

The NIWA Auckland City Science and Technology Fair 2021

Category Prize Winners

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		Technology & Research			Technology & Research

Page 11 <u>Senior Technology</u>
& Senior Science

Year 7 & 8 Food Science and Technology

1st Place Corbin Martin St Peter's College

Pie-Ping Hot

2nd Place Adam Lawrence Kadimah School

Getting a Rise

3rd Place Amie Hilliam St Kentigern Girls' School

How Does the Bake Time and Temperature affect the end result?

Highly Commended

Tony Li and Flynn Rendell St Kentigern Boys School

Wonders of Honey

Georgia Tierney Diocesan School for Girls

Cookie Time

Year 7 & 8 Human Behaviour

1st Place Ava Van Rij St Kentigern Girls' School

Noise

2nd Place Charlotte Ray Diocesan School for Girls'

Speedy Cerebellum

3rd Place James Murphy St Kentigern Boys' School

The Stress Test

Highly Commended

Anas Zara Mt Roskill Intermediate School

Will You Go With The Flow?

Hamish Patel-Smith King's School

Music to Your Feet

Julia van Wijk & Simone Castello Baradene College

Taste For Granted

Joshua Rowbotham & Sammy Bamford King's School

Who is the Ruler of Reaction Time?

Kate Bruford and Esmee Boyes St Cuthbert's College

Reaction Distraction

Oliver Finnegan & Tommy de Croy King's School

The Purrfect Ultimutt

Saskia Mclaren & Olivia Watson Diocesan School for Girls

Do Brain Breaks Help Productivity?

Year 7 & 8 Living World

1st Place William Nand & Aria Holland King's School

Tūī Tunes

2nd =Place Thomas Nand & Benji Mackenzie King's School

Breaking Down Decomposers

2nd =Place George McGuinness St Kentigern Boys' School

To Mulch or Not to Mulch

3rd = Place Asher Malcolm Kadimah School

Sports Drinks

3rd = Place Adria Chan Kohia Terrace School

I Spy With My Dry Eye

Highly Commended

Mia Platt and Mackenzie Roxburgh Diocesan School for Girls

Dogs vs Cats

Hanae Tsunokawa Diocesan School for Girls

Bad Words vs Good Words

Isabel Gilbert St Kentigern Girls' School

Toxic Ties

Eden Murdoch St Kentigern Girls' School

Optimum Temperature for Germination

Hayden Chandler Kadimah School

Suspended Ant-imation

Aamnah Zarrouk ACG Parnell College

To Soap or Sanitise

Oscar Bourne Ponsonby Intermediate School

The Colour of Life

Louie Ward Ponsonby Intermediate School

The Beginning of the Martian Era

Daniel Yu & Edward Zhang-Sun King's School

Plants on the Water

James Barrington & Ivor Martin King's School

Wee Grow For You

Joshua Drake King's School

My Cellium Experiment

Lachlan Tanhe & Caleb Mitchell King's School

Blinded by the Light

Liam Whitburn King's School

What's the Time Mr Fish

Toby Wigglesworth St Kentigern Boys' School

Musical Plants

Joshua Gowing & Ari Hunter Ponsonby Intermediate

Plant Batteries

Return to Page 1

Year 7 & 8 Physical World

1st Place Tom McCulloch St Kentigern Boys' School

Breaking Bridges

2nd = Nelsen Meacham St Kentigern Boys' School

Is Fuller Faster?

2nd = Liam Dowling St Kentigern Boys' School

Greased Lightning

3rd Place Emily Cornaga St Kentigern Girls' School

Is It All Hot Air?

Highly Commended

Lucas Simpson St Peter's College

The Trebuchet

Alexander Hewes St Kentigern Boys' School

Humpty's Great Fall

Samuel McCormick St Peter's College

What material works best as a parachute

Alexander Edmonds St Peter's College

Does Length and Thickness of Wire Effect the Flow of Electricity?

Henry Dyke & Oliver Poppelwell King's School

Fun In The Sun

Karl Sohn St Peter's College

Sub in a Tub

Dingding Youfu & MaLeo Qin ACG Parnell College

The Science Behind Flight

Giles England King's School

The Power of Gravity

Phoebe Wood St Kentigern Girls' School

Cars and Curious

Taylor Falloon St Peter's College

All You Need For Speed is the Right Pressure

Gavin Hales Kohia Terrace School

Capsized Catamaran vs Mono-hull

Tracey Sit Mt Roskill Intermediate School

The Last Battery Standing

Florence Heap Kohia Terrace School

Insulation Investigation

Poppy Heazlewood St Kentigern Girls' School

Blow Away Covid

Year 7 & 8 Material World

1st Place Grace Thomson & Charlie Bamford St Cuthbert's College

A Future With Ferrofluid

2nd Place Nikhita Krisson Kohia Terrace School

It's a Gassy World After All

3rd Place George Hill St Kentigern Boys' School

The Power of Nuts

Highly Commended

Ann Kyle & Laura Zhu Diocesan School for Girls

What Metal Corrodes the Least?

Francesca Eglinton Diocesan School for Girls

How Safe are Your Kids Pyjamas?

Kylie Koh ACG Parnell College

Bizarre Bioplastics

Claire Meeng ACG Parnell College

Natural Indicators

Hunter Whitten Ponsonby Intermediate School

Edible Water Bottles

Amelie Tapper Diocesan School for Girls

Vitamin C in Broccoli

Year 7 & 8 Planet Earth and Beyond

1st Place Michelle Cohen & Isobella Norton Kadimah School

Biodegrading Coffee Cups

2nd Place Jacob Beech St Peter's College

Dirty Water Sick Dog

3rd Place Brendan Lian and Enay Begali King's School

Starry Starry Night

Highly Commended

Niko Arlidge St Kentigern Boys' School

Evaporation Station

Edward Macculloch St Kentigern Boys' School

CO2OL IT DOWN!

Nethuli Abeywardana Kohia Terrace School

Air Pollution

Maia Harrison St Cuthbert's College

Replication Nature's Kidneys

Joshua Davies St Kentigern Boys' School

Loud Locations

Maisie McCorquodale Auckland Home Educators

Moon Craters

Year 7 & 8 Technology

1st Place Raymond Mallin St Kentigern Boys' School

Autumn's Gold

Year 7 & 8 Research

1st Place Harper Buchanan St Kentigern Girls' School

To Ski or Not to Ski

Highly Commended

Aarzu Quresh St Cuthbert's College

Bumps in Japan

Year 9 & 10 Food Science and Technology

1st Place Sophie Koh & Sophia Cowell Epsom Girls Grammar School

Keto Kraze

2nd Place Sam Hall & Emma Gerrand Baradene College

Twisted Taste

3rd Place Isabelle Ekanayake & Emily Burrows Baradene College

Eggsellent Substitutes

Highly Commended

Kakala Pole Mt Roskill Grammar School

Quality Bakers EquationAmy Mason & Gabrielle Copley

Copley Baradene College

Pancakes

Year 9 & 10 Human Behaviour

1st Place Alice McLaughlin & Sia Okach Baradene College

Prime to Shine

2nd Place Holly Bricklebank & Chloe Dasler Diocesan School for Girls

Asch Conformity Experiment

3rd Place Nicole Nobre & Samantha Rowe Baradene College

Brain Maturity; Response Demurity?

Highly Commended

Harriet Johnston & Clementine Bulmer Baradene College

Prize or Praise?

Emily Choi & Hiranya Fernando Baradene College

Time Flies

Siobhan Murphy Diocesan School for Girls

Happiness Formula

Nicole Nagaratnam and Janki Prajapati Mt Albert Grammar School

Music Your Worst Enemy

Elena Song and Michelle Gao ACG Parnell College

Music and the Memory

Year 9 & 10 Living World

1st = Rangiatea Waipara Mt Roskill Grammar School

Fighting Fungi - The Power of Kawakawa

1st = Charlie Forbes and Jacob Miller Mt Albert Grammar School

The Art of War on Nematodes

3rd Place Yeshvi Kandar Diocesan School for Girls

Too Loud, Too Long, Too Lethal

Highly Commended

Samuel Reeves & Eric Hu Mt Albert Grammar School

Drinking About the Future

Chloe Cheng Baradene College

Beye Floaters

Muhammed Patel & Xavier Hamilton Lynfield College

Soil Type vs Plant Growth

Violet Tucker & Chloe Laury Diocesan School for Girls

Natural Remedies vs Synthetic Antibiotics

Olivia Zhu Baradene College

Soil Erosion

Eesha Wadhera & Joanne Li ACG Parnell College

Mask Mania

Leah d'Lima St Dominic's College

Clash of the Colours

Year 9 & 10 Physical World

1st Place Leon Kment Michael Park School

Fishing Knots?

2nd Place Madeleine Christiansen Diocesan School for Girls

Is Our Lighting Giving Us The Blues?

3rd = Jacky Zhou Lynfield College

Bridge vs Mass

3rd= Hannah Gray & Edith Li Diocesan School for Girls

Electro -Shark

Highly Commended

Alias Olesen and Kathleen Mitchell Mt Albert Grammar School

The Perfect Shot

Isla Petherbridge Baradene College

Shoes for Success

Year 9 & 10 Material World

1st Place Nathan Kestle Mt Roskill Grammar School

Snazzy Sneezer

2nd Place Danielle Wong & Hannah Wellington Diocesan School for Girls

Bring on the Bioplastic

3rd Place Delara Elavia St Dominic's College

The Power of Citrus

Highly Commended

Thomas Shaw Mt Albert Grammar School

Science Fair Electrolyte Concentration

Deveshi Arora & Mishti Saha Lynfield College

How Effective is Your Sunscreen

Zinan Hassan & Ethan Liu ACG Parnell College

Restoring the Planet

Adrian Mayo Mt Roskill Grammar School

Water You Drinking?

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Year 9 & 10 Planet Earth and Beyond

1st Place Genevieve Cartmell Epsom Girls Grammar

Blame it on the Rain

2nd Place Farah Ikram and Maia Collins Mount Roskill Grammar School

Not a Drop to Spare

3rd Place Mackenzie Leighton St Dominic's College

The Pest Test

Highly Commended

Cassidy Foster St Dominic's College

Battle of the Bags

Italy de Monchy and Vanessa Huang Diocesan School for Girls

What's Up With The Stars

Year 9 & 10 Technology

1st Place Coco Shale Baradene College

The Possum Pied Piper

2nd Place Aaran Kumar Mt Roskill Grammar School

Marine Marauder

3rd Place Sophie Edmonds Diocesan School for Girls

#Emotional

Year 9 & 10 Research

1st Place Nina Wilson and Abby Varghese Diocesan School for Girls

Vaccines vs Viruses

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Senior Technology

1st Place Vicki Chow Epsom Girls Grammar School

AI is for the Birds

2nd Place Benjamin Hume Mt Albert Grammar School

On The Right Track

Senior Science

1st Place Katya De Silvia St Cuthbert's College

Synergy for the Win

2nd Place Stephanie Lu St Cuthbert's College

Bobaholic

3rd Place Nancy Wei & Kyubeen Kim Epsom Girls Grammar School

Hand Sanitisation: Sober or Drunk?

Highly Commended

ZhiYi Gong St Cuthbert's College

Threats from Fertilisers

Doris Chen St Cuthbert's College

Species Diversity Rocks

Spring Zhang St Cuthbert's College

Barnacles Rock!

Tabea Leonhardt and Alex Barker Mt Albert Grammar School

See Hair

Xiaotian Xu ACG Parnell College

Musical Spell

Felcia Fong St Cuthbert's College

Crazy Cat's Eyes

Jessie Lin St Cuthbert's College

Neptune's Necklace and Cat's Eyes



The 62nd NIWA Auckland City Science and Technology Fair 2021

Special Prize Winners

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Our Sponsors

2021 Fair Committee

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Sponsor's Message

A very warm welcome to the 2021 NIWA Auckland City Science & Technology Fair.

It's a great pleasure for NIWA to support this outstanding event once again, and we congratulate all the students, parents, teachers and supporters who have worked so hard to ensure its success.

NIWA Science & Technology Fairs are a wonderful opportunity for students to showcase their talent and enthusiasm for science, and to gain recognition for their excellence and innovation. Across the country, thousands of students have been involved in researching, constructing and presenting exhibits. Participation is on its own a powerful learning tool, but above all else they should be fun.

Naturally, NIWA has a vested interest in nurturing a passion for science and technology among young New Zealanders. Enhancing knowledge in NIWA's key areas of scientific focus – the atmosphere, the ocean, and freshwater – is critical to the sustainable growth of New Zealand as a nation. We need fresh enquiring minds to maintain this momentum. A career in science and technology is as rewarding as it is important – and right here is where we hope a spark may be lit

NIWA is the main sponsor of the Auckland City, South & East Auckland, North Harbour, Waikato, Bay of Plenty, Wellington and the Canterbury-Westland Science and Technology Fairs. These events form part of our long-term commitment to enhancing engagement with science and technology by young New Zealanders.

Thank you to the organising committee, judges, schools and other sponsors for your commitment and support in promoting the NIWA Auckland City Science & Technology Fair. Without you, this exciting event simply wouldn't happen.

Tracey Burton NIWA Science Fairs Co-ordinator



Our Sponsors

The Auckland City Science and Technology Fair Incorporated Committee wish to thank all our sponsors. Click on the links below to visit their websites.

Our Platinum Sponsor

NIWA - National Institute of Water and Atmospheric Research



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Dodd-Walls Centre for Photonic and Quantum Technologies

Manaaki Whenua Landcare Research

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House of Science

ESA Publications

Goode Brothers, New Lynn

Science Awards Trust

Auckland Dental Association

Ballance Agri-Nutrients

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Baking Industry Research Trust

Birds NZ

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Sociological Association of Aotearoa New Zealand

Geoscience Society of New Zealand

New Zealand Microbiological Society

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NZDF

Department of Conservation

MOTAT

New Zealand Soil Science

Stardome

Auckland Council Environment Team

The NIWA Auckland City Science and Technology Fair Committee 2021

Michelle Bierre Lynfield College

Murray Black

Rob Boasman Diocesan School for Girls

Sarah Boasman Baradene College

Manuka Cliffe St Cuthbert's College

Helen Davidson St Peter's College

Jess Francis Saint Kentigern Girls' School

Mayada Ghanim Epsom Girls Grammar School

Glenys Hayward

Catherine Linnell Saint Kentigern Boys' School

Sandy Jackson King's School

Marianne Levy Mt Roskill Intermediate School

Ian Mander

Trevor Mander Michael Park School

Sandra Stockley Kadimah School

Kedra Schwab Kadimah School

Aliona Valyashko Michael Park School

George Walken Mt Roskill Grammar School

A Sign of the Covid Times Committee Meetings held simultaneously in person and online



Bronze Sponsors' Prizes



Birds NZ Award

Vicki Chow **Epsom Girls Grammar School** AI is for the Birds



New Zealand Statistical Association Awards

Katya De Silvia St Kentigern Girls' School St Cuthbert's College Synergy for the Win

Statistics Highly Commended Certificates

Jessie Lin St Cuthbert's College Neptune's Necklace and Cat's Eyes Felcia Fong St Cuthbert's College **Crazy Cat's Eyes**

Ava Van Rij

Noise

Harriet Johnston & Clementine Bulmer Baradene College **Prize or Praise?**



NZIFST - Award for Food Technology

Corbin Martin St Peter's College **Pie-Ping Hot**



Department of Conservation Award

Coco Shale
Baradene College
The Possum Pied Piper



Geoscience Society of New Zealand Prize

Thomas Nand & Benji Mackenzie King's School

Breaking Down Decomposers



Microbiological Society Mike Baxter Prize

Katya De Silvia St Cuthbert's College **Synergy for the Win**



Supporters of Tiritiri Matangi Prize

William Nand & Aria Holland King's School Tūī Tunes



NZDF Innovation Prize

Aaran Kumar Mt Roskill Grammar School **Marine Marauder**



NZ Soil Science Prize

George McGuinness
St Kentigern Boys' School
To Mulch or Not to Mulch



SAANZ Prize for Social Science Focus

Year 7 & 8

Anas Zara

Mt Roskill Intermediate School

Will You Go With The flow?

Year 9 & 10

Holly Bricklebank & Chloe Dasler
Diocesan School for Girls
Asch Conformity Experiment



Stardome Award

Brendan Lian & Enay Bengali King's School Starry Starry Night



Auckland Council Environment Award

Jacob Beech
St Peter's College
Dirty Water Sick Dog



Baking Industry Research Trust Award

Adam Lawrence Kadimah School **Getting a Rise** Isabelle Ekanayake & Emily Burrows
Baradene College
Eggsellent Substitutes



MOTAT Award

James Murphy St Kentigern Boys' School

The Stress Test

Phoebe Wood St Kentigern Girls' School

Cars and Curious

Alias Olesen and Kathleen Mitchell
Mt Albert Grammar School
The Perfect Shot

Harper Buchanan
St Kentigern Girls' School
To Ski or Not to Ski

Nicole Nobre & Samantha Rowe Baradene College

Brain Maturity; Response Demurity

Joshua Rowbotham & Sammy Bamford King's School

Who is the Ruler of Reaction Time?

Hamish Patel-Smith King's School Music to Your Feet

Asher Malcolm Kadimah School **Sports Drinks**

Nelsen Meacham
St Kentigern Boys' School
Is Fuller Faster?

Clare Butcher Award for Natural History

Charlie Forbes and Jacob Miller Mt Albert Grammar School

The Art of War on Nematodes

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Silver Sponsors' Prizes



Science Awards Trust Prize

Tom McCulloch St Kentigern Boys' School

Kohia Terrace School **Breaking Bridges Insulation Investigation Taylor Falloon**

St Peter's College All you need for speed is the right pressure

Liam Dowling St Kentigern Boys' School **Greased Lightning**

Florence Heap

Edward Macculloch St Kentigern Boys' School **CO2OL IT DOWN!**



ESA Publications Prizes

Amie Hilliam St Kentigern Girls' School How Does the Bake Time and Temperature affect the end result?

> Charlotte Ray Diocesan School for Girls' **Speedy Cerebellum**

Adria Chan Kohia Terrace School I Spy With My Dry Eye



Emily Cornaga St Kentigern Girls' School

Is It All Hot Air?

Yeshvi Kandar Diocesan School for Girls Too Loud, Too Long, Too Lethal

Jacky Zhou

Nikhita Krisson Kohia Terrace School It's a Gassy World After All

Lynfield College **Bridge vs Mass**

George Hill St Kentigern Boys' School The Power of Nuts

Delara Elavia St Dominic's College The Power of Citrus

Michelle Cohen & Isobella Norton Kadimah School **Biodegrading Coffee Cups**

Farah Ikram & Maia Collins Mount Roskill Grammar School Not a Drop to Spare

Benjamin Hume Mt Albert Grammar School On The Right Track

Mackenzie Leighton St Dominic's College **The Pest Test**

Sophie Edmonds Diocesan School for Girls #Emotional



House of Science Award for innovative use of equipment Y7 & 8

Tracey Sit

Mt Roskill Intermediate School

The Last Battery Standing

Bob Briggs Memorial Award

Nathan Kestle
Mt Roskill Grammar School
Snazzy Sneezer



ASTA Award for Experimental Design Years 7 & 8

Grace Thomson & Charlie Bamford
St Cuthbert's College
A Future With Ferrofluid

ASTA Award for Experimental Design Years 9&10

Leon Kment
Michael Park School
Fishing Knots?



Auckland Dental Association Award for Human Biology

Xiaotian Xu
ACG Parnell College
Musical Spell



Ballance Agri-Nutrients Award

Joshua Gowing & Ari Hunter
Ponsonby Intermediate
Plant Batteries

GOODE BRETHERS

Goode Brothers, New Lynn, Prize for Food Science

Food Experience Prize

Sophie Koh & Sophia Cowell Epsom Girls Grammar School

Keto Kraze

Dining Experience Prize

Stephanie Lu St Cuthbert's College

Bobaholic

Sam Hall & Emma Gerrand Baradene College

Twisted Taste

Gold Sponsors' Prizes

The University of Auckland



Photon Factory Award for Use of Technology in Year 7 & 8

Raymond Mallin St Kentigern Boys' School

Autumn's Gold

Dingding Youfu & MaLeo Qin
ACG Parnell College
The Science Behind Flight

Poppy Heazlewood St Kentigern Girls' School Blow Away Covid



University of Auckland - Dean of Science Creativity Prize

for : developing a unique and creative approach a scientific investigation

Ava Van Rij

St Kentigern Girls' School

Noise

for: perseverance in experimental design

Nathan Kestle
Mt Roskill Grammar School
Snazzy Sneezer

for: original and creative use of scientific equipment

Hannah Gray & Edith Li Diocesan School for Girls Electro -Shark



Dodd-Walls Centre Prize

for best exhibits involving optics

Lachlan Tanhe & Caleb Mitchell
King's School
Blinded by the Light

Italy de Monchy and Vanessa Huang
Diocesan School for Girls
What's Up With The Stars

Madeleine Christiansen
Diocesan School for Girls

Is Our Lighting GivingUs The Blues?

Oscar Bourne
Ponsonby Intermediate School
The Colour of Life

Tracey Sit

Mt Roskill Intermediate School

The Last Battery Standing



UoA Faculty of Science Awards

Awards for students showing passion, enthusiasm while producing quality science

Nancy Wei & Kyubeen Kim Epsom Girls Grammar School

Hand Sanitisation: Sober or Drunk?

Doris Chen
St Cuthbert's College
Species Diversity Rocks

Spring Zhang
St Cuthbert's College
Barnacles Rock!

Tabea Leonhardt and Alex Barker
Mt Albert Grammar School
See Hair

Felcia Fong
St Cuthbert's College
Crazy Cat's Eyes

Alice McLaughlin & Sia Okach
Baradene College
Prime to Shine

Jessie Lin
St Cuthbert's College
Neptune's Necklace and Cat's Eyes

Danielle Wong & Hannah Wellington
Diocesan School for Girls
Bring on the Bioplastic



Manaaki Whenua Landcare Research Awards

Environmental Focus

William Nand & Aria Holland
King's School
Tūī Tunes

ZhiYi Gong St Cuthbert's College Threats from Fertilisers

Danielle Wong & Hannah Wellington
Diocesan School for Girls
Bring on the Bioplastic

Mātauranga Māori Context

Rangiatea Waipara
Mt Roskill Grammar School
Fighting Fungi - The Power of Kawakawa

Coco Shale
Baradene College
The Possum Pied Piper

Katya De Silvia St Cuthbert's College Synergy for the Win

Platinum Sponsor's Prizes



NIWA Auckland PrizeBest Exhibit in Atmospheric and Water Science

Genevieve Cartmell
Epsom Girls Grammar
Blame it on the Rain

NIWA Platinum AwardRunner Up to the Premier Award

Katya De Silvia St Cuthbert's College **Synergy for the Win**

NIWA Premier Platinum AwardBest Overall Exhibit in the Fair

Vicki Chow
Epsom Girls Grammar School
AI is for the Birds