: Rain Project	Clear Sight: Rain Removal is an innovation project that uses a robotic motorized wipers to remove rain drops and other liquids from eye glasses. The goal is a portable design that can be attached to many shapes of glasses frames.	Innovation	Engineering and Computer Sciences	7	Intermedaite
66	Li, Aaron	Air Quality: Indoors VS Outdoors Which is Cleaner?	Have you ever wondered if air inside is cleaner than air outside? Well in this experiment I can show you. In my experiment I'm making an air quality sensor and using it in different places in Victoria to test if air inside is actually cleaner than air outside. I wanted to do this because I was doomscrolling and saw something that said air inside was cleaner than air outside but I was skeptical so I wanted to test it.	Experiment	Engineering and Computer Sciences	7	Intermedaite
67	Plourde, Madeleine	Alzheimer's Disease	A study of the cause of Alzheimer's	Study/Discovery	Health Sciences	8	Junior
68	Hansen-Nettleton, Dea Dia Patrick, Angeline	Hummingbird Feeding Pattern	The development of a Hummingbird feeder along with research into Hummingbirds' feeding pattern. --- Recording the time, temperature, and conditions of when Anna's Hummingbird feed and what insight it can provide for us.	Study/Discovery	Environmental Sciences	9	Junior
69	Learmonth, Emilie Wang, Shiny	Help Rufous Hummingbird	Informative project about the current population loss of Rufous Hummingbirds, as well as our solution. --- A project that consists of nectar and feeder that provides fuel for the declining Rufous Hummingbirds. This feeder can feed many hummingbirds at once and includes the appropriate features for hummingbird's needs.	Innovation	Life Sciences	9	Junior

Vancouver Island Regional Science Fair 2026 – Project Summary

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70	Arya, Parsa	Humanoid Skeleton Detection	Device to detect and display a human skeleton (limbs + ears, eyes and nose) and follow it while within camera range. Uses a Raspberry Pi 4 microcomputer with an upgraded cooler and a micro servo pan/tilt assembly attached to a Paspberry Pi Camera V2.1 controlled by a PCA9685. The neural network used to detect humans is the MoveNet SinglePose Lightning made by Google, which was then converted to an ONNX model from a TensorFlow model using the tf2onnx Python library. The ONNX model was then compiled into a Rust project for speed and built using the aarch64-unknown-linux-gnu architecture to run on the Raspberry Pi. After finding out the locations of the "skeleton", the program calculates the center point of the target and positions the camera to face it using the pan/tilt assembly.	Innovation	Engineering and Computer Sciences	8	Junior
71	Hsieh, Sion	Wireless Energy Transfer	I am going to create a simple easy way to transfer electricity wirelessly.	Study/Discovery	Engineering and Computer Sciences	8	Junior
72	Pereira, Isaiah	Halo: Your AI Care Aide	Halo is a smart device that helps elderly people remember their medications, medical appointments, and other important daily tasks by utilizing AI, remote management by a loved one, and a custom algorithm to help achieve task completion.	Innovation	Engineering and Computer Sciences	8	Junior
73	Martin, Timothy	Geotechnical and Aerodynamic Characterization of Victoria Basaltic Crush Fines as Lunar Regolith Simulant and In-Situ Resource	This study examines the geotechnical and aerodynamic characteristics of industrial basalt waste dust obtained through high-temperature cyclonic separation in an aggregate crushing operation on Vancouver Island. The primary methodology employs a standardized parallel sedimentation protocol involving eight samples to evaluate the dynamics of the sub-20-micron "smoke" fraction, which represents a significant challenge in lunar regolith simulation due to its propensity for disrupting exploratory operations. Through mass-normalized settling velocity assessments and volumetric consolidation analyses, the investigation establishes a statistical framework for quantifying interparticle friction and angularity.	Experiment	Engineering and Computer Sciences	9	Junior
74	Humber, Fynn	Increasing Bifacial Solar Panel Efficiency- Do Reflective Materials Help?	Solar energy remains a viable alternative energy source for the future. Solar energy is limited by weather and the need for direct sunlight to maximally charge photovoltaic cells. Bifacial solar panels are one solution to increase solar panel efficiency. This experiment looks at ways to improve the efficiency of bifacial solar panels through reflective materials- water and metal. comparing 50 days from 1300-1400 hours, a bifacial solar panel utilizing reflective tin was more 23% efficient in absorbing solar energy, p <0.05 and water tray 8% more solar energy, p <0.05. Ongoing design modification is needed to improve solar panel efficiency to maximize its ability to capture solar energy at different times of the day.	Experiment	Environmental Sciences	9	Junior
75	Ahmad, Zane	Methanol Vs. Ethanol: Which Makes Better Biodiesel?	This project investigates converting lavender distillation waste into biodiesel using transesterification with methanol or ethanol, the goal being to determine which alcohol produces a higher quality fuel. It addresses the issues of waste disposal and fossil fuel reliance by reusing biomass that is usually discarded or burned. Results showed that ethanol can higher-quality biodiesel with better temperature performance and pH levels, while methanol produced more consistent and stable results. This research was important as it demonstrates that lavender waste, often burned and discarded contributing to climate change, can be turned into a usable renewable fuel.	Experiment	Biotech	9	Junior
76	Sewagudde-peden , Allegra	The Albedo Affect	My project is using different articles from scientists to learn about how light reflects differently off of roofs. My main research is about how black absorbs heat and what albedo is. I chose these as my main research as I thought they would be the most important. The main goal of my project is to teach myself more about the world around me.	Study/Discovery	Environmental Sciences	8	Junior
77	Picardi, Thea	Macroalgae vs. Ocean Acidification	This experiment will be testing the impact of living seaweed on pH levels of ocean water. By using a calibrated digital pH meter, differences between the 3 seaweed tanks and the 3 water tanks can be measured. My question is "Can we fight ocean acidification by nurturing macroalgae forests such as kelp and sea lettuce?" I was trying to solve a big problem like ocean acidification with a simple solution like macroalgae.	Experiment	Life Sciences	7	Intermediate

Vancouver Island Regional Science Fair 2026 – Project Summary

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78	Jansen, Haylee	Colony Control	This experiment compares different types of hand cleansing products to determine which is most effective at inhibiting bacterial growth. The types of hand cleansing products tested are antibacterial liquid hand soap, regular liquid hand soap, and alcohol-based hand sanitizer. The control for the experiment is distilled water. The effectiveness of the hand cleansing products are tested using agar filled petri dishes, inoculated by swabbing a mobile phone, a common high-touch surface. The soaps and sanitizers are placed on separate paper discs and then placed on the inoculated petri dishes. At pre-specified time intervals, the zones of inhibition was measured. To ensure results were reproducible and the test was fair, six samples were tested for each cleanser. After, the results were averaged and then plotted for comparison.	Experiment	Health Sciences	7	Intermediate
79	Rainsberry, Rayna	comment les oeuf reagir a les liquides	in my project i look at how eggs react to different liquids to see if its related to there pH level	Experiment	Life Sciences	7	Intermediate
80	Courage, Odin Jandali Refai, Nabil	bicarbonate de soude vs levure	Our project compares the difference between using baking soda, or baking powder, or both baking soda and baking powder in the same chocolate chip cookie recipe. We baked three separate batches of cookies, and noted observed differences in the results of each batch. 1. baking soda, 2. baking powder 3. baking soda & baking powder --- Our project is about which is better: Baking soda or baking powder for cookies. In our experiment we found out that the baking soda was flat and browned easily, while the baking powder was more cakey and puffed up. We also tried mixing both of them In which ended up to have a more even taste, even size and overall the taste and texture was better	Experiment	Life Sciences	7	Intermediate
81	Baiomy, Adam	La bataille des friteuses / The battle of the fryers	Ce projet est à propos de la santé des aliments et combien de graisses vont dans vos aliments. Ma question de l'expérience est comment les techniques différentes de friture affectent le temps, la sensation de gras, la texture, la gustation et l'absorption de graisses. Les friteuses sont la friteuse, la friteuse superficielle et la friteuse à air. Ma hypothèse est Je pense que la friteuse est mieux pour la cuisson, et en goût et la texture et croustillant, et la friture à l'air a moins d'absorption de graisses parce que la friteuse a beaucoup de chaleur et d'huile pour cuisiner les frites plus rapidement et provoquer les réactions de brunissement. De plus, la friteuse à air cuisine avec l'air, et l'air est meilleur pour la santé avec moins d'absorption de graisses. Dans mon expérience je cuisine des frites et mesurer le temps, et l'absorption de graisses. Finalement j'ai réalisé un sondage auprès de 4 participants, pour goûter les frites et chaque frite est de un différentes techniques de friture et parler de leur texture, leur goût et leur sensation de gras.	Experiment	Health Sciences	7	Intermediate

Vancouver Island Regional Science Fair 2026 – Project Summary

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82	Humber, Roanan	Wildfire and House Siding - Does it Make a Difference?	Although wildfires continue to impact communities, many new houses continue to be built with vinyl, cedar and wood composite siding. Few new houses utilize cement board, mostly limited by costs. Although siding types are heat tested in special ovens, there are limited in vivo experiments comparing housing siding. This experiment evaluates the ability of vinyl, cedar, wood composite and cement board to protect against wildfire. Through three identical simulated wildfire burns adjacent to houses with comparative sidings, houses were evaluated for inside temperature and surface area burned. Cement board demonstrated reduced surface area burned as well as reduced inside house temperatures compared to all other sidings, $p < 0.05$. More simulated studies are needed to further understand protective effects of siding and guide development of cheaper alternatives.	Experiment	Engineering and Computer Sciences	9	Junior
83	Flett, Liam	Can we use the heat wasted around us?	Humanity needs more sustainable ways to produce electricity, and thermoelectric generators could be a way to do that. If applied correctly, they can be an excellent component of sustainable electricity systems. Applications around your home are not as energy efficient and sustainable as they could be. Household applications are constantly wasting thermal energy; your radiators, your dryers, your dishwasher: they all waste thermal energy. This experiment shows that the heat wasted in a household environment could be harvested using thermoelectric generator devices such as Peltier Plates. The conclusion of this experiment validates the previous work done by Seebeck, Peltier and Thompson to understand the thermoelectric effect – the greater the difference in temperature that can be obtained, the greater the electric power that can be generated. In summary, I transformed thermal energy into electric power using Peltier Plates to show that household applications waste power through waste heat, and I demonstrated the relationship between a temperature gradient and the power generated by a Peltier Plate.	Experiment	Environmental Sciences	9	Junior
84	Syal, Meenanshi	Solar Snow	What I would like to do is to utilize solar panels, in order to produce a solar panel which could eliminate snow from roofs, and turn that into water, which could be stored, and used later on in the case of droughts, or emergencies. This is a significant thing to do my investigation on, because many cities in our world rely on snowmelt to replenish reservoirs, and other water sources. Creating an innovation that could help all the houses in Victoria add to these reservoirs through snow? That could be phenomenally game changing for our city when it comes to natural disasters, or droughts.	Innovation	Environmental Sciences	9	Junior
85	Peterson, Elizabeth	Kangen Water Or Tap Water?	I cleaned blueberries with Kangan water to see if more germs were removed than tap water	Experiment	Life Sciences	8	Junior
86	Wald, Louise	Using the "GUIO-HAMM-INATOR" to Investigate Wood Deterioration in Miniature "Studs"	I built a simple machine using a single pulley to raise a 10-pound dumbbell which can drop vertically from a consistent height on small, clear wood samples. Some of my wood samples were soaked in mud taken from a garden and some were soaked and then repeatedly frozen and thawed. Some of my blocks were soaked in water and allowed to remain wet. My control wood blocks remained dry. In the second part of my experiment, I will be repeating my previous procedure using similar sized blocks cut from poorer quality lumber. If I can continue this project, I would like access to a strength testing machine at the University of Victoria. This would let me calculate forces needed for failure and then allow me to compare small clear wood samples with poorer quality wood samples.	Experiment	Engineering and Computer Sciences	9	Junior

Vancouver Island Regional Science Fair 2026 – Project Summary

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87	Arun, Rakshith	Posture Perfect Chair	My project is a smart posture correcting chair designed to help students sit properly and prevent long term health problems caused by slouching. Many students spend hours sitting at desks, which can lead to back pain, neck strain, headaches, and poor spinal alignment. This chair uses pressure sensors and angle detection to monitor how a person is sitting in real time. When the user begins to slouch, lean too far forward, or sit unevenly, the chair provides gentle feedback through vibrations and visual alerts, reminding them to correct their posture immediately. Unlike ordinary chairs, it actively trains the user to maintain a healthy sitting position rather than just providing passive support. The chair was designed to be comfortable, adjustable, and suitable for everyday classroom or home use. It can also collect posture data over time, allowing users to track improvements and build better sitting habits. My goal is to create a practical solution that not only reduces discomfort but also prevents future musculoskeletal problems, especially for young people who are still developing. By encouraging proper posture early, this chair could improve focus, reduce fatigue, and promote long term spinal health. This project demonstrates how engineering and technology can be combined to solve a common real-world problem in a simple, effective, and user-friendly way.	Innovation	Engineering and Computer Sciences	8	Junior
88	Hill, Oscar	PiezoElectric generator	This is a science fair project from a student at 2026 science fair for grade 9. This project is about the energy that is generated from an element using different types of motion.	Experiment	Engineering and Computer Sciences	9	Junior
89	Grispun Katz, Leo	Tuberculosis Detection from Chest X-Rays Using a Deep Learning Model Trained With Cosine Recognition	For my Science Fair project, I developed an AI system to assist in the detection of tuberculosis from chest X-Ray images. Tuberculosis remains a major global health challenge, especially in regions with limited access to doctors. My goal was to explore whether you could train an AI image recognition model that could help identify Tuberculosis' patterns accurately and efficiently.	Innovation	Engineering and Computer Sciences	9	Junior
90	Jia, Simon (Xianmeng)	Design and performance evaluation of a small scale ion thruster.	This project is a innovation on a new type of way to create thrust. It uses the main concepts of a corona discharge, which works by accelerating electrons at a very high speed. When voltage exceeds a critical threshold, the electric field becomes strong enough to strip electrons from air molecules, creating negative electrons and positive ions. Which I connected high voltage transformer to the battery to exceed the needed amount of voltage, the connecting the wires to a negative end, the rolled up metal sheet for exiting electrons, then a wire to the positive end (a metal ring), attracting the electron from the negative side. This accelerates the ion at super fast speed to create thrust. My ion thruster successfully produced continuous low thrust, demonstrating that a compact, fuel free design can generate measurable propulsion. Maximum airflow velocity reached 1.5 m/s at maxpower. My project demonstrates a small, lightweight ion thruster can produce measurable thrust without external fuel, also showing possible bigger uses with ion thruster, such as aerospace technology.	Innovation	Engineering and Computer Sciences	9	Junior
91	Arneja, Shaan	The Effect Of Physical Activity on Blood Glucose	I enrolled 16 subjects into an experiment to study the effect of physical activity on serum blood glucose levels using a Libre3 continuous glucose monitor. There were 3 arms to the project. On day 1, subjects drank 240 mL of water and sat in a chair and I measured serum blood glucose levels every 10 minutes for 90 minutes. On day 2, subjects drank 240 mL of pineapple juice and sat in a chair and I measured blood glucose levels every 10 minutes for 90 minutes. On Day 3, subjects drank 240 mL of pineapple juice and performed a 5 kilometer walk and I measured serum blood glucose levels every 10 minutes for 90 minutes. I then pooled and analyzed the data.	Experiment	Health Sciences	8	Junior

Vancouver Island Regional Science Fair 2026 – Project Summary

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92	Zwicky, Sophie	Love Actually	My project is based around the idea of what happens to the whole body when you are in love, or when you are attracted to someone. The main parts of your body that give off tell tale signs that when you like someone are your cheeks, your palms, your heart races, and your pupils may even dilate. Those are the main parts of the body I will be working on and studying while I see out this project. I will also be working on the brain, and how it reacts to being in love or having an attraction towards someone. The biggest and most important part of the brain that contributes to the information in this project is the Limbic System. The Limbic System plays a big part in my study for this project. The Limbic System has four very important key parts that controls your emotions and is the part of your brain that controls your emotions and is the main source of your attraction to someone. The four key parts of the Limbic System are the Hippocampus, Amygdala, Hypothalamus, and the Thalamus.	Study/Discovery	Life Sciences	8	Junior
93	Watt, Raymond	The Deadliest Organism and Human Misconceptions vs The Reality	I am going to do a study into bacteriophages and the history behind them. I will be asking the participants specific questions about antibiotics, viruses, and bacteriophages. I will use Google sheets to record their answers to determine the participants' knowledge on this subject.	Study/Discovery	Life Sciences	8	Junior
94	Kiblevi, Sehed	Does Brushing Your Teeth Harder Really Clean Better?	Many people believe that brushing your teeth harder will remove more plaque and cleans teeth more effectively, and dentists do warn that excessive brushing pressure can damage the enamel and gums. This project investigates whether increasing brushing pressure improves plaque removal or instead causes more harm by comparing light and hard brushing in a controlled experiment and presenting a pressure regulating toothbrush prototype as a solution.	Experiment	Health Sciences	9	Junior
95	Billinghurst, Sophie	Evaluating the Main Models of Respiratory Protective Masks	In my experiment, I tested the efficiency of cloth, surgical and N95 respirator masks based on their air particle filtration efficiency, water droplet blockage and vapour leakage prevention. In total, I conducted three tests, each one meant to answer one of the three specific sections of my research question. Based on the substantial amount of data I collected, as well as additional research, I was able to come to the conclusion that the N95 respirator masks are the most effective of the three main models, due to their intricate and complicated filtration design. In addition, the cloth masks were proven to be the least successful, which is most likely a result of the less effective fabric used to construct them. This data was collected throughout my three tests, where I measured the dependent variables through the use of water droplets, smoke particles and breath condensation.	Experiment	Health Sciences	9	Junior
96	Morley, Reagan	The Polymer Potential: repurposing latex paint waste into composite board	Canada is considered a paint recycling leader, with about 77% of households with leftover paint reportedly accessing provincial recycling programs (StatsCan, 2021). However, in other countries around the world many households put leftover paint in the garbage or leave it sitting in their basements. This is a major issue because paint waste disposed of incorrectly can harm marine life and ecosystems, and pollute drinking water. To date, research on paint recycling has focused on using reclaimed paint waste or "sludge" for construction purposes, as a filler for concrete or building materials. My goal is to extend research on sustainable methods to recycle latex paint in an unexplored area, by extracting the polymer binders from latex paint and combining them with other household waste materials to create new products that contribute to the circular economy. My experiment combined paint polymer sludge with waste wood and fiber products to create a composite board, testing five different sludge to product ratios that were assessed for durability, strength, water resistance and UV resistance.	Experiment	Environmental Sciences	10	Senior

Vancouver Island Regional Science Fair 2026 – Project Summary

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97	Kumar, Kinara	Carbon Capture: Driftwood vs. Regular wood	My project is an experiment focused on whether biochar made from driftwood would absorb more carbon dioxide than regular biochar. By turning driftwood into biochar, crushing it and mixing it with soil, I can absorb carbon from the atmosphere to help fight climate change. Using driftwood instead of cutting down live trees also protects coastal forests and tidepools from damage, making carbon capture more sustainable. My experiment explores how natural, beach sourced biochar could be a win-win solution for reducing greenhouse gas emissions while preserving delicate coastal ecosystems. To do this, I burned the driftwood and captured the wood gas for personal use using a process called pyrolysis. Then I tested how much carbon dioxide each biochar absorbed using a carbon dioxide sensor.	Experiment	Environmental Sciences	10	Senior
98	Pesta, Harmony	A.I.'s Contributions to the Climate Crisis	I have looked at the research that exists on the damaging effects that AI has on the environment. Through survey and digital experimentation I was able to gather data from primary and secondary sources that confirmed my hypothesis. I have research and data to prove that the use of AI endangers our limited fresh water supply and habitats; additionally, it increases our energy consumption and carbon emissions. I've made recommendations to reduce environmental problems and prevent further damage with regards to our use of artificial intelligence.	Study/Discovery	Environmental Sciences	10	Senior
99	Parhar, Supriya	Algae: A Potential Energy Source?	<p>What if the slimy green algae in ponds could help power the world? Alternative energy sources are becoming increasingly important due to the growing need for energy and the negative effects that fossil fuels cause to the environment. This experiment explored the effects of differing conditions on algae's ability to produce measurable energy. To record the voltage over time, different electrodes were paired with different algae samples.</p> <p>The findings indicated that algae could produce electrical potential that can be detected, particularly when used with dissimilar electrodes. The highest voltages were continuously produced by the aluminum–nickel combination. Additionally, voltage improved by using agar to create a biofilm layer, which produced more than half the voltage of an AA battery.</p> <p>These results show that small-scale renewable energy could benefit from photosynthetic organisms. While improvements are needed, algae's accessibility makes it a promising option for future bioenergy, particularly in off-grid communities.</p>	Experiment	Environmental Sciences	10	Senior
100	Aphiwetsa, Elmond Zhang, Sting	Waste-E: An Autonomous Self-Driving Garbage Picker for Zero-Waste Cities	<p>Waste-E is a self-driving robot designed to collect garbage along streets within a user-defined area. Users interact with a digital map and simply drag to outline the region they want Waste-E to clean. Once the area is selected, the system automatically plans an efficient route that covers the entire zone without requiring a predefined path.</p> <p>As the robot navigates, it uses cameras and sensors to follow the planned route while continuously adapting to real-world conditions. If an obstacle appears, Waste-E dynamically avoids it and resumes its coverage path. When garbage is detected, the robot approaches the object, collects it, and stores it in an onboard container before continuing its task.</p> <p>By combining map-based area planning, autonomous navigation, and computer vision, Waste-E demonstrates how AI and robotics can be used to automate street-level waste collection. This project highlights a flexible and scalable solution for cleaner, smarter, and more sustainable urban environments.</p>	Innovation	Engineering and Computer Sciences	12	Senior
101	Yoshizawa, Aisa	Dream Bridge Across Saanich Inlet	Soap bubbles pop when their thin liquid film becomes unstable. This project studies how surface conditions affect bubble lifetime. Bubble survival time was measured on smooth, wet, rough, absorbent, and soft fabric surfaces. The results will be explained using evaporation, drainage, and mechanical disturbance.	Experiment	Engineering and Computer Sciences	11	Senior

Vancouver Island Regional Science Fair 2026 – Project Summary

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102	Tsao, Alvin Wu, Ruibo	Smart Pill Dispenser	Our project goal it to assist elders to remind them to drink medicine and bring medicine. --- This project presents a smart medicine dispenser designed to improve medication reliability for elderly users. The system uses an Arduino-based controller with a real-time clock to manage scheduled reminders. Integrated sensors with special mechanisms to verify dose retrieval and prevent duplicate or missed doses. The device operates on stable plug-in power and maintains time accuracy during outages, with a separate part that can be taken off for short traveling. A simple, minimal design prioritizes clarity and ease of use.	Innovation	Health Sciences	11	Senior
103	Wang, Yuanzhi	Development of an Autonomous Cleaning Robot Based on Helical Propulsion for Sandy Beach Benthic Organism Protection and Its Ecological Restoration Efficacy	To address the threats of beach litter to benthic habitats, where manual cleaning is inefficient and conventional machinery causes high disturbance, this paper develops an autonomous cleaning robot based on helical propulsion. Its core innovations include: bilaterally independent helical drums that enable stable, low-disturbance locomotion on soft sand with minimal ground pressure; and a multi-sensor system integrating LiDAR and depth vision with a YOLO-based deep learning model for targeted detection of small debris (e.g., cigarette butts, plastic fragments). The robot achieves fully autonomous navigation and closed-loop "perception–decision–execution" operations via a modular ROS architecture. A functional prototype and a high-precision recognition algorithm will be developed. Ecological restoration efficacy will be quantitatively assessed through comparative pre- and post-cleaning beach quality analysis. This study provides an engineering-feasible and eco-friendly solution for litter management in ecologically sensitive coastal zones.	Innovation	Engineering and Computer Sciences	10	Senior
104	Lim, Taekyung	Water Purification and Waste-Heat Recovery for electricity generation using solar energy	This project investigates the possibility of water purification and waste-heat recovery for electricity generation from using solar energy. The device concentrates solar energy using a concave mirror. Using the concentrated heat, the water is purified by distillation. Waste heat from distillation is recovered and converted into mechanical motion using the Stirling engine. The generator converts the mechanical motion into electricity and the LED indicates the presence of electrical output.	Innovation	Engineering and Computer Sciences	10	Senior
105	McDowell, Saoirse	Designing Safer Ship Propellers to Reduce Whale Injury	Ship strikes are one of the leading human-induced causes of injury and mortality among large whale species worldwide. With increasing maritime traffic and the expanding of global trade, interactions between marine vessels and whales have become more frequent, posing a significant threat to the conservation of vulnerable and Endangered cetacean populations, including Blue Whales, Fin Whales, and, locally, Gray Whales. Through this experiment, the testing will include new mechanisms to ensure the safety of the Cetacea species. Current propeller models are designed with sharp edges and lack external guards, posing a significant safety hazard if production continues unchanged. With this project, the redesigning of models creates a safer way of protecting animals in the ocean.	Innovation	Engineering and Computer Sciences	10	Senior
106	Dallin, Ethan	Nitrogen-Doped Carbon Quantum Dots as a Fluorescent Sensor for Hydrolysed Gluten	Celiac disease is an autoimmune disorder where gluten causes the immune system to damage the small intestine. It is important for people with Celiac disease to avoid gluten in their diet, therefore a gluten sensor could allow them to check the food they are eating. In this project, I synthesized nitrogen-doped carbon quantum dots (CQD's) and used them to do fluorescence experiments with hydrolysed gluten and other food molecules to determine how a CQD-based gluten sensor would work. I used an excitation wavelength of 405 nm, resulting in an emission wavelength of approximately 529 nm, where the intensity of the signal varied with the quantity of hydrolysed gluten present in the cuvette. I found that CQD's can reliably detect hydrolysed gluten in a pH 7 buffered solution measured with fluorescence corrected for inner field effect. This work could lead to a possible product for people with Celiac disease.	Study/Discovery	Health Sciences	10	Senior

Vancouver Island Regional Science Fair 2026 – Project Summary

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107	Qin, Jared	Discovering Hidden Galaxy Mergers: Finding Real Mergers Missed by Current Detection Methods	When galaxies collide, the results are spectacular: bursts of new stars, galaxies entirely reshaped, and supermassive black holes brought together. These mergers are some of the most important events in the universe, shaping everything we see today. Astronomers detect them by looking for galaxies that look visually disturbed, but even under ideal imaging conditions, standard morphological statistics fail to recover more than 55 per cent of post-merger galaxies, with identified samples biased toward low-mass, high gas fraction, and high mass ratio systems (Wilkinson et al., 2024). These "invisible mergers" look completely normal despite having just collided with another galaxy under current classification algorithms. If nearly half of all mergers go undetected, our understanding of galaxy evolution and predictions for future space missions like LISA, designed to detect gravitational waves from colliding black holes, could be fundamentally incorrect. Using the IllustrisTNG cosmological simulation, where every galaxy's true collision history is known, I identify which mergers are invisible and investigate what physical properties make them undetectable.	Study/Discovery	Math and Physics	10	Senior
108	Demirkol, Kaan	Time dilation with a model light clock	A light clock is a simple model used to explain time dilation. In a clock that is standing still, a beam of light bounces straight up and down between two mirrors. However, if the clock is moving in a straight line, the light must travel along a diagonal path between the mirrors. This means the light travels a longer distance between each "tick." Because the speed of light is always constant, the only way for the light to travel this longer path is for time to pass more slowly. As a result, an outside observer would see the moving clock ticking slower than the clock that is standing still. However, someone moving with the clock would see it as stationary and would measure time normally. Since motion is relative, each observer sees the other clock as moving, and both observations are valid from their own perspective. In this project, I will build a model light clock using mirrors and a laser to demonstrate and explain this effect.	Study/Discovery	Math and Physics	11	Senior
109	Chen, Aidan	Automatic vs. Symbolic Differentiation: A Scalability Analysis in Computational Mathematics	This project utilizes a specific property of dual numbers that allows the slope of a graph at any point to be calculated quickly. By using the property $f(x + \epsilon) = f(x) + f'(x)\epsilon$, we can instantly get the slope of the point by looking at the dual part of the output. It is preferred over numerical methods due to higher accuracy and symbolic methods due to better computational efficiency. This project uses Claude AI to generate the code that presents this automatic differentiation. The code, displayed by a compiler online, displays the real value of the function, the instantaneous slope of the point, the input value of the function, and the function itself.	Study/Discovery	Math and Physics	11	Senior
110	He, Wendi	Biomechanical Analysis of the Sit Spin in Figure Skating: Assessing Movement Load and Injury Risk	Figure skating is a highly demanding sport requiring precision, strength, flexibility, and balance. Notably, sit spin is a technically complex movement characterized by high angular velocity and prolonged single-leg support, which imposes considerable mechanical stress on the lower back, hips, and knees, influencing the health of skaters. This study investigates the biomechanical characteristics of the sit spin using quantitative modeling and simulation. Firstly, kinematic data acquisition followed by estimations of 30 competitive skaters from public competition videos and datasets are processed to extract critical body data. Secondly, dynamic models and classical mechanics equations were constructed to compute kinematic parameters to analyze compressive and shear forces imposed. Then, after importing relevant data obtained into OpenSim, movements and body stress can be simulated and quantified to visualize mechanical load acting on the targeted body region compared with the theoretical model. We finally discussed the correlations between movement patterns and potential injury risks, providing an evidence-based insights for technique optimization and injury-prevention strategies.	Study/Discovery	Math and Physics	11	Senior
111	Gibson, Elsa Zhang, Jason	Fecal Flora and Forgetting: Building a Machine Learning Model to Diagnose Alzheimer's Based on Bacterial Taxa	Building a machine learning model trained on the abundance of specific microbial taxa in the gut, in order to predict and diagnose diseases.	Innovation	Biotech	12	Senior

Vancouver Island Regional Science Fair 2026 – Project Summary

Exhibit #	Last, First Name	Project Name	Please describe your project.	Project Type	Project Category	Grade	
112	Choe, Yul	The Effect of Air Pressure on the Period of a Simple Pendulum	This project investigates the relationship between the air pressure and the period of a simple pendulum. The air pressure was controlled using a vacuum chamber while the period of the simple pendulum was collected.	Study/Discovery	Math and Physics	11	Senior
113	Chen, Ricardo	Mini-Purifier: Scaling Down Industrial Cleaning Technology for Home Use	My science fair project investigates safe, home-based methods to reduce pesticide residues on fruits and vegetables, inspired by advanced industrial purification technologies that use "awakening" activation, micro-molecular mists, and ultrasonic cavitation for deep cleaning without damage. I tested common household treatments—plain water (control), vinegar soak, baking soda solution, a small ultrasonic jewelry cleaner, and combinations—on apples and leafy greens. Using a colorimetric pesticide test kit, I measured residue levels before and after each treatment, while controlling variables like produce type, exposure time, and temperature. I also evaluated produce quality (appearance, texture, taste) to ensure no damage. The hypothesis: Certain combinations, especially ultrasound-assisted methods, remove more residues than simple washes by enhancing penetration and breakdown. Results show meaningful reductions with accessible tools, promoting safer home consumption of produce. This experiment demonstrates how everyday science can address real food safety concerns.	Experiment	Health Sciences	11	Senior
114	Anderson, Parker	Affects & Usage of CRISPR Technology in Cancer Treatment	Our project is a research project studying the ability for CRISPR to aid in cancer treatment.	Study/Discovery	Biotech	11	Senior
115	Galang, Michael Star Jones, Liberty	Impacts of social media, and overexposure of blue light in quality of life.	Our project is a secondary study involving the relationships between social media and blue light. We will be inspecting the relationships of these factors and explaining how they are interconnected. This study will delve into topics such as neurological changes over time with the introduction of social media, particularly in the density of grey matter and changes within the structure of the brain. We will be analysing key components of the brain, such as the prefrontal cortex, amygdala, and anterior cingulate cortex due to the their crucial functions pertaining to when under social media influence. This study will also delve into the general effects in the quality of life within individuals that are addicted to social media. Furthermore, we will comprehensively explain the addictive nature of social media and why blue light screens exacerbate this addiction. We will explain the effects that the internet has given through the change of memory networks and social interactions. This study will be an in depth analysis of the adverse effects that the internet has given rise to.	Study/Discovery	Health Sciences	11	Senior