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#	Project Title	Gr.	Division - G	Project Summary	Category	Lang	St/Exp/In n
1	Quieter Drones	5	Engineering and Computer Sciences	This project investigates how to make drones quieter by testing various propeller types as well as modifications to the drone.	Elementary	en	Experiment
2	Smell Your Way to Better Memory	5	Health Sciences	This experiment is about the effect of rosemary scent on short-term memory in children ages 9 - 14. Pure 100% rosemary oil was diffused into classrooms for two hours prior to children taking a visual memory test displayed through a power point presentation. The experiment was then repeated a week later without rosemary oil being diffused into the room. The number of correct responses from the two memory tests, one with rosemary and one without, were compared to one another.	Elementary	en	Experiment
3	Memory and heat	5	Life Sciences	How heat affects memory performance	Elementary	en	Experiment
4	Why Fire the Wifi?	4	Engineering and Computer Sciences		Elementary	en	Innovation
5	Salt vs Fresh: Which has the most bacteria ?	4 dual	Life Sciences		Elementary	en	Experiment
6	Biodiversity in Water from Different Locations Around Victoria	4	Earth and Environmental Science	I am going to take water samples from different locations around Victoria (likely Cadboro Bay, Elk Lake, Thetis Lake, Inner Harbour, tap water etc) and view them under a microscope. I will draw what I see, compare what I'm able to see, and record my notes.	Elementary	en	Experiment
7	Testing Water Qualities	4 dual	Life Sciences		Elementary	en	Experiment
8	Speed Battle	4 dual	Physical and Mathematical Sciences		Elementary	en	Experiment
9	That's the Way the Ball Bounces	5	Physical and Mathematical Sciences		Elementary	en	Experiment
10	Can freshwater aquatic plants survive on land?	5	Life Sciences		Elementary	en	Experiment
11	Fantastic Filters and How to Make Them	5 dual	Earth and Environmental Science		Elementary	en	Innovation
12	Bubbly Belly	5	Health Sciences	My hypothesis was that fennel tea would reduce acid reflux more than chamomile, and licorice root tea because it was first recommended by our family doctor, and it has vitamins, and minerals.	Elementary	en	Experiment

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13	MAY THE MAGNETIC FORCE BE WITH YOU	5 dual	Physical and Mathematical Sciences	We wanted to know what type of magnet picks up the most paper clips? We used a north and south magnet and a fridge magnet to see which magnet picked up the most paper clips. We found out that just because the north and south magnet is the heaviest and biggest magnet doesn't mean it can pick up 12 out of 12 magnets. The north and south magnet only picked up one and the fridge magnet picked up ten out of 12!	Elementary	en	Experiment
14	Pluto : Is it a planet in our solar system?	4	Physical and Mathematical Sciences	A review of scientific facts regarding the planetary status of Pluto and where it lies in our solar system	Elementary	en	Study
15	Balloon experiment soda/vinegar	4	Physical and Mathematical Sciences	grace will be attempting to blow up a balloon using baking soda and vinegar in a 2 litre bottle. the gases produced will inflate the balloon	Elementary	en	Experiment
16	Lake Pollution	5 dual	Earth and Environmental Science	Our question "Which lake is the least safe for fish" We went to different lakes and tested the pH GH KH NO3 & NO2 We found out that Swan lake was the least safe for fish	Elementary	en	Experiment
17	What is Happening to our Oceans? Microplastics around the Pacific	4	Earth and Environmental Science	My project is about microplastics. Microplastics are pollution caused by plastic degrading in the ocean into small particle-like bits. These microplastics can be hard to see, so how can we find out if they are in the sand at a beach? Are microplastics everywhere evenly, or do some beaches have more microplastics than others? This science project tests sand for microplastics at nine beaches in Victoria and Vancouver in British Columbia, and across the Pacific Ocean in Hong Kong and Thailand.	Elementary	en	Experiment
18	Help an Apple Stay Fresh	4	Biotechnology	When you slice an apple in half have you ever seen it turn brown? It turns brown because the oxygen gets inside the apple which reacts with the iron the outside of the apple and turns it brown. This experiment will show you how to prevent it from turning brown longer.	Elementary	en	Experiment
19	Dangers Of Vaping	4	Health Sciences	The purpose of my project is to educate people of the dangers of vaping. Although people think its an alternate healthy version of smoking, but in my studies I have found it has long term negative effects on health.	Elementary	en	Study

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20	A window into the strength of glass	4	Engineering and Computer Sciences	The goal of this project is to test which types of glass are best for use in car windows. The following materials were used: (1) 10 by 7-inch pieces of tempered, laminated, and regular glass; (2) steel balls with different weights; (3) a wood-made apparatus to do the test safely; (4) camera to do slow motion videos; (5) a ruler to measure size of broken glass. The steel ball was dropped at different heights to hit the different types of glass, and measurements were done to find out how sharp and strong the different types of glass were.	Elementary	en	Experiment
21	What is the density	5	Biotechnology		Elementary	en	Experiment
22	Moody Blueberries	5	Life Sciences	Have you ever noticed blueberries change colours? The skin of blueberries is filled with a pigment called anthocyanin which has a colour spectrum of red, violet and blue. Can the colour change of blueberries predict whether a solution is acidic or alkaline? My hypothesis is the redder the colour the more acidic. To test my hypothesis, blueberry skin extract was mixed with different liquids. The solutions with the redder colours had a pH less than 7 and the bluer colours had a pH greater than 7. Blueberries can be used to determine whether a solution is acidic or alkaline.	Elementary	en	Experiment
23	Safe to drink	5	Earth and Environmental Science	My big question for my project is whether a simple, home-made water filter is effective to remove impurities from a polluted water source. I built a biosand water filter and a homemade charcoal filter to test my hypothesis that even a simple filter can improve the quality of water. 663,000,000 people do not have access to clean drinking water and 4000 children die from water related diseases every day. If we can use simple ingredients to improve water quality then we can teach developing countries how to improve their water and quality of life.	Elementary	en	Innovation

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#	**Project Title**	**Gr.**	**Division - G**	**Project Summary**	**Category**	**Lang**	**St/Exp/In n**
24	Plant Powered Energy	5	Life Sciences	My project is Plant Powered Energy. I tested Pears, Oranges, Limes and Potatoes to see witch one powers the most energy. My results were that the pears produced the most power. The potato came 2nd. The Orange came 3rd and the lime came last.	Elementary	en	Experiment
25	The Genders Face Off	5	Life Sciences	My question is it necessary to split boys and girls into different sports leagues before puberty. I have researched genders and sports and what is happening with them. I have tested 11 people and I haven't found much difference because I have only tested 3 girls and 8 boys so I don't have much info. Over the next two weeks I'm going to collect more data so I have a good amount to make a reasonable conclusion.	Elementary	en	Experiment
26	Amethyst It Up	6	Life Sciences	Tested to see if amethyst would help plant growth.	Intermediate	en	Experiment
27	Clean or Green: Does hydrogen peroxide protect you from bacteria?	5 dual	Health Sciences		Elementary	en	Experiment
28	Musical Waves: Understanding the Physics of Sound	6	Physical and Mathematical Sciences	How sound works and how to make different music? I explore the physics of sound by visualizing different sound waves. Then, I experiment with the Chladni plate, which is an experiment with sound and frequency vibrations. I put a large metal plate on top of a speaker and sprinkle sand on the metal plate. I play different music on my piano and observe the different patterns the sand makes. I observe how fast the sand change patterns and how many patterns there are in a music piece. I measure the sound waves using SoundScope App.	Intermediate	en	Experiment
29	Don't Be Salty 'Bout It	6 dual	Life Sciences	Our project is about testing if MSG could one day replace salt as a seasoning. We tested this by feeding 2 seasons added to french fries to our class without telling which seasoning is which, furthermore, we told them to answer simple questions about the 2 popular seasonings.	Intermediate	en	Experiment

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30	Electrical Mud	6	Earth and Environmental Science	I am trying to create electricity, and see which type of mud creates the most from estuary mud, biosolids and garden soil. I have bought 3 Microbial Fuel Cells(MFCs), and put on 1 type of mud for each MFC container and assembled them all. I plan to graph my results with three types of graphs. I have had a lesson in chemistry, a lesson in electronics, electrical circuits and hacker boards, the hacker board which I will build will be on display along with my MFCs.	Intermediate	en	Experiment
31	What is the most important component of balance?	6	Health Sciences	My project is an experiment to determine the most important component of balance: vision, the vestibular system, or spatial awareness. To test my hypothesis, I use human subjects. These subjects do balance tests to isolate the components of balance. For vision, the subject is blindfolded to block sight. For the vestibular system, the subject wears earplugs/headphones to simulate an inner ear disruption. For spatial awareness, the subject wears all previous accessories to take away the most possible ability to determine position in space.	Intermediate	en	Experiment
32	Walking on water shoes	6	Engineering and Computer Sciences	In our project we are making shoes that will allow you to walk on water. We are calling these shoes Water Sprints. If people can walk on water, it will be good for exercise, you wouldn't have to pay for a Ferry or a plane ride just to go to Vancouver.	Intermediate	en	Experiment
33	Double Trouble: A Twin Study	6 dual	Health Sciences	"Double Trouble: A Twin Study" is an experiment which explores the impacts of genetics on a person's senses by testing the taste, touch, and smell preferences of identical and fraternal twins. We tested six sets of twins and determined that identical twins shared more similar preferences than fraternal twins. Prior to testing the twins, we obtained their consent through a written consent form that outlined the goals of the study and how the information would be shared. Our results indicate that sense preference is in some part impacted by one's DNA, but environment is also a factor in shaping preferences.	Intermediate	fr	Experiment

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34	A cure to harmful plastic	6	Earth and Environmental Science	The aim of this project is to have acetone melt plastic. But afterwards where would it go ? Even i thought about it .The plastic would be placed over plastic eating fungi .Since this theory has been proven by scientists I tried to incorporate it in my project .Thinking of how to incorporate it in this project was difficult ,but i thought where would the plastic end up ? perhaps the ocean no acetone harms sea life or in the soil ?no plastic pollutes the soil .	Intermediate	en	Experiment
35	Is it Time to Water your Plants?	7	Engineering and Computer Sciences	I am creating a soil moisture sensor to indicate whether a plant is moist or not. This helps reduce water waste and helps with a growing plant. I used a soil moisture sensor kit from Science Buddies to do my human centered design.	Intermediate	en	Innovation
36	Thermal energy storage using phase change material	6	Physical and Mathematical Sciences	The need for thermal energy storage for renewable energy applications and the concept of the heat, temperature, and thermal conductivity are discussed and experimentally shown. In the experiments the method of finding suitable materials are shown. As a conclusion at the end, the key design parameters found by the experiment indicate that the best material with the highest capacity of holding thermal energy are those that experience change from solid to liquid.	Intermediate	en	Experiment
37	Gummy Growth	6 dual	Physical and Mathematical Sciences	Testing gummies in more than one liquid	Intermediate	en	
38	Eye Catching Ears	6	Physical and Mathematical Sciences	My project evaluates which of three types of audio devices does the best job of blocking sound. While wearing each device, subjects identify whether they can hear each of three different sounds played from a recording.	Intermediate	en	Experiment

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39	The Art of Sound	7	Physical and Mathematical Sciences	My project is about Chladni Plates. They are normally a metal plate attached to a base. When a violin bow it struck against it, vibrations are sent through the plate. When you put salt on the plate, patterns are formed in the salt. I did a more modern version using a speaker. It it an experiment project. My dad and me built the whole contraption. I also made a slideshow about how the vibrations and frequency effect other things like real life impact and damages.	Intermediate	en	Experiment
40	Cleaner Toothbrush	7	Health Sciences		Intermediate	en	Experiment
41	Cooling Kerfuffle	6 dual	Engineering and Computer Sciences	Our innovation project is a jacket that will keep you cool during hot weather. The reason it is a coat that is keeping you cool is that it can also protect you from diseases from malaria or ticks. Our coat is kind of simple but some features are like the way they are for a reason. The coat can stay noticeably cold for a couple of days.	Intermediate	en	Innovation
42	Don't Smoke	6 dual	Health Sciences	The project involves showing the effects of smoking on the respiratory system by using a pump, cotton balls, clear jugs and tubing to draw smoke from 55 cigarettes through the system. The cotton balls get progressively more black and the jug clouded, showing the effects of smoke on the lungs.	Intermediate	fr	Experiment
43	The Crater Creator	6	Physical and Mathematical Sciences	Asteroids have hit the moon for billions of years. The goal of my project was to study how changing variables of an impactor affect the resulting crater volume. Dropping impactors of different velocities, masses and diameters into compacted flour, I measured the diameter and crater depth to determine crater volume. My results were consistent with my hypothesis in that mass and velocity increased the crater volume but impactor diameter did not. Recognizing that there were several limitations to my experiment, I tried to used my data to understand the properties of impactors that formed real moon craters.	Intermediate	en	Experiment

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44	Plastics & Aquatic Plants: Can They Co-Exist?	5	Earth and Environmental Science	Plastic pollution is a global issue affecting all of us. The purpose of this project was to investigate if plastic pollution is affecting aquatic plants. The project hypothesis is plastic is affecting the ability of plants to photosynthesize.	Elementary	en	Experiment
45	Regularly unleaded? Investigation Fluffy and Fido's toys.	5	Physical and Mathematical Sciences	An investigation of presence of lead in common pet toys.	Elementary	en	Experiment
46	Oil spills and marine life	5	Earth and Environmental Science	My question is do oil spills effect marine life. I put a feather representing seabirds feathers and a sponge representing organisms at the bottom of the sea. I put them in water and oil and Observed what happened.	Elementary	en	Experiment
47	Man's Best Friend but do they Listen?	5	Life Sciences	How many times do you need to repeat a command to a dog with a reward before they will learn the Action and perform it only on spoken command without a reward.	Elementary	en	Experiment
48	How video games effect your focus	5	Health Sciences	I took participants and gave them a math test.Then I made them play video games for forty five minutes. I retested them with the same math test.	Elementary	en	Experiment
49	Sugar vs. Taste	6 dual	Health Sciences	In our experiment we wanted to show people that they can still enjoy their favorite desserts, but at the same time be healthy by having less sugar. If you have too much sugar it can lead to many health problems such as diabetes and may increase the risk of heart disease. We made mini chocolate muffins with a recipe from a children's cooking book, 'More Kids in the Kitchen.' We wanted to show that the cakes can be healthier and still enjoyable.	Intermediate	en	Experiment

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50	Crazy CRYSTALS	6	Physical and Mathematical Sciences	Ma question: Comment faire pousser les meilleurs cristaux? J'ai experimenter avec la quantite de sucre, a la quantite d'eau, et le sucre blanc a le sucre brun. J'ai aussi experimenter comment ils grandissent sur ficelle, bois, et metal. J'ai suppose que: 1. le plus de sucre a l'eau, le meilleurs les cristaux 2. le sucre blanc pousserait mieux que le sucre brun 3. la ficelle developperait mieux que le bois, et le bois mieux que le metal Venez voir ma presentation pour apprendre ce que j'ai conclu!	Intermediate	fr	Experiment
51	Grow...Mold...Grow	6	Life Sciences	For science fair my question was "How does cold, room temperature, and heat affect mold growth on cottage cheese, strawberry, bread, bell peppers, and tofu?". To test this I put a sample of each food some in under a heatlamp surrounded by tinfoil at 32 degrees C, some at room temperature at 20.5 degrees C, and some in the fridge at four degrees. With my experiment I found that mold grows best at room temperature and food stores best in the fridge.	Intermediate	en	Experiment
52	Comment la temperature de l'eau affecte des plantes?	6	Life Sciences	My project assesses whether or not the water temperature affects seed growth. I test the plant growth by using 3 different water temperatures before and after first sprouting, so that I have a comparison control sample.	Intermediate	fr	Experiment
53	Quelle genre de musique préfèrent les radis?	6 dual	Life Sciences	For this experiment we planted radish seeds and then played music while they grew to see if different kinds of music affected the growth of the radish plants. We found that the radish plant that listened to rock music grew the best. We also tested classical, jazz and rap music. Our control had no music.	Intermediate	fr	Experiment

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54	To Dye or not to Dye, that is the question...	6	Earth and Environmental Science	My protect is about hair dye and how it impacts our environment. I will test to permanent hair dye, one with ammonia and one ammonia free. also there will be a plant in the water. I am getting the water from Colquitz River because there have been a news articles on chemicals going into it. so thing I noticed that the hair dyes were the same. This is a world problum,it is just as bad as plastic bags and straws. there is solions there is plant basted hair dye.	Intermediate	en	Experiment
55	Quelle langue a le plus de bacterie?	6 dual	Health Sciences	Le question que nous avons demander est, "Quelle langue a le plus de bacterie? Les chats, les chiens ou les humaines?" Pour tester notre question, nous avons rassembles le salive des animaux en utilisant un cotton-tige puis on a soingeusement mis sur le gel dans des boites de petrie et laisser six jours pour etudier les resultats.	Intermediate	en	Experiment
56	The Foamy Fidget	6 dual	Health Sciences	We developed a fidget that assists students in their focus, while being able to write with it. We tested this out on human subjects, using the fidget pencil that we had made from scratch. Using Google Forms, we created a form that asked about the subjects' focus levels before we gave them the fidget pencil, and after we gave them the fidget pencil. Then we collected all of our data and displayed it on our board.	Intermediate	en	Experiment
57	WATER SOURCES - DO PLANTS CARE	6	Life Sciences	My project is about how do different types of water effect plant growth. I chose to use garlic cloves, narcissus paperwhites and green onions, because they all grow really fast to show the effect of tap water and rain water on their growth. I found out that rain is better than tap and we should use rain to water our plants.	Intermediate	en	Experiment
58	Whiten Well?	6	Health Sciences	Many toothpastes advertise that they "whiten expertly" or "make your smile shine", but do they really? I am conducting an experiment with different brands of whitening toothpaste on stained eggs to find out whether they whiten as well as they say they do, what ingredients whiten best, and if they work at all! The study uses controlled variables, similar--yet not identical--toothpastes, and brands that you thought you could trust.	Intermediate	en	Experiment

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59	The Power of Ethylene	6	Life Sciences	My project looks at the Ethylene including:what it is, how it works, how fruits are affected by it, how people use it and how you can use it at home.	Intermediate	en	Experiment
60	Making airplane food taste better	6	Health Sciences	For my project I wanted to see if sound affects your taste, I figured out that the younger age groups were able to pick out more sounds than the older age groups.	Intermediate	en	Experiment
61	Sugar Snake	6	Physical and Mathematical Sciences	My project is a carbon sugar snake that is made by sand and fire, when the fire burns it takes the sugar mix and makes a carbon snake.	Intermediate	en	Experiment
62	Pressure Plate to Prison	6	Engineering and Computer Sciences	Imagine you are in your house at night, and the power goes out. Your alarm doesn't work without power, so how are you going to know if someone breaks into your house? Pretty scary! Our innovation focuses on how to make a simple light bulb alarm circuit.	Intermediate	en	Innovation
63	The "5 second" rule - fact or fiction?	6 dual	Life Sciences	Our project is about the 5 second rule, and if it's true or not. What we did to prove our hypothesis, which is that the rule is false, is we placed slices of apple on the floor for 5, 15, 30, and 60 seconds, and stamped them in petri dishes filled with a substance composed of agar and beef gelatin, left them to sit for 3 weeks, and then used a gram stain protocol to see if our hypothesis was correct. Our conclusion was that it doesn't matter how long food is on the ground because bacteria is transmitted immediately.	Intermediate	fr	Experiment
64	The Gravity Battery	6	Engineering and Computer Sciences		Intermediate	en	Innovation
65	Dominating Brain Dominance!	6	Life Sciences	In this project, I determined who in my class was left brained or right brained by conducting four tests to determine their dominance of the hand, foot, eye, and ear. The right (or left) side of the brain is dominant if they prefer to use the left side of the body for most tasks. You see, the theory is that people are either left-brained or right-brained, meaning that one side of their brain is dominant. I thought that this would be interesting because It's something cool to know about yourself.	Intermediate	en	Experiment

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66	Aqualectric	6	Engineering and Computer Sciences	A battery that is powered by water and metals.	Intermediate	en	Innovation
67	Organic Mason Jar Fish Garden	6	Life Sciences	In this experiment I will grow basil plants without soil (hydroponics). I will also determine if having fish in the water below the plants will help them grow better (Aquaponics). Aquaponic plants require the use of fish, utilizing fish waste as organic food for growing with the plants naturally filtering the water in which the fish lives. I will be growing basil plants both hydroponically and aquaponically. I will be using Goldfish, a common fish belonging to the cyprinid family, native to eastern Asia. Goldfish are cold water fish. Their ideal water temperature is between 20 to 23 Celsius.	Intermediate	en	Experiment
68	Travel Pal	6 dual	Engineering and Computer Sciences	Travel pal is a tooth brush that lights up your life! It has a light, toothpaste, and a mirror built in. Everything in this project was made ourselves, including everything that was 3D printed and the electronic LED light.	Intermediate	en	Innovation
69	Crystal Chemistry	6	Physical and Mathematical Sciences	If the saturated solution is placed in an ice bath then the quickest crystal growth will occur because a colder solution will contract and force the solute particles close together. This was the hypothesis for my project which examined the effect of temperature on crystal growth. Three saturated Borax-water solutions were observed at different temperatures, in an ice bath, a refrigerator and at room temperature. The quickest crystal growth did occur in the ice bath. Going forward, I would like to experiment with desalination to produce clean drinking water for people around the world who are facing water shortages.	Intermediate	en	Experiment

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70	One-4-All	6	Health Sciences	For my project, I chose to create a product that could be multi-purpose. I wanted it to be a shampoo, conditioner, body wash, and exfoliant - all in one container. My hypothesis was that I would be able to use all natural ingredients to make a product that worked great and also would reduce plastics to be more environmentally friendly.	Intermediate	en	Innovation
71	Time Flies	6	Health Sciences	I wanted to find out if peoples perception of time changes when playing on a screen. Participants were asked to sit in a room and estimate 10 min and play on a screen and estimate 10 min. I found that people under estimated by a lot when on a screen and estimated most of the time almost 10 min when doing nothing.	Intermediate	en	Experiment
72	Induction Vs Electric Heating	7 dual	Physical and Mathematical Sciences	We are testing to see if Induction Heating works faster and more efficiently then Electric Heating.	Intermediate	en	Experiment
73	Cube or be Cubed	7 dual	Physical and Mathematical Sciences		Intermediate	en	Experiment
74	A Brush With History	7	Health Sciences	I was testing natural substances used by the First Peoples as well as Colgate toothpaste to see which one is best at preventing bacterial growth.	Intermediate	en	Experiment
75	Aquaculture vs agriculture and hydroponics	7	Life Sciences	My science fair progects is on plant growth in soil, on fish water and in tap water. 25 seeds were planted in each pot and I was testing to see which plant grew the longest.	Intermediate	en	Experiment
76	Say The Magic Words!	7	Health Sciences	My project looks at the power of 19 magical words. These words are: "I am giving you this puzzle because I have high expectations and I know that you can solve it." I wondered, "Do girls age 12-13 respond better to instructions prefaced with words of challenge and encouragement or straight instructions?" I did this by giving a partially insolvable word search to two groups of participants. One group received these words before receiving the puzzle, the other group does not. I found out that these words do encourage students to work longer and harder at a task.	Intermediate	en	Experiment

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77	How do you see photo's	7	Health Sciences	I was seeing how different photo filters show details in photo's. My question was which filter works the best. I chose to do this because I have had a passion for photography for years. My hypothesis was that original would work the best because of details and colours and vanilla would work second best because it pops out to me. Sunscreen was blurry so I was not sure about it. My hypothesis was correct but not correct because original worked the best but sunscreen was second and vanilla was not clear enough for the people I tested in my experiment.	Intermediate	en	Experiment
78	Don't Fear the Kefir	7 dual	Health Sciences	Our project is about kefir, how it is made and what the health benefits are. We wanted to see which type of milk would to best for making kefir. For our project we made six different types of kefir and measured the levels of different ingredients in the milk each kefir was made. Then using our results we determined which milk would be best for making kefir.	Intermediate	en	Experiment
79	Grounds For Change: Brewing a Better Future	7	Engineering and Computer Sciences	Every year coffee grounds end up in landfills, producing methane, as well as in the water supply, lakes and oceans. The aim of this project is to reduce coffee ground pollution, answer BC Ferries' need for an ample alternative biodiesel supply, and to demonstrate the science and economics of coffee ground oil and biomass production. This project proposes the creation of a coffee ground processing plant to be included as part of Vancouver's exiting waste and recycling programs in cooperation with BC Ferries, which will suppl BC Ferries with at least 10 million liters of coffee biodiesel.	Intermediate	en	Innovation

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80	Bandaged Balloons	7	Health Sciences	Stitches are perpendicular to a wound because they provide the greatest support to oppose the force that pulls a wound apart. For smaller wounds we use self-adhesive bandages. Out of so many different ways, which one works the best? I hypothesized that the crossed pattern is the most efficient at keeping a wound closed. Clear tape was applied three different ways to a balloon. The mark with the smallest measured width was recorded with the perpendicular and crossed pattern. In conclusion, the perpendicular and crossed pattern of applying self-adhesive bandages would be the best way to keep a wound closed.	Intermediate	en	Experiment
81	Bubble Anatomy	7	Physical and Mathematical Sciences	My project is discovering basic bubble anatomy and finding out what ingredient can improve a standard bubble solution. After my initial research, I determined that bubbles are composed of three major ingredients. I set out to look for an ingredient that would enhance the solution. I learned that shampoo actually does the job of one of the three major ingredients, but even better. So, I decide to integrate shampoo into the mixture. After the testing was done, my hypothesis was accepted and confirmed my theory that shampoo will improve a standard bubble solution if added.	Intermediate	en	Experiment
82	The En-light-ening Scooter	6 dual	Engineering and Computer Sciences	Our project is a scooter that has a stepper motor attached to the front wheel and when the scooter is moved the motor gets turned and the light on the front of the scooter lights up using the energy of the motion from the scooter.	Intermediate	en	Innovation
83	Seatbelt Saver?	6	Health Sciences	Remembering your young children in your car when you park is important. I wanted to test if unbuckling your seatbelt with your left hand, made the driver turn their head to notice a young child in the back. I thought of this idea when I heard about the Dutch Maneuver or otherwise known as The Dutch Reach Project when my mom read about in The New York Times. The Dutch Maneuver was created by Dr. Charney after someone opened their car door and a 27-year-old nursing student rode into it while on her bike and died.	Intermediate	en	Experiment

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84	How To Prepare An Apple So That It Dosen't Go Brown	5	Biotechnology	A cut apple will go brown quickly. This experiment will test different ways to prevent that.	Elementary	en	Experiment
85	Prime Power	5 dual	Physical and Mathematical Sciences	Exploring patterns in number sets, like prime numbers and random numbers.	Elementary	en	Experiment
86	Speedy Science	5	Physical and Mathematical Sciences	Testing how the placement of weight and aerodynamics affects the time it takes for a Kub Kar to go down the track.	Elementary	en	Experiment
87	Thrips the destructive pests	5	Life Sciences		Elementary	en	Experiment
88	Watts The Best Battery	7 dual	Physical and Mathematical Sciences		Intermediate	en	Experiment
89	Green Cleaning is Good Cleaning	7	Earth and Environmental Science	We let the pennies touch bacterial human hands first, and then compared them by cleaning the pennies with 3 cleaning products (eco and non-eco) Vim, Lysol, and a mixture of baking soda and vinegar. Our question was does Eco-Friendly products live up to the standards of Non-Eco Friendly products?	Intermediate	en	Experiment
90	MagLev	7 dual	Physical and Mathematical Sciences	This project is about exploring MagLev, were wondering if we can make a magnet levitate for 10 seconds, if we can we will add weights to the magnet. It worked out and now we know that it can hold up to approximately 60.0 gm.	Intermediate	en	Experiment
91	Put a Twist on it	7	Engineering and Computer Sciences	This Science Fair project is on wind turbines and the electricity they produce. I wanted to test 3 sets of blades each with a different twist. The twists put into the blades were 15°, 30°, and 45°. The question I asked was: Does the twist in a wind turbine blade affect the amount of energy captured from the wind?	Intermediate	en	Experiment
92	Dirty Apples	7 dual	Earth and Environmental Science	Our project involves testing the amount of bacteria we consume that is found on the surface of apples. We tested one apple from 3 different stores, Red Barn, Peppers and Save on. We later compared our results to find out which apple had the most bacteria on its surface.	Intermediate	en	Experiment
93	Fibonacci in Fruits	7	Physical and Mathematical Sciences	Our project is about the fibonacci sequence and how its found in fruits.	Intermediate	en	Experiment

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94	Decomposing Plastic: Composing a Greener Future	7 dual	Earth and Environmental Science	Since plastic is such a big problem in the world, and there are far too little ways of dealing with it, we decided to do a project that addresses this problem. But we didn't want to be more harmful to the environment for just an experiment. So we decided to use natural and environmentally friendly decomposers. Our project is seeing what type of decomposer, if any, works the best at weakening plastic wrap (seran wrap).	Intermediate	en	Experiment
95	Paint from Nature	7	Physical and Mathematical Sciences	I set out to create natural paint as a substitute for harmful chemical paints. I collected samples of Red alder bark, grass, clay, blackberries and dirt. I blended them with egg yolk, vinegar, milk and lake water, tap water, and salt water. I went on to five sites and collected sixty two pieces of information which I sorted into different categories and I plan to put in a project book with all my other challenges and pieces of information I collected along the way.	Intermediate	en	Innovation
96	Hydrella - No Bottle Are Safe	7 dual	Earth and Environmental Science	Our project is about a water saving and harvesting system.	Intermediate	en	Innovation
97	Sun Spot Cycles	7	Earth and Environmental Science	My Study is about how the sun has different cycles and how that we are going into a solar minimum. My question was 'How do solar cycles affect us and where is the sun going to now?'	Intermediate	en	Study
98	Taste or Replace	7 dual	Earth and Environmental Science	We tested to see if people would be willing to change what type of milk (almond, rice, cashew, soy, coconut, or oat) they drink if they knew the environmental impact of dairy milk. We conducted a controlled experiment with two groups. One we didn't tell about the environmental impacts of dairy milk and the other we did. We found that if people knew about the environmental impact of milk they were more likely to switch to a non-dairy alternative.	Intermediate	en	Experiment

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99	Plastics are going down	7	Earth and Environmental Science	My project is about Biodegradable plastics. I tested to see whether plastic packaging that was labeled "biodegradable" would actually biodegrade over 6 months. (in a home composter) I had two different composters and a bucket of ocean water. I tested 7 different biodegradable plastics and 7 control plastics. The plastics I used were: dog poo bags, plastic cups, paper cups with a cellulose lining, round food containers, plastic forks, zip lock bags and cellophane plastic bags. Then used statistics to verify my data. I am still working through the research process.	Intermediate	en	Experiment
100	What Is In Your Glass?	7	Physical and Mathematical Sciences	My aim is to find out which type of water (tap, rain, bottled etc.) is the softest. That way people know what type of water to use when cleaning, (because softer water cleans better) and when drinking. (because harder water gives back more of the minerals you lose when you sweat and tastes better) The hardness of water is not the same as the density of the water. The term hardness is a word that geologists and other water scientists, like hydrologists, use to describe how many tiny particles of minerals are in the water.	Intermediate	en	Experiment
101	The BIOWAX Straw	7 dual	Earth and Environmental Science	We created a 100% percent biodegradable straw made out of soy wax in hope to help keep the earth from pollution. We understand a big part of pollution is straws so this is why we created this one.	Intermediate	en	Innovation
102	Chicken Defense	8	Biotechnology	After I found three of my chickens dead in my field, me and my family tried everything to protect them but nothing worked. When science came around I couldn't think of anything, but then it came to me and I created a new way of protecting my chickens, a structure that will not only protect them from eagles and hawks, but will also provide shade for them and keep their water cool in the summer.	Junior	en	

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103	Bactérie vs. UV Lumière	8 dual	Life Sciences	Bacteria samples were collected from various public sources including (1) a gas station toilet flush handle; (2) the front door handle of a toy store; and (3) the touchscreen and keypad of an ATM. Samples were isolated in petri dishes, provided with a sterile nutrient source, partly exposed to ultraviolet light, and observed for seven days. Measurement of bacteria growth demonstrated varying levels of growth per sample and varying responses to UV light exposure. The project identified which samples grew at a faster rate and allowed observations on the effect of UV light on bacteria growth.	Junior	fr	Experiment
104	DIY PLASTIC CREATIONS Can you make useful things from your home recycling bin?	8	Earth and Environmental Science	I wanted to learn which household recycled plastics could be melted in an oven to re-create household objects like bowls and plates. I researched the characteristics of different plastics and decided that #2 and #4 were suitable for this project. I cut up and melted household recyclables and then placed them in molds to make useable objects like plates and bowls.	Junior	en	Innovation
105	Mycoremediation	8	Earth and Environmental Science	For my project I tried to figure out if mycoremediation is a safe, cost effective and relatively cheep way to remove oil from contaminated sites. I used oyster mushrooms straw desil and gasoline oil to do this experiment. So far I have collected one and a half pages of data 15 days of pictures. So far the data is inconclusive but I think that the gasoline oil is being remediated better, but I cannot say for share due to the fact that I'm not done my project.	Junior	en	Experiment

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106	Capturing Carbon to Stop Climate Change	8	Engineering and Computer Sciences	The study utilizes a modified model of PCC (Post Combustion Capture) device attached to an exhaust pipe of a car to capture carbon dioxide (CO2) from the exhaust emission. The exhaust air runs through a filter lined with quicklime (CaO) solvent. The reaction between quicklime (solvent) and carbon dioxide (CO2) will produce calcium carbonate (CaCO3) which has many commercial uses. The CO2 saturated solvent can be removed and replaced with fresh quicklime solvent. To demonstrate the effectiveness of the proposed technology, the device is placed in an airtight environment and concentrated CO2 is forced through it.	Junior	en	Innovation
107	Eye Prefer Blue	8	Health Sciences	My project was asking if girls of the ages 13-14 think that blue eyes are more beautiful.I thought I would find that blue eyes are considered more beautiful. I found that this was not the case and it was pretty much 50 50.	Junior	en	Experiment
108	L'analyse spectrale des ondes sonores	8	Physical and Mathematical Sciences	I wanted to know how the length and diameter of a PVC tube affects the fundamental frequency of its sound waves. To test this, I cut 12 different lengths and diameters of tube. I hit the ends of the tubes with flip flop in the microphone of a tablet with a spectral analysis app on it. I measured the frequency in Hertz. I found that the length of the tube makes a large difference in the fundamental frequency. Although the diameter made a very miniscule difference.	Junior	fr	Experiment
109	Read Speed	8 dual	Life Sciences	In this project, our question was "Does the screen of what you read effect the speed and how much you remember about the piece of writing." We had participants read a piece of writing that we wrote while we timed them. we then had them fill out a memory test asking questions related to what they remembered from the piece of writing. We found that paper is the one you read faster on out of laptop, iPhone and paper. We also found out that reading on any of the devices, does not affect how much you remember.	Junior	en	Experiment

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110	Toxic Sunscreen: The Effect of Sunscreen On Marine Plankton	8	Earth and Environmental Science	I attempted to determine if chemical sunscreen (oxybenzone) and physical sunscreen (zinc oxide) negatively affected amounts of plankton in ocean water. I collected samples of ocean water, added various concentrations of both chemical and physical sunscreen to 6 samples, then added marine plankton to each sample. I observed the samples after 1 day, 4 days and 8 days and counted the amounts of plankton in each. I discovered that there was a dramatic decrease in the amounts of plankton in all samples containing sunscreen, with chemical sunscreen decreasing the plankton levels the most.	Junior	en	Experiment
111	Les Ages vs Les Hautes Frequences	8	Health Sciences		Junior	fr	Experiment
112	Organs and Stem Cells	8	Life Sciences	I am doing a study project about the possibility of using stem cells to make human organs. I researched online on many different sites about the subject and printed them out and organized them into a folder. I also made clay models of the three most needed organs (Kidney, Heart and Liver) and painted them. I also made a slideshow and If I have time I would like to interview a scientist or someone who knows a lot about this subject.	Junior	en	Study
113	Protein Problem: A digitized at-home urinalysis device to aid patients suffering from kidney disease	9	Engineering and Computer Sciences	For long-term patients of kidney diseases, daily testing of urine for protein using urinalysis strips is a reality. Urinalysis strips contain many different square markers that indicate readings ranging from specific gravity to pH that change colour upon coming into contact with urine. To overcome the ambiguity of urinalysis test strips, I created a cost-effective, handheld consumer device to accurately measure the protein found in human urine to monitor and/or diagnose kidney diseases. For this urine protein measuring device to be considered accurate, it is integral to be able to distinguish between the medically defined levels of protein in urine.	Junior	en	Innovation

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114	The Dirt On Microplastics	9	Earth and Environmental Science	I set out to find to what degree micro(nano)plastics are accumulating in the local earthworms. I built two worm farms. In one, I introduced microfleece to see if the worms would ingest them as they would other food. Then, I sampled worms from the composts around Pender Island. In my lab that I built in my bathroom, I disintegrated them using potassium hydroxide and created glass slides to analyze under my microscope. Using the same process, I also created microscope slides for the worms in my farms to see if, they did in fact ingest the plastic.	Junior	en	Experiment
115	Using Animal Behavior to Detect Environmental Changes	9	Earth and Environmental Science	Many studies show that animals sense both gradual and instant environmental changes quicker than humans (tsunamis, earthquakes, temperature, etc.). Using an existing data base of environmental data, this study compares animal behavior to changes in the environment. Some variables included in this study are migrations, population fluctuations in different aquatic species, ocean temperature, oxygen, and salinity.	Junior	en	Experiment
116	To Sweep or Not to Sweep? The Effects of Sweeping on Curling Rock Distance	9	Physical and Mathematical Sciences	A rock-throwing rig was designed and built to deliver curling stones with consistent force. Total distance travelled was measured for rocks "thrown" without sweepers, with one sweeper, and with two sweepers, with multiple trials conducted for each condition. Distance results were compared, and the effects of one sweeper versus two sweepers were analyzed. Overall, it was determined that sweeping had a significant impact on total distance travelled, with the primary sweeper accounting for the significant majority of the extra distance effect. The role of the secondary sweeper was shown to be minimal.	Junior	en	Experiment
117	Le Meilleur Hygrometre du Bois	8	Engineering and Computer Sciences	My experiment was testing how to make the best wooden hygrometer. A hygrometer is used to measure humidity. I was trying to make one that would react as quickly as possible. I made six hygrometers using various combinations of wood, cut longitudinally or tangentially, with various thicknesses. Then I tested them in three places with different humidity.	Junior	fr	Innovation

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118	Les Habitudes Nerveuses	8	Health Sciences	For my project, I chose to research and test nervous/stress habits. Throughout middle school, I have noticed that everyone has some kind of action that they repeat in classes and tests, so I was wondering what the scientific explanation for that is and what the most common habits would be if I experimented with the teenagers at my school. After looking at the results, I found that my hypothesis was correct and that the most common nervous habits were the ones that I originally observed.	Junior	fr	Experiment
119	Sniff, Sniff, Whiff	8 dual	Health Sciences	in this project, we tested which scent removal techniques/products work best on hand sanitizer and perfume. We tested odor-destroyers foot powder, vinegar and baking soda, a homemade recipe and febreeze. We found that the home made solution worked the best.	Junior	en	Experiment
120	Lids On Par	8	Physical and Mathematical Sciences	I am trying to make golf discs out of materials that would otherwise be recycled or trashed. I got four good disc golfers to throw used bucket lids on five diverse holes at our local disc golf course. I collected there scores, analyzed the data and chose the prototype that worked the best and made four more variants of that prototype. Tested them again and chose the one that worked the best.	Junior	en	Innovation
121	Est-Ce Que Les Chiens Sont Gauchetiers ou Droitiers?	8 dual	Life Sciences	Nous avons teste si les chiens généralement utilisent leurs patte droite ou gauche pour obtenir leur nourriture. Nous avons decouvert que les chiens sont primairement ambidextre beaucoup, mais les chiens plus âgés preferent leurs pattes droits. Nous avons decouvert que les petits chiens et les moyens chiens utilise plus ou moins la même montant de museau et les chiens géants utilise moins museau.	Junior	fr	Experiment

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122	Robotic hand controlled by body movements	8	Engineering and Computer Sciences	My project is about a robotic hand controlled by body movements. I built a sensor using velostat, tape, tinfoil and wires. The information acquired from the sensor is used to move a robotic hand, which I built from ev3 pieces/motors, plastic and a glove. This information could also be used to move other synthetic body parts such as a foot. I tested the sensor on multiple spots on the body (neck, elbow joint, other hand) on several people and then used their feedback to come up with the most user friendly spot for the sensor.	Junior	en	Innovation
123	Effects of Soil Liquefaction	8	Earth and Environmental Science	The project is going to be demonstrating what soil liquefaction is, how it can affect the landscape, and what this means during natural events. It will also show examples of major disasters where liquefaction occurs, and what people have been doing to minimize the impact on infrastructure.	Junior	en	Experiment
124	Est-ce que nos marres résiduelles sont en bonne santé?	8	Earth and Environmental Science		Junior	fr	Experiment
125	Effect of Ski Wax	8	Earth and Environmental Science		Junior	fr	Experiment
126	Who's Nicer?	9	Health Sciences	For my science fair project I tested the question: Do high school girls let appearance impact their perceptions on someone? This is a pressing issue in today's society. Us humans are not gifted with the talent of knowing someone's personality right away, we do it based on what is presented to our eyes. Appearance is judged. It only takes one minute for us to decide whether we like someone or not. We make fixed, oversimplified images and ideas of people. In my project, I show how biased today's society is, my goal is to bring awareness to this topic.	Junior	en	Experiment

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127	Antibiotic Resistance	9	Health Sciences	There has been a shocking number of bacteria strains that have mutated and resisted against the actions of antibiotics. Everyday, people dedicate their entire lives to develop a strong enough antibiotic to combat the new resistant strains of antibiotics. There are some antibiotics that do indeed work better on some specific strains whereas others are more general. In my experiment, I am testing to see how effective antibiotics are and in which time frame. I am also extending my experiment to test to see which is more effective; synthetic or natural antibiotics and at what rate.	Junior	en	Experiment
128	Comment souviens-tu?	8 dual	Health Sciences	Students in our school were asked to remember lists either when told the words, shown a written list or provide with photos of the list items.	Junior	fr	Experiment
129	Carbon Pollution to a Carbon Solution	9	Earth and Environmental Science	My project is about taking CO2 from the atmosphere and turning it into a solid that could benefit the ocean and coral reefs. I visited Lehigh cement plant in Delta and learned that cement manufacturing is a huge contributer to global warming and they are looking for ways to collect and utilize the CO2 they produce. A week later I found out about a company which turns CO2 into fuels. CaCO3 is a midway step to getting the fuel. I made CaCO3, added it to seawater, titrated to find alkalinity and tested pH to see if it made a difference.	Junior	en	Experiment
130	Photo-degradation Of Cellulose Acetate in Different Water Sources	9	Earth and Environmental Science	Nearly 4.5 trillion cigarette butts are disposed into our environment every year worldwide. Given this volume of waste it is worthwile to investigate the degradation of the components of cigarette butts, ultimately finding alternative materials. In my experiment I investigated the photo-degradation of cigarette filters, composed primarily of cellulose acetate, to lake water, ocean water, and distilled water. Tests revealed that the cellulose acetate in lake and ocean water degrades faster than filters in distilled water. This is because of the microorganisms and cellulase enzymes in the lake and ocean water, as well as salts in the ocean water.	Junior	en	Experiment

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131	Is this the End of Coral?	9	Earth and Environmental Science	My project focuses on coral reefs and climate change. The purpose of my project is to learn more about the dangers coral is facing, particularly coral bleaching, and evaluate potential strategies of conserving coral to find the most effective one. My research question is: what dangers are corals facing and how effective are methods of conserving them? I aim to reach a conclusion about which conservation strategy is most effective.	Junior	en	Study
132	Using Chitosan and Gluten to Create a Biodegradable Plastic Bag	10	Physical and Mathematical Sciences	Chitosan, a fiber found in crustacean shells, was dissolved in a mixture of 10% acetic acid and sorbitol. Vital wheat gluten was added to an aqueous ethanol solution and, by centrifuge, ethanol-soluble gliadins were separated from water-soluble glutenins. The chitosan mixture was then combined with the gultenins, resulting in a dipole-dipole interaction between molecules, leading to the creation of an environmentally safe, food-grade material with a consistency similar to a "traditional" plastic bag. Testing is underway to assess the rate at which this newly developed chitosan-gliadin plastic will biodegrade in soil and enhance the soil in which crops are cultivated.	Senior	en	Innovation
133	Development of a Common Micro-Organism to Solve Plastic Pollution	10 dual	Biotechnology	As the world becomes polluted, it becomes more important to find a solution to this problem. One of the main issues that will cause a problem for later generations is plastics. Through our experiment, we hope to solve this problem by developing an existing micro-organism to be able to consume plastic. By utilizing PETase enzyme and MHETase enzyme have been found in the bacteria Ideonella Sakaiensis, and we are trying to genetically modified and selectively choose a more common and more tolerating organism to mimic what Ideonella Sakaiensis can do.	Senior	en	Experiment
134	Is your sunscreen damaging coral reefs?	10	Earth and Environmental Science	Oxybenzone-based sunscreens are known to be harmful to the environment. In this project, natural alternatives to oxybenzone were investigated to create a sunscreen that is less harmful to the environment.	Senior	en	Experiment

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135	Occam's Laser: A Nanocoating Absorbing the Light of a Green Laser	10	Physical and Mathematical Sciences	Even common laser pointers are strong enough to reach and interfere with the operation of an aircraft, affecting the pilot's view of their surroundings. The goal of this project is to develop a transparent coating that takes advantage of the localized surface plasmon resonance property of spherical gold nanoparticles to absorb the light from a 532mn wavelength green laser, in an effort to prevent green laser light from passing through the window of a cockpit.	Senior	en	Innovation
136	Remote Control for Wheeled Mobile Robots through Wi-Fi	11	Engineering and Computer Sciences	Nowadays, mobile robots have become more and more popular in commercial and industrial settings. A mobile robot is a robot capable of moving around in its environment. Wheeled mobile robots achieve great attention in both commercial and industrial applications due to its high mobility and low cost. Wi-Fi has achieved the dominant position in wide application areas ranging from consumer electronics to robotics. Due to Wi-Fi's high compatibility and low cost, it is an ideal wireless communication tool for mobile wheeled robots to perform remote control tasks, especially in a very complicated environment where obstacles and barriers is present.	Senior	en	
137	Sensor Acuracy in IMU	10	Engineering and Computer Sciences	Sensor accuracy can be worsened by many variables such as temperature, obstructions, installation methods or natural drift. I experimented with an IMU sensor(inertial measurement unit) to find its margins of error. Does a sensor degrade over time and is its margin of error consistent? Could other factors contribute to the inconsistencies such as the inertia from a turn? Does different data degrade differently(such as different angles the IMU measures? The IMU was installed on a robot and allowed it to turn a certain amount.	Senior	en	Experiment

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138	Extracting Pine Oil to Create Biodiesel	10	Earth and Environmental Science	Biofuels are a promising technology currently as they are a more environmentally friendly alternative to the damaging fossil fuels that are most commonly used in our society today to power most factories and sources of transportation. In my project I created a biodiesel from pine needle waste, in an effort to turn what would be a waste product into something beneficial to society. I extracted pine oil from pine needles using ethanol and a sonicator, and then I created a biodiesel using ethanol, pine oil, and potassium hydroxide through transesterification.	Senior	en	Innovation
139	Wearable Flexible Thermo-Electric Generators	11	Engineering and Computer Sciences	This Project is attempting to discover the requirements to build highly functional Thermo-Electric Generators (TEGs) for use in applications which require flexibility such as wearable objects. The experiment consists of designing and testing the limitations of a flexible TEG harness in order to truly understand current limitations and the future scientific innovations required to make TEG technology commonplace.	Senior	en	Innovation
140	Hope for Salmon	10	Earth and Environmental Science	My project is all about Chum Salmon, but most specifically, What the main requirements for a healthy habitat. I am learning all about what the main crucial issues involving chum salmon are, why Chum Salmon are so important to the ecosystem and what we can do to help. I have constructed a report card to figure out how suitable the stream at Hope bay, Pender island is using all of the basic requirements for a healthy habitat. I am in the process of interviewing Salmon stream restoration experts to learn more about the subject.	Senior	en	Study
141	Technologies effect of Perception of Time	10	Health Sciences	I tested how people's perception of time changed while engaged in a task, with or without technology. I compared the subject's responses while they were coloring on paper and on a device (Chromebook, laptop, iPad). I tested many classes in Grades 3, 6, 9, and 12 to see if there was any change as peoples brains developed. I found that the average participant over estimated the time with both paper and a device but more so when they were using a device.	Senior	en	Experiment

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142	Alternatives to Plastic Packaging	11	Earth and Environmental Science	I wanted to find out what the best alternative to plastic packing was. First I researched different products that mimicked plastic, such as beeswax wraps or Evoware's Seaweed packaging. I then decided on some to test, found recipes,and made them. I tested these using different kinds of sandwiches. My variables were heat, moisture, and toughness. I tested multiple times to be sure of my results. I researched the projects I was testing to make sure they were safe and sustainable.	Senior	en	Experiment
143	Applications and Synthesis of ZnO quantum dots	11	Health Sciences	This study is the demonstration of one of the applications of ZnO quantum dots synthesized by the hydrolysis in ethanol under high temperature and mixed with LiOH/Ethanol solution. The ZnO was formed over a process of 10 days. When nanoparticle crystals formed at the bottom of the beaker, it was then centrifuged, decantated and ground.	Senior	en	Experiment
144	Cytogenotoxic effects of local stormwater on Allium cepa L. : A future perspective	11	Life Sciences	The use of chemicals that accumulate in the environment is increasing in Victoria. These pollutants can flow into rivers and streams, affecting marine ecosystems. Currently, there is no treatment process for storm water, allowing pollutants to flow into the ocean. Moreover, Allium cepa L. root meristem cells are very sensitive to genetic damage by chemicals, and the Allium test, involving the length of the roots and chromosome aberration measurements, is a suitable model system for revealing the possible health implications of pollutants. Therefore, this study aims to determine the possible genotoxic effect of storm water on Allium cepa L.	Senior	en	Experiment

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145	How false memory depends on different functions	11	Health Sciences	I am going to have four participant groups. Groups A and B will watch a car crash video and will be asked different questions. A week later they will be asked if they have seen any glasses from that video (Expirenemnt done by Loftus). Adding on to the experiment Groups C and D will be listening to the same video that Groups A and B watched and also will be asked a question and will answer. My hypothesis is that If you have more information, that will cause more distraction, which will create a false memory.	Senior	en	Experiment
146	Plastics and Ocean Acidification	11	Earth and Environmental Science	My project is focused on the affects of ocean acidity on plastic pollution. I wanted to discover how the future predictions of ocean pH would affect how plastics in the ocean break down. To stimulate this, I set up twelve glass jars of local ocean water and experimented with adding varying amounts of sodium bisulphate to achieve different pH scores. I have samples of two common types of plastic that I let sit in the jars, dry weighting them every week. I have included research to learn about the process of acidification in the ocean, and plastic break down.	Senior	en	Experiment
147	Raw Cow's Milk!	11	Health Sciences	My project is about raw cow's milk. I asked the question: is raw milk safe for human consumption if it has been produced in a clean environment and has been stored in the appropriate conditions. I found that my question is true and I researched more information on why people should drink raw milk, the laws around raw milk, some other information, and also about pasteurized milk.	Senior	en	Study

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#	**Project Title**	**Gr.**	**Division - G**	**Project Summary**	**Category**	**Lang**	**St/Exp/In n**
148	Textile Effluent Remediation	11	Physical and Mathematical Sciences	The textile industries consume a substantial amount of water in its manufacturing processes, and the use of synthetic dyes have together contributed to dye wastewater becoming one of the substantial sources of severe pollution problems in current times. Some azo dyes such as methylene blue and methyl orange are found to show toxic effects, especially carcinogenic events which can have a detrimental effect on water bodies and the aquatic environment. This project explores effective methods of filtering toxic chemicals out of the water while exploring the impact of host-guest interaction from beta-cyclodextrin on the adsorption of glass fiber filtration.	Senior	en	Innovation
149	Communication Techniques to Reduce Parent Resistance Towards Non-Antibiotic Treatment	12	Health Sciences	To assess the effects of non-minimizing and specific communication techniques in reducing parent resistance towards non-antibiotic treatment recommendation, I conducted a randomized controlled trial using a between-subject multiple segment factorial vignette design. The purpose was to improve our understanding of how communication interventions can affect the behaviours of parents in a virtual pediatric outpatient setting which may facilitate the development of future intervention program to reduce inappropriate antibiotic prescription for pediatric acute respiratory tract infection.	Senior	en	Experiment
150	Quantum Physics through Space: How We Can Manipulate Quantum Mechanics to protect us from innovative	12	Engineering and Computer Sciences	My project is focused on Quantum Distribution in Space as well as Quantum Encryption within Satellites, I will display and explain these concepts to show a better understanding of the complexity of quantum physics and how I believe we can manipulate them to better technology for future generations through Quantum Computing. I will also be exploring concepts in relation to these satellites to show distribution methods of photons through waves and particles as well as designing and building my own satellite model which would be able to carry the complex and massive payload of a Quantum Computer.	Senior	en	Innovation