Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentors	Award
A1	Anderson Primary	P3-4	Going green the cup cozy way	This project seeks to find out the best recycled material that can be used to make a cup cozy. We hope to find this cost-effective material amongst some common materials.	1. Chua Ying Zi, Nicole 2. Rachel Yew ZhiQing 3. Lim Yu Kiat 4. Lim Jun Xi	Ivan Ng Sarah Lee	Bronze
A2	Chongfu School	P3-4	When Only The Best Will Do!	With an increasing range of beauty products in the market, consumers are spoilt for choice. The goal of this project is to find a facial moisturizer which is most effective in blocking UV radiation and is also reasonably-priced. The team will carry out the investigation using brands commonly found in the market.	1) Kavan Ong Chong En 2) Ethan Tan Kih Shaw 3) Samuel Tam Tsong Ian 4) Jerome Ng Yong En 5) Francis Ng Zi Xuan	Ms Shalini Sandra Mohan Ms Filicia Yap Anisah Osman	Bronze
A3	Evergreen Primary School	P3-4	Zooming Our Way with Solar!	The project aims to use a solar-powered boat to determine how the speed of the boat is affected at different times of the day.	1. Zhang Ziheng Derek 2. Ong Zi Yan 3. Wong Li Heng 4. Liow Shang Yu	Nurhida Binte Sapiie	Gold
A4	Hougang Primary School	P3-4	Investigate if the colour and material of our PE uniforms affects how cool it can keep us	Our school has five different colours for our PE uniform. Each colour, purple, green, yellow, blue and red represent the different houses in our school. Some years ago we changed our cotton PE uniforms to dry fit material. We are curious to know which uniform colour and material can keep us the coolest as we perform many outdoor activities in our PE uniform.	1. Lee Yong Hui 2. Nur Alisha Binte Mohd Habib 3. Ryden Chua Qi En 4. Ang Yu Yang Zenden	Mohan Wang Ai Pei	Gold
A5	Hougang Primary School	P3-4	Code Red	To find out which material is most effective in minimising the radiation from mobile phones.	1) Ma Yidan 2) Leow Jing Ying 3) Muhammad Iylia Bin Kamal 4) Peh Peng Zheng 5) Ng Yee Teng	Ko Kuan Woei Jacyln See Amanda Tan Hwee Chin	Certificate of Commendation

Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentors	Award
A6	Huamin Primary School	P3-4	Home-made air conditioner	The aim of the experiment is to find out whether home made air conditioner could reduce the temperature of the class during hotter weather conditions.	1. Luke Goshin Bosco 2. Liu Yip Kiu Ricky 3. Emily Chia Ting En 4. Grace Lanan Nang Seng	Haziranisah Bte Mohd Yunos	Certificate of Commendation
A7	Marsiling Primary School	P3-4	Mashed fruits as soil	To investigate how well plant can grow using mashed fruits as soil. The different mashed fruits may contain the nutrients that promote the germination process.	1. Mohamad Dani Mirza Bin Mohamad Fauzy 2. Yeoh Yi Hong 3. C.Hrithik	Ms Natasha Mdm Zahidah Mdm Norhayati	Certificate of Commendation
A8	Mayflower Primary School	P3-4	Facial Mask for Dry Skins	Creating facial masks for dry skin using natural ingredients.	1.Meenachi Sathappan 2. Laura Chin Jian Feng 3. Lynette Loh Shing Yuan 4. Thaarini Mohan	Mr Antony Raj Sasayah	Certificate of Commendation
A9	Mayflower Primary School	P3-4	The High Flyers	To create planes that can fly longer distances based on factors such as weight and wing curvatures.	1. Aaron Francis 2. Travis Tan Jin Jay 3. Xu Hanming 4. Chua Ern Yi Ethan	Miss Siti Zubaidah Samsudin	Certificate of Commendation
A10	Mayflower Primary School	P3-4	8-Treasure ice-cream	To create a low-fat, less sugar ice-cream with benefits of TCM herbs and plants.	1. Siti Hajar Abdullah 2. Auni Batrisyia Binte Jumar 3. Ang Han Seng Simon 4. Khuan Qing Yu	Idma Hanita bte Mohamed	Certificate of Commendation
A11	Naval Base Primary School	P3-4	Friendly Plastics	The future of Science lies in harnessing its power to shape a green future. Plastics are all around us in today's world but its non-biodegradable property threatens our environment. Bioplastic could be the solution to our dilemma of dependence on plastics and the need to save the environment. In our project, we aim to investigate the strength of homemade bioplastics.	1. Mikaela Carissa Bundalian 2. Bautista Tiffany Mei Nicole 3. Hung Min Yi 4. Lim Yu Ting 5. Charis Sng Yue En	Mdm Hazel Phua	**Gold with Presentation**
A12	North View Primary School	P3-4	Butt in, Comfy Diaper	To find out which diaper brand is the most absorbent and comfortable for the delicate skin of babies.	1. Wong Yong Ming Randall 2. Adrian Woo Kai Ping 3. Gin Jing Yang Jackson 4. Fan Kai Wen Carven 5. Roy Tan Kuan Hong	KHO YEN LING NEO KHAI LING Tan Tze Yan Sylvia	Bronze

Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentors	Award
A13	Peiying Primary School	P3-4	Germs, Germs Everywhere!	Germs and bacteria exist everywhere in school. 1) We would like to find out the dirtiest place in our school. 2)We would also like to find out which item can kill the germs best: hand sanitizer, anti-bacterial soap or normal soap.	1) Mihir Girish Bidkar 2) Glendon Chee Kong Sin 3) Lionel Ong Teng Hong 4) Lin Ziqi 5) Png Jay Sen	MOHAMMED FAIZAL BIN ISA	Silver
A14	Peiying Primary School	P3-4	I Can See Clearly Now!	Wearing face masks is an inconvenience to spectacle wearers as their lenses tend to fog up. This project aims to find out how we can keep our spectacle lenses clear with a simple yet effective method.	1. Khok Jie Ying 2. Lim Yu Jie 3. Sanyukta Arunkumar 4. Ng Zi Shuen 5. Marisa Lee Ren Jia	Sim Ya En Avery Rhoda	Bronze
A15	Si Ling Primary School	P3-4	Paint and Gain	Worry about ingesting toxic paint? This project aims to investigate the durability of homemade paint using different types of flour coupled with herbs as compared to commercial poster paint.	1. Aisha Binti Ab Ghapar 2. Navalingem Amirna 3. Teo Kai Yuan 4. Joben Tan Chin Kiat	MISS TEO SHI HUI MRS THAM-CHIN MEI LING	Certificate of Commendation
A16	Woodgrove Primary School	P3-4	Oxidation of Apples	To find out if different type of liquid affects the rate of oxidation of apples. This project aims to find out if one can reduce the rate of apple oxidising. Hence, one can keeep fruits fresher for a longer time.	1. Ong Herk Pin 2. Toh Xuan Ming 3. Brendan Heng Jan Kai 4. Tan Jing Kai 5. Dayana Binte Eddie	Nirwani Binte Yusof Suhanah Binte Sapuan Mrs Retnam	Certificate of Commendation
A17	Xishan Primary School	P3-4	The Laundry Corner	To determine which detergent works best in removing greasy stains, protein based and starch based stains on cotton fabric	1. Yeoh Ee Shuen 2. Li Jiaxi 3. Jae Ng Ky Earn 4. Mohamad Jamadil Bin Muhamad Aidil 5. Chua Pei En Apple	Ms Farah Ms Iva Chia Ms Amanda	Certificate of Commendation
A18	**WITHDRAWN**						
A19	Yio Chu Kang Primary School	P3-4	Super Hover	We will be building a miniature hovercraft using balloons to investigate if the volume of air in the balloon is important for the hovercraft to hover longer.	1. Ganvkar Aaryan Sanjay 2. Ng Celeste 3. Sun Yutong 4. Triniece Ong Xin Ting 5. Wong Xiao Han	Wee Shi Min Melissa	Silver

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A20	Yishun Primary School	P3-4	Future soil	In Singapore, garden soil is commonly used as a medium to grow plants. In our project, we wanted to investigate whether recycled materials can be used as a substitute for garden soil.	1. Francis Jonathan Mariadass Benjamin 2. Muhammad Sharizwan Bin Irwan 3. Nur Reshkha Ayesha Binte Gulam Yusuf 4. Nurul Eleyana Shakira Binte Mohamad Juffri 5. Sheila Ng Xin Yi	Mdm Latifah binte Mohamed Hussain Ms Brenda Wong Pek Chin Mr Tee Han Yun	Silver

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B1	Anderson Primary School	P5-6	Cool Classrooms	To investigate if ceiling fans help to reduce the temperature in the classrooms. The aim is to determine the best way to keep the classrooms cool using the ceiling fans.	1) Andrew Kailer Pung 2) Alden Soo Weijie 3) Caleb Lim En 4) Oh Zhe Hao	Alan Tan Mdm Sarabjeet Kaur	Silver
B2	Canberra Primary School	P5-6	organic and natural odor remover	Garlic is a commonly used herb in cooking. However, the garlic odor remains after cooking. Through the understanding of acids and alkaline, we developed an organic and natural odor remover.	1. Ang Pei Shan 2. Yong Lok Qing 3. Lim Dao Wei 4. Ong Ee Ying 5. Bridget Goh Yue Ci	Noorazura Binte Ahmat Mrs Sharon Yang Kasni Kasim	Certificate of Commendation
B3	Chongfu School	P5-6	New Out Of Old	To make new lipstick colour from leftover lipsticks.	1. Zachary Chua Qin Han 2. Zhang Kaiwen 3. Sia Jia Rui 4. Wang Yiqing 5. Neo Qi Enn	Chen Xiaoyin Shalini Sandra Mohan Anisah Osman	Bronze
B4	Endeavour Primary School	P5-6	Something's Fishy	To investigate the effect of temperature on the gender ratio of betta spawn	1. Lim Hong Wei, Ryan 2. Ang Jia Jun 3. Hau Kai Zhe 4. Ernest Chua Tze En 5. Sebastian Choo Yong Qiang	Matt Lim Chin Boon	Gold
B5	Greenwood Primary School	P5-6	Mentos Geyser	To find out which soda have the most amount of gas in it	1. Muhammad Syarif Hidayahtullah 2. Erika Insyirah Binte Muhammad Rashid 3. Zafirah Binte Shah Jahan 4. Azzahirah Banu Binte Noor Azman	Mdm Shameni Thong Wei Wei Mdm Radhianah	Certificate of Commendation
B6	**WITHDRAWN**						
B7	Mee Toh School	P5-6	To create a car which is "eco-friendly" and powered by wind.	We will use as many recyclable materials as we can so as to protect the earth.	1. Annabelle Yeow Jia En 2. Skyler Ng Ynn Zee 3.Teo Zhuo Ren 4.Wong Ching Yen Sarah	Mr Gan Kok Sim, Thomas	Certificate of Commendation
B8	North Spring Primary School	P5-6	Energy Cents	Tapping on the metallic composition of coins to obtain electricity.	1. Gonzales Cid Jamiel Garcia 2. Njendu Gikonyo Lee 3. Mikko Chen Jieya 4. Heng E Chun 5. Arul Kumaran Tamizh Iniyan	Shirleen Tan Imran Faizal Jennifer Tang	Bronze

Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentors	Award
B9	Peiying Primary School	P5-6	Photo... Photosynthesis!	The team aims to find out how light affects photosynthesis.	1) Richelle Tong Kai Xuan 2) Tan Si Ern 3) Pang Zheng Ning Ryan 4) Lim You Sheng Henry 5) Sivesh Sivaganesh	Tan Sze Wei Joanne	Gold
B10	Qihua Primary School	P5-6	Pure, Purer and Purest!	We aim to investigate ways to purify the air through our 2-stage research on the type of plant which is able to purify the air in the environment and act as the best 'natural air purifier' to reduce air pollution.	1. Ang YenLin Britney 2. Ng Yun Hui 3. Rin Yek Yan Lin 4. Wan Tianzi 5. Tan Ying Shan Ashley	Mdm Sofiyanny Mansol Miss Lim Siew Hui Ms Hilyah Mohd Bakhit	Bronze
B11	Woodgrove Primary School	P5-6	Which Sunscreen lotion is best protection from UV light?	Using Quinine to determine the presence of of UV light, this experiment will help one to find out the better suncreen lotion that can protect one from the UV light which can harm one skin condition.	1. Johhny Loh 2. Oh Shaoshuo 3. Chan Xin Yao 4. Ding Yi Chaw Maung 5. Renfred Shi Peng	Nirwani Binte Yusof Suhanah Binte Sapuan Mrs Retnam	Certificate of Commendation
B12	Yio Chu Kang Primary School	P5-6	Centrifugal force Vs Gravity	This project investigates the relationship between centrifugal force and gravity.	1. Ong Choon Heng 2. Li Zhuangda 3. Muhammad Jaasir S/O S A A A 4. Zhong Qile Claire 5. Chua Zhuo En	Mrs Yean Sok Kheng	Silver
C1	Anderson Primary School	P5-6	If They Breed, We Will Bleed	To investigate the effectiveness and impact of five aquatic organisms in the controlling of mosquito breeding in canals.	1) Chuah Jie Xun 2) Zahra Aliyah Binte Mohammed Salleh 3) Joash Goh Yi Zheng 4) Ng Yu Chang Nicholas	Alan Tan Mdm Sarabjeet Kaur	Certificate of Commendation
C2	Canberra Primary School	P5-6	Generating electricity from footsteps using piezoelectric crystals	Piezoelectric crystals are able to generate electricity when a force is exerted(as in a footstep) and they are compressed. Is it possible to harness energy from our own footsteps?	1. Praakhar Agrawal 2. Tan Wen Xuan 3. Tang Guang Xiang 4. Rohan Dev Suresh	Noorazura Binte Ahmat Mrs Sharon Yang Kasni Kasim	Gold
C3	WITHDRAWN						
C4	Endeavour Primary School	P5-6	Root-filtration	To find out alternatives for water filtration in Singapore	1. Brandon Chia 2. Gui Co Sing 3. Kandell Zane Ang 4. Berisaa Tan Yan Eng 5. Soo Yi Wei	Salinah Sudarmo Raihanah Hayashi	Bronze

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C5	Greenwood Primary School	P5-6	Shrinking Gummy Bears	To find out how much sugar contain in a sweet	1. See Yan Hong 2. Toh Qizhang 3. Chester Wong Weihao 4. Yap Hong Yi	Mdm Radhianah Ms Jasmin Lim Mdm Shameni	Certificate of Commendation
C6	Marsiling Primary School	P5-6	The investigation of the removal of wax from fruits and vegetables	Wax from fruits and vegetables may be toxic to the human body. Instead of purchasing organic food without wax coating the group will investigate natural ways to effectively remove the wax before the consumption of these foods.	1. Keith Chua 2. Goh Shao Ann 3. Saravanan Tharun 4. Erwan Harith Bin Mohd Emran	Mdm Zahidah Natasha Maidin Mdm Norhayati	Silver
C7	Naval Base Primary School	P5-6	Get Energize!	The project is to create a mechanism which enables moving water to generate other forms of energy.	1. Oh Jian Liang 2. Zheng Ziang 3. Jesha Jenel Yeo 4. Faith Chan Fan Yue 5. Jess Tan Bao Chen	Mdm Siti Fauziah Jasman	Bronze
C8	North View Primary School	P5-6	Mister Potatoes, Chip Chip Hurray!!!	To find out which brand of potato chip have the least amount of oil and is least detrimental to health.	1. Nur Anisah Bte Norazly 2. Lee Xiao Qian 3. Maggie Hoo Mei Qi 4. A'liyatul Latiffa Bte Zaidi	KHO YEN LING NEO KHAI LING Tan Tze Yan Sylvia	Silver
C9	Qihua Primary School	P5-6	Food Waste Compost	The purpose of this project is to identify which type of food waste is the best to make compost. The changed variables are coffee, tea, orange peel, cabbage and bread. The measured variable is the growth of plant	1. Aloysius 2. Ka Song 3. Jing Huo 4. Jun Xi 5. Justin	Hilyah Binte Mohd Bakhit	**Gold with Presentation**
C10	**WITHDRAWN**						
C11	Xishan Primary School	P5-6	Ceviche Salmon	To investigate how 10 different acidic solutions affects the appearance of salmon	1. Sin Jia En 2. Teo You Hern Winston 3. Jevin Koh Choon Kiat 4. Kee Qian Rou 5. Lim Gek Hoon Serene	Ms Farah Ms Iva Chia Ms Amanda Tan	Certificate of Commendation
D1	Canberra Primary School	P5-6	Yucky or Yummy	Ever wonder why the same food can receive mixed reviews about its taste from different people? The secret lies not in the food itself but rather in the person tasting it.	1. Mithani Keya Niravkumar 2. Gianna Sun Tianqi 3. Nishitha Khasnavis 4. Arnav Amar Yadur 5. Rai Avyaneesh	Sharon Sin Sok Yeng Noorazura Ahmat	Gold

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D2	Chongfu School	P5-6	Purified Or Not	To discover the best material to purify water so that it can be recycled.	1. Xavia Lee Jia Jie 2. Wu Zhijun 3. Tan Zi Ying 4. Ng Li Xuan Jolene 5. Serena Dai Yi	Chen Xiaoyin Ms Filicia Yap Anisah Osman	Certificate of Commendation
D3	**WITHDRAWN**						
D4	Evergreen Primary School	P5-6	Power Up, Solar Car	To investigate the effect of solar energy on solar panels	1. Lew Yu Hong, Ryo 2. Johanne Gabriel Pelayo Lumauag 3. Chong Jia Wei Bryant	Khalisah Suherman	Bronze
D5	Hougang Primary School	P5-6	Clean Water On the Move	The investigative project seeks to find out which materials are most suitable to obtain portable water from untreated sources and to develop a self-contained kit to help us obtain portable water on the move.	1. Caleb Koh Chao Yang 2. Chua Chok Yang 3. Chloe Tan Wen Xi 4. Chua Jia Yi	Susan Ong (Mdm) Colin Chia (Mr)	Silver
D6	Mee Toh School	P5-6	To create an eco-friendly car that is powered by wind so as to reduce the consumption of fuel.	We will use recyclable materials in order to create this wind-powered car to help save the Earth.	1. Kiefer Ong Xian Yao 2. Bryan Lee Chong Han 3. See Weixuan, Ryan 4. Yak Xiang Chen, Keson	Mr Gan Kok Sim, Thomas	Gold
D7	Naval Base Primary School	P5-6	'Helicopter' Seeds	To find out if the length of the 'wings' of the 'Helicopter' seed affects the time taken for the seed to fall onto the ground.	1. Ian Lin Yijing 2. Ang Deon 3. Koay Cheng Hang Clovis 4. Wee Jin Heng Gordon	Koh Kha Tiang	Bronze
D8	North View Primary School	P5-6	Fruity fruit, where's the vitamin C?	To find out which fruit has the most Vitamin C and more beneficial.	1.Ong Ying Cui Phionna 2. Tan Jiamin 3. Chan Shan Wei Jovin 4. Joseph Damian Sim 5. Lew Hao Ming Derrick	KHO YEN LING NEO KHAI LING Tan Tze Yan Sylvia	Certificate of Commendation
D9	Qihua Primary School	P5-6	Water for Life!	We aim to investigate which materials filter water the best, through our 2 stage research on the different materials that filter the water to get the cleanest water.	1. Kirthana Ramanan 2. Lia Adrienna Zulhakimi 3. Nurin Dhamirah Bte Mohd Khairil 4. Siti Khadijah Bte Shaharudin 5. Madhumaya Anandan Kumaran	Mdm Sofiyanny Mansol Miss Lim Siew Hui Ms Hilyah Mohd Bakhit	Bronze
D10	**WITHDRAWN**						
D11	Yio Chu Kang Primary School	P5-6	Which type of fruit juice/ fruits has the most vitamin C?	Using corn starch-iodine solution, students will perform titration to determine the amount of vitamin c in different fruits/fruit juices.	1) Ang Joe Chim 2) Ava Margaret Bunagan Bautista 3) Charmaine Ma Xuan Min 4) Hildah Bernadette Hia Yen Qi 5) Tolentino Gian Franco Nueca	Mr Alan Wong	Silver

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E1	Anderson Secondary School	S1-2	Improving the grip of shoes through the use of recycled materials	To design shoes using recycled materials so as to improve grip	1. Gladys Tan Qiao Xuan 2. Chua Erynn 3. Koh Jun An 4. Luo Dewei	Leow Teng Hong	Certificate of Commendation
E2	Ang Mo Kio Secondary School	S1-2	Investigating the feasibility of using solar cookers in household setting	This project aims to investigate the effectiveness of using sunlight as a source of energy for household heating through the use of mirrors.	1. Lee Jia Ying 2. Luo Mao Yuan 3. Tan Ming Kang 4. Lai Siyi 5. Seow Zi Yu	Tan Shao Xun	Silver
E3	Bowen Secondary School	S1-2	Oil - Good or Bad	To investigate the amount of saturated fats in different brands of oil and to find out if there will be an increase in the amount of saturated fats in these samples of oil when they are being reused.	1. Aw Kai Lin 2. Genevieve Lee Hui Lin 3. Mabel Lee Si Hui 4. Chua Yee Tong Sharon 5. Sasibalan S/O Balathandautham	Mrs Chan Soo Yong Ms Shafiqah Hussain	Bronze
E4	Christ Church Secondary School	S1-2	Comparative study of protein, fat and calcium content between yogurt made from cow's milk and alternative milk obtained from plants.	This study will investigate the nutritional content of yogurt (common milk product) made from alternative milk obtained from plants. This will be compared with the yogurt from cow's milk to decide whether to reduce our dependence on Cow's milk in our everyday products. Bradford reagent which contains Coomassie brilliant blue was used to determine the protein content in test sample using a spectrometer while the content of the mineral salts were determined by the Ion chromatography. Lastly, fat content were also determined using hexane where the emulsion was left behind for a day to allow the hexane to evaporate to leave behind the fats.	1. Kim Sangeun 2. Adam Wong Efeng 3. Izz-Hady Mirza B Selamat 4. Julian Timothy Franco Sincioco 5. Tan Jia Jun	Muhd Firdaus Mohamed Yasin Rajeswari	Bronze
E5	Compassvale Secondary School	S1-2	Investigation on the suitability of different biodegradable materials to make bio-plastics for various applications	To investigate how different biodegradable materials affect the properties of bio-plastics. The aim is to propose different uses of these bio-plastics depending on their properties.	1. Anbarasan Malavika 2. Darryl Chow Jing Wei 3. Cheong Huan Feng 4. Surabhi Sridhar 5. Yeo Zhi Hui	Preeti Vikas Palkar Christopher Chong	Silver

Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentor 1	Award
E6	Evergreen Secondary School	S1-2	Harnessing Wind Energy in everyday life	In our project, we will be investigating how the wind energy generated from our daily usage of fan can be converted to electrical energy.	1. Jessica Liau Xuan Hui 2. Maybelle Ong Hui Leng 3. Sew Kai Tek 4. Tan Xin Yi	Chia Ai Li Joan	Certificate of Commendation
E7	Nan Chiau High School	S1-2	Application of common aromatics as antibacterial agent to eliminate bacteria found on hand phone surfaces	This project evaluates the bacterial contamination of hand phones of students.Following that, the various strains of bacteria are isolated and and cultivated as pure cultures. Various types of aromatics (garlic, onion, chili, ginger and lemongrass) are then used to determine the antibacterial properties of these aromatics in eliminating these bacteria which are found on the hand phones. These aromatics can be further recommended as plant actives or extracts for the use of antibacterial spray or wipes used for the disinfection of hand phones. Besides that, this project also bring across the message that students should all cultivate good habit of washing hands to promote good personal hygiene.	1. Cassia Ng Kai Ying 2. Cherilyn Ang 3. Loke Wei Jie Winson 4. Ong Yi Kai 5. Xavier Hioe Yi Jun	Foo Su Lyn	Gold
E8	Northbrooks Secondary School	S1-2	Investigations on the sugar levels in soda drinks for health advice.	Our project aims to investigate the sugar levels in three popular soda drinks by measuring the mass of saturated sugar formed after heating and using these information for health advice.	1. Lombardo Sofia Amira 2. Hiew Yuen Sheng 3. Kong Wing Tung 4. Ong Yu Neng 5. R. Sri Krishna	Miss Eunice Chan Mrs Celine Goh	Certificate of Commendation
E9	Pei Hwa Secondary School	S1-2	Potato-fuel!	Ethanol is a renewable fuel made from various plant materials. This project aims to explore the possibility of extracting ethanol from different forms of potatoes through fermentation.	1. Ferdeos 2. Virco 3. Brendan Choy 4. Dion Mok Kai Si	Shirlyn Sim Leow Chiap Yong Justin Hong Chiew Yong, Tracy	Gold

Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentor 1	Award
E10	Singapore Chinese Girls' School	S1-2	To investigate whether the different colour lights will affect the speed of rotation of the radiometer.	There are many different explanations on how the radiometer works. In this project, we want to investigate whether the speed of rotation of the radiometer is dependent on the wavelength of the light shone on it.	1. Gan Wan Nee 2. Lee Hui Ling 3. Gabrielle Lee Shuen 4. Shirley Bte Aminul 5. Pang Xin Hua	Mrs Yeo Siew Li	Certificate of Commendation
E11	Woodlands Secondary School	S1-2	'Milastic' Turning milk into plastic	To create biodegradable plastic from different types of milk and vinegar. The durability and strength of plastic is measured by varying mass of weights hanged on the plastic.	1. Reyes Carlos Jacob Santos 2. Trinsy Neoh 3. Mohamed Naufal B Mohamed Sani 4. Tan Zi Ann Clare	Dione Aw	Bronze
E12	Xinmin Secondary School	S1-2	The Preservation of the Color of the Flower	This project was to investigate the effects of acid and alkali treatments in preserving the color of the flower petals. The color intensity was obtained by the UV Spectrophotometric method.	1. Keh Wen Yang, Rachel 2. Wong Jia Hui, Grace 3. Lee Jia Le, Joshua 4. Teo Zheng Wei, Jewi	Kasmawati Binte Kassim Yip Minghao	Certificate of Commendation
F1	Anderson Secondary School	S1-2	How the backspin affects the accuracy of basketball shooting	To investigate how the backspin affects the accuracy of basketball shooting	1. Lim Si En 2. Nigel Tan 3. Lim Jun Hong 4. Mohammed Munyim	Arthur Lim Kuan Yick	Certificate of Commendation
F2	Ang Mo Kio Secondary School	S1-2	Determining effect of pH on strength of biodegradable plastic	In recent years, there has been an increase use of biodegradable plastic due to environmental concerns. However, there have been discussions regarding the strength of the material itself. Therefore, this project aims to determine if the strength of biodegrable plastic is affected by one of its ingredient, vinegar.	1. Khant Zaw 2. Lex Lie 3. Teg Singh Tiwana 4. Yap Jing Rui Bevan 5. Yuric Hng Chuin Lin	Ronnie Pang	Bronze
F3	CHIJ St.Nicholas Girls' School	S1-2	Investigating how thickness of layer of coconut fibres and skins of different fruits affect their effectiveness as heat insulators.	Investigation of how the thickness of coconut fibres affects heat insulation. Fruit fibres such as pomelo, orange, banana and watermelon were compared with coconut fibres and were analysed for their optimum thickness to insulate heat.	1. Sarah Yew Yen Yee 2. Hazel Sim Kai Shin 3. Tam Jing Xuan 4. Elysia Tan Hui Min 5. Sarah Tan Jass-Lyn	Ms Lim Ai Lian	Bronze

Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentor 1	Award
F4	Christ Church Secondary School	S1-2	Comparative Study of Amount of Lycopene in Three Varieties of Tomatoes	Fruits and vegetables which contain high levels of lycopene are important for the human body. Several studies have shown that when food containing high amounts of lycopene is taken in, positive health benefits were observed. Previous investigations were done on various fruits and vegetables, and tomato was found to contain one of the highest amount of lycopene. Our group aims to do a comparative study, using experimental and theoretical methods, on which variety of tomatoes available in local markets contain the highest amount of lycopene. The experimental method involved the extraction of lycopene using hexane, followed by spectrophotometry method with data analysis using standard curve to determine the amount of lycopene. Theoretical data was calculated using formula determined in other research. From both data, the variety of tomato which has the highest amount of lycopene is identified and hence, would be a good fruit to consume to aid in preventing prostate and ovarian cancer.	1. Heng Ern Xuan Lawrencia 2. Tan Jiaxin, Chernise 3. Dizon Lyam Adriell Clave 4. Jonathan Lai Kum Leong 5. Pan Minghui	Yushiella Rajeswari	Certificate of Commendation
F5	Deyi Secondary School	S1-2	Investigating the antibacterial properties of metals	Metal bar soap can be seen in the market recently to replace the use of hand wash. However, its uses is only limited to the removal of food odor. Hence, the group would like to improve on the function of metal bar soap by finding whether there are any metals with antibacterial properties.	1. Koh Xuan Wen 2. Mavis Lee Xin'er 3. Han Htoo Zin 4. Lim Jun Jie	Teo Chong Ming	Gold

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F6	Hougang Secondary School	S1-2	Investigate the effect of having fishes on water plants	We would like to find out if presence of fishes in a fish tank affects growth of water plants. If the fishes help plants grow better, we may conclude the use of harmful fertilisers unnecessary.	1. Shandelyn Ang Zhi Er 2. Desiree Tan Ying Xuan 3. Li Jia Jun	Quek Yibing Lee Min	Certificate of Commendation
F7	Nan Chiau High School	S1-2	Synergistic effects of Cassia fistula with coffee, red tea, green tea in hand made soap	This project aims to explore the possible use of Cassia fistula in synergy with coffee, red tea, green tea in soap for easy application and the anti-bacterial effects.	1. Ng Xin Yi Emily 2. Pai Li Wen Gwen 3. Phuah Yi Shan Kristy 4. Chai Ziqian 5. Chin Jun Yan	Esther Zheng	Certificate of Commendation
F8	Northbrooks Secondary School	S1-2	A qualitative study on the effect of three common household cleaning agents on the inhibition of bacteria growth.	Our aim is to find the best cleaning agent for a certain surface. To determine which is the most effective, we used agar jelly to grow the bacteria and count the number of spots that we see. After adding the cleaning agents, we were able to conclude which is the most effective.	1. Aung Myint Myat 2. Reolo Jerica Jazmine Yan 3. Erin Nur Ariana 4. Muhammad Syaabani	Ms Jemimah Tan Mr Melvyn Tan Ms Felicia Yue	Certificate of Commendation
F9	Presbyterian High School	S1-2	Water in Honey	The project aims to find out if the water content affects the expiry of honey. Students used bacterial culture as a basis for the experiment.	1. Goh Xiao Qing 2. Chiam Dao Yong 3. Ian Teo Wen Hui 4. Kevin Lim Ern Kee 5. Wesly Chau Li Zhan	Muhd Khairy	Certificate of Commendation
F10	Singapore Chinese Girls' School	S1-2	To investigate whether the fruit peels will affect the rate of plant growth.	Very often, the peels from the fruits are discarded. Our project is to study how fruit peels can be recycled into fertilizers and help the plants grow.	1. Joleen Tan Wei Leng 2. Tan Yen Pin, Sheryl 3. Tricia Mae Wong 4. Priscilla Chan 5. Genevieve Wong Shih Ting	Mrs Yeo Siew Li Mrs Cha Wai Mun	Silver
F11	Woodlands Secondary School	S1-2	To investigate the use of hydrogel on plant growth through varying the percentage of hydrogel to potting soil	Hydrogel allows for prolonged release of water. The ratio of hydrogel to potting soil is varied to investigate its effect on green bean plant growth.	1. Chan Siang Yee Rene 2. Lau Ai Ting, Kherray 3. Lim Jia Xin 4. Nur Afiq B Nur Fuad 5. Nikhilash S/O Yogarajah	David Goh	Gold
F12	Yio Chu Kang Secondary School	S1-2	Investigation on the best way to create DIY Detergent	To investigate effectiveness of detergent made from natural ingredients on cleaning different kinds of stains. Our aim is to find out how to create the most effective and cheapest detergent.	1. Dang Gia Hue Emma 2. Gloria Ku 3. Leah Maria Lopez 4. Lee Zhi Yan 5. Mohamed Adi Raiyan B Mohamad	Loo Yuh Ning Angel Lam Yong Peng Sin Puay San	Bronze

Group	1. School	2. Category	3. Title of Project	4. Synopsis of Project	5. Names of participants	6. Name of mentor 1	Award
G1	Anderson Secondary School	S1-2	The Flood Prevention System	To develop a wave dampening/draining system for high waves caused by sea storms	1. Natalie Marisa 2. Neo Hui Mei 3. Tay Si Ying 4. Erin Seah	Mehervan Singh	Certificate of Commendation
G2	Bowen Secondary School	S1-2	Electrosmog in Our Daily Lives	Electrosmog is the invisible electromagnetic radiation. This project aims to compile a detailed study on emission of radiation by various common electrical devices and level of radiation in selected places.	1. Toh Zheng Feng 2. Lai Shi Hong 3. Ng Zhi Yong 4. Chye Yi De 5. Chew Wee Meng	See Shi Yau	Certificate of Commendation
G3	CHIJ St.Nicholas Girls' School	S1-2	To Make Natural Toothpaste that is Effective in Whitening Teeth by Using Fruits and Food	Four sets of toothpaste with different fruits [1. strawberry (with baking soda), 2. strawberry without baking soda and 3. cucumber and 4. avocado. Samples are applied on coffee stained seashells which were used to simulate the human teeth.	1. Ooi Chu Han 2. Ong Wan Yuan 3. See En Qi 4. So Shi Hui 5. Nikki Yeo	Ms Celine Chan Siying	Silver
G4	Christ Church Secondary School	S1-2	Comparative study of nutrients present in black rice and other common rice varieties.	In this project, we performed five different experiments. First, we extracted sugar from rice using amylase and analyzed the content using a refractometer to determine the amount of starch. Second, we extracted proteins from rice using salt solution and analyzed the concentrations of proteins using spectrometer. Third, we extracted vitamin E using pure ethanol and performed HPLC to determine the quantity of vitamin E. We also used the HPLC to determine the amount of anthocyanins present. Lastly, we performed ion chromatography to determine the presence and quantity of the various cations. From our findings, we found that black rice has the highest antioxidant level along with proteins and cations.	1. Ashley Maddala Shi Hui 2. Babu Regan Eshwar 3. Fabian Chia Peng Hiang 4. Muhammad Nur-Fariz B Nur-Ramadan 5. Yeo Yuan Jun	Chong Mea Fun Rajeswari	Gold

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G5	Evergreen Secondary School	S1-2	Investigation on the effectiveness of vinegar, tea tree oil, enzyme and lemon juice in repelling ants	Instead of using chemicals, people are finding other alternative ways in preventing ants from invasion using natural remedies. Vinegar, tea tree oil, enzyme and lemon juice are some commonly use natural remedies in preventing ants currently. In this project, we are interested to find out how effective these substances in repelling ants.	1. Tan Wei Lun Nickie 2. Yeo Lay Ying Candice 3. Tiong Yu Qian 4. Lee Hui Xin	Chin Hooi Ming	Bronze
G6	WITHDRAWN						
G7	North Vista Secondary School	S1-2	Energy in Shoes!	To create a new source of renewable energy as one walks. As humans take approximately 7000 steps a day, the renewable energy produced is unlimited.	1. Marvin Jethro Agaran Prudencio 2. Sebastian Mceon Espina Besonia 3. Muhammad Haikal Bin Mohd Hisham 4. Ng Jun Wei Jeff 5. Muhammad Danial Afiq Bin Fharick	NURZUHAILAH AHMAD WONG ZI JUAN ABDUL RAUF	Certificate of Commendation
G8	Orchid Park Secondary School	S1-2	Investigating the most efficient method of destroying bacteria on phone screen surfaces.	To investigate the efficiency of various methods adopted to clean phone screen surfaces by inoculating culture plates with samples from the surfaces and observing growth of bacteria colonies.	1. Eleen Ong Cen Hui 2. Ong Zhen Dong 3. Tan Pin Yue 4. Ong Jing Wen 5. Gideon Isaac Ong Gie Leong	Daniel Chua Jacqueline Lie	Silver
G9	Presbyterian High School	S1-2	Investigation on taste thresholds in human's taste buds	To investigate how taste buds is affected by concentration of solute. To find the least concentration needed to detect taste. This gives a healthier option, yet not compromising on taste.	1. Lim Xing Nie Favor 2. Ng Xiang Qi 3. Wong Zi Yi 4. Keith Yeo Zong Han	Dr Valavan Tan Jia Yi	Certificate of Commendation
G10	Woodlands Ring Secondary School	S1-2	To investigate the effect of bleach on anaerobic activity in refrigerated food waste	An investigation was carried out to examine the effect of bleach in facilitating anaerobic reactions in refrigerated food waste.	1. Jupiter Chong Kai Yang 2. Kok Zhi Yuan 3. Liau Ying Qi 4. Liw Jia En 5. Lyana Qistine Bte Muhammed Ali	See Poo Leng Jeremy Tan Fang Yu Sharon	Bronze
G11	Xinmin Secondary School	S1-2	The titratable acidity in Soy and Full Cream Milk.	The aim of the project was to determine the amount of titratable acids in both types of milk. The titratable acidity provides an indication of the freshness of the milk.	1. Loh Jia Ning, Amanda 2. Brian Ee 3. Loy Ming Hao 4. Wong Liang Jie, Brad	Kasmawati Binte Kassim Yip Minghao	Certificate of Commendation
G12	Yishun Secondary School	S1-2	Root tubers and its effect on blood sugar levels in the human body	To investigate the amount of maltose in different types of root tubersand its potential effect on increasing blood sugar levels in the human body	1. Chloe Lim Liang Yin 2. Nurin Afiqah Bte Shaiful Anwar 3. Muhammad Amirul Bin Ramlee 4. See Yan Yan 5. Tan Yong Siang Sean	Mr Muhammad Hafiz Bin Mornin Mdm Nohaytiy Bte Bujang Mr Albert Kang	Gold

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H1	Ang Mo Kio Secondary School	S1-2	Investigating the effect of building design in mitigating the effects of natural disasters - Hurricane	This projects seeks to make use of models in investigating the difference in surface area of the building structure and how well the building is able withstand the effects of stimulated strong winds.	1. Lauren Shak Luo Jun 2. Toh Liang Xuan 3. Muhammad Ali Ridho B Kelana 4. Cheung Seok Yan Sandra 5. Leow Xi Zhi	Tan Shao Xun	Certificate of Commendation
H2	Bowen Secondary School	S1-2	Uncovering hidden sugar in your food.	In diabetes, most people understand they should only avoid things that are very sweet but not starchy food. This project aims to uncover the hidden sugars in these starchy food.	1. Chea Pei Ling, Vivian 2. Tan Xin Yan, Elaine 3. Ong Jin Biao, Ryan 4. Tan Xin Rong, Zion 5. Abigail Pacer Sartin	Chua Chim Chuan Chow Lee Lee	Bronze
H3	CHIJ St.Nicholas Girls' School	S1-2	To investigate methods of thawing different types of meat and its effects on bacterial growth	Frozen meat that is cooked has to be thawed at a suitable temperature to ensure that minimal bacterial growth. Investigation was conducted on the methods of thawing different types of meat and its effects on bacterial growth.	1. Nicole Lim Sze Hwee 2. Luisa Lok Jia Qi 3. Meagan Goh Yi Jing 4. Natalie Goh Hui Shi	Mdm Annie Panthradil	Silver
H4	Compassvale Secondary School	S1-2	An investigation on generation of electricity from induced electrostatic charges of flowing water	With greater emphasis on clean energy generation to reduce dependence on fossil fuels, hydroelectricity was identified as an untapped energy resource that could become a key solution. In this investigation, we look at how hydroelectricity can be generated by a Kelvin Water Dropper for use in high-rise waste-water systems.	1. Tan Kiat Yao 2. Louicia Lee Xin Yi 3. Wong Cheow Chai 4. Melody Tan 5. Lee Tze Sin Alicia	Nicholas Choy Aaron Ho Shah Ahamed	**Gold with Presentation**
H5	Evergreen Secondary School	S1-2	To investigate the effect of angle of Sun's rays on the speed of the solar car.	The team intends to improve the efficiency of solar cars through better understanding of the relationship between the Sun's position and the speed of the solar car.	1. Fernando Rai Baldovino Prado 2. Quek Xiu Yan 3. Thaddeus Gamaliel Goh 4. Joseph Philippe Olaez Geralin	Aswathy Chandra Sekhar Tan Yin Fun	Certificate of Commendation
H6	Hougang Secondary School	S1-2	Investigation on the effect of having plants on interior temperatures	We read that growing plants on exterior of buildings have to cool their insides down. To find out if this is true, we set up two shoe boxes and covered one of them with plants. We tracked their interior temperatures.	1. Woo Lai Ting Catherine 2. Celest Mun Wei Ting 3. Angelita Kng Meyling	Quek Yibing Lee Min	Certificate of Commendation

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H7	Northbrooks Secondary School	S1-2	To investigate the rate of absorbance and evaporation of various fabrics commonly used for external activities	Our project aims to investigate on the rate of absorption and evaporation on different types of fabrics to identify the most suitable type of fabrics to be worn outdoors.	1. Kesavamatham Naga Rahul Karthik 2. Tan Wen Xi 3. Baquilod David John Delacruz 4. Farah Nur Ramadani Bte B A 5. Nur Lizdayanti Bte Noordin	Miss Eunice Chan Mrs Celine Goh	Certificate of Commendation
H8	Orchid Park Secondary School	S1-2	Iron is the best material for the core of an electromagnet	Iron is the best material for the core of an electromagnet	1. Christy Ee Xin Ru 2. Aaron Yao 3. Anthony See 4. Zavier Tay	Chia Shu Wei Tang Wey Kok	Bronze
H9	Singapore Chinese Girls' School	S1-2	Foraging Behaviour of Squirrels @SCGS and Singapore Botanic Gardens	Our study was conducted to understand the adaptability of plaintain squirrels to Singapore's urban landscape compared to their natural habitat, such as types of vegetation and foraging / feeding behaviour.	1.Tan Jia Ying 2.Pui Yee Tong 3.Joanne Lim Sok Hua 4.Lee Hae Ri	Mrs Cha Wai Mun	Silver
H10	Woodlands Secondary School	S1-2	Bubble Bubble Tea	To investigate the the nutrients present in the ingredients of bubble tea	1. Syed Amin Shahab B Syed A B 2. Chin Wen Qi 3. Wong Shi Wei 4. Muhammad Anaqi Khuwailid B A	Ms Jessica Lim	Certificate of Commendation
H11	Xinmin Secondary School	S1-2	Protein Analysis of different types of fish	The analyses of protein in Salmon, Milkfish and Golden Pomfret were conducted to determine and compare the concentration of proteins present, using a Bradford Assay.	1. Chong Wei Ling 2. Pai Jing Wen 3. Tan Jia Ying, Viviana 4. Low Bi Shen, Gary	Kasmawati Binte Kassim Yip Minghao	Bronze
H12	Yishun Secondary School	S1-2	Analysis of Vitamin C content in fruit juices	To investigate whether there is a significant difference in the level of ascorbic acid (Vitamin C) in kiwi, pineapple and papaya juices at time=0 minutes, 30 minutes and 60 mins. In addition, to investigate if storage in fridge and freezer will result in a significant difference in the level of Vitamin C in pineapple juice when compared to freshly prepared pineapple juice	1. Celeste Ong 2. Ng Jia Hao 3. Koh Qian Yi 4. Adrea Lim	Amanda Wong Ang Swee Siang, Josh Albert Kang	Gold