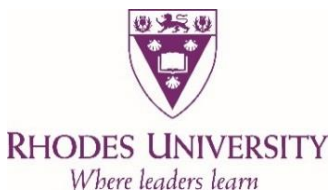


A big thank you to our sponsors!

## Expo for Young Scientists Title Sponsor



## Grahamstown Regional Final Sponsors



ABM



## In-Kind Sponsor



Thank you to our sponsors, committee, moderators and judges

Eskom Expo for Young Scientists and Scifest Africa values your contribution to our ongoing efforts to delight, inform, challenge and inspire through the delivery of engaging and thought-provoking experiences in science.



## **Message from Eskom Expo for Young Scientists International Science Fair Director**

**Dear young scientists, teachers, parents and volunteers,**

Young scientists, congratulations on reaching the regional level of the Eskom Expo for Young Scientists competition!

My message to young scientists is to explore your creativity. Scientific research requires a happy mix of logic, creativity and hard work. As a young scientist, you are now part of a remarkable community of creative thinkers who have a systematic way of solving problems. Belonging to this community comes with a responsibility – it requires practising science with honesty, integrity, responsibility, modesty and diligence where there is respect for all things – living and non-living. Scientists do not only seek solutions to problems but also ensure that their work is ethical and beneficial to all life on Earth. As a young scientist, you are in training, so you must ensure that you practise good habits that will hold you in good stead throughout your life. In your research, do not become absorbed in the answers only, but focus on the questions because good research starts with a deep understanding of the problem you are trying to solve. Irrespective of the level of your research, remember that whatever you do – do it well and enjoy what you do. In this competition, focus on what you have control over - your preparation and participation. The outcomes of this competition should not define you but should spur you on to greater achievements. At the end of this science fair, leave having learnt at least one new thing – if you achieve this, then you are a winner.

To the parents, teachers, judges and mentors, you should be commended for your support, hard work and commitment. Know that you are helping shape the future - a responsibility that rests heavily on our shoulders. We can contribute by showing our young scientists how to find the answers to the problems that plague our world and beyond rather than giving them the answers. This will ensure that generations to come will own their future.

Finally and most importantly, we want to express our gratitude to the Regional Science Fair Director and the Regional Committee, whose hard work, together with a host of other volunteers, have been instrumental in driving Expo throughout the year - the culmination of which is the hosting of this science fair. We acknowledge your sterling efforts and commitment to developing and growing our community of young scientists. We want to also place on record our sincere appreciation to all sponsors both nationally and locally, the Department of Education, Department of Science & Technology, Municipalities, Higher Education Institutes and other organisations for their role in supporting young scientists. Special mention has to be made to our title sponsor, Eskom for their belief and ongoing investment in our young scientists.

Eskom Expo for Young Scientists wishes all young scientists the very best in this competition and in the exciting journey that lies ahead of them!

Kind Regards

**Krishnie Naidoo  
Academic Director  
Eskom Expo for Young Scientists**

## GRAHAMSTOWN REGION VOLUNTEERS

The Eskom Expo for Young Scientists Grahamstown Region would like to recognise with gratitude the following individuals for their special dedication to the region.

Ms Joyce Sewry	Rhodes University
Dr Kevin Lobb	Rhodes University
Mr Leo Goosen	Eastern Cape Department of Education
Mr Chris McCartney	Eskom Expo for Young Scientists
Ms Abongile Ludwane	Nathaniel Nyaluza Senior Secondary School
Ms Kim Weaver	Rhodes University
Dr Leonie Goosen	Rhodes University
Ms Nadia Czeredrecki-Schmidt	Victoria Girls' High School

## INTERNATIONAL SCIENCE FAIR: GRAHAMSTOWN FINALISTS

The following learners represented the Grahamstown region at the 2017 International Science Fair, held from 3-6 October at the Birchwood Hotel and Conference Centre, Boksburg.

Name and Surname	Project Title	School	Grade	Medal
Lauren Anne Poole*	Natural bio-absorbents for heavy metals removal	Diocesan School for Girls	10	Silver
Sinovuyo Futuse	Hydro-electric Ship: The next generation of locomotion in the shipping industry	Nombulelo Senior Secondary School	11	Silver
Tyler Bovey and Sarah Wilhelmi	A potable water source	Kingswood College	9	Silver
Carla Odendaal	Risparmiamo L'aqua	Hoërskool P.J. Olivier	8	Silver
Jamie Lee Delpont	Effective tennis court cleaner?	Victoria Girls' High School	11	Silver
Tosca Stoloff*	Are Zeolites the answer?	Victoria Primary School	7	Silver
Nomawethu Kondile and Chwayita Gula	A more efficient way to make Umqombothi (African beer) ferment faster	Nathaniel Nyaluza Senior Secondary School	11	Bronze
Mihle Gadu	The amount of energy found in fast food (Calorimetry)	Victoria Girls' High School	10	Bronze
Andiswa Tyiwa	Solar Energy as an alternative source of power for an electric burner	Thubalethu High School	10	Bronze
Asanele Yapi	Investigating which plant species can be used as an alternative source of energy	Mary Waters High School	11	Highly Commended
Eden Hendricks and Kristen Wehr	The investigation of autism under a sensory stimulus	Victoria Girls' High School	9	Highly Commended

\* Recipients of Special Awards

## PUBLIC SAFETY RULES

- All electrical work must conform to the National Electrical Code and Rhodes University regulations
- Fire regulations will be strictly enforced (no open wires or lit candles in display area)
- No hazardous chemicals or harmful substances are allowed in the display area
- No water is allowed to be used as part of your demonstration
- Please obey all instructions given by the Eskom Expo for Young Scientists officials as well as personnel of Health and Safety from Rhodes University
- The Eskom Expo for Young Scientists Grahamstown Region and Rhodes University accept no responsibility for any injuries; damage to property or loss through theft whatsoever. We will endeavour to minimise this to the best of our ability.

**Please make sure you know where the nearest Emergency Exit is in the event of an evacuation**

**ESKOM EXPO FOR YOUNG SCIENTISTS  
2018 GRAHAMSTOWN REGIONAL FINAL  
CHEMICAL AND PHARMACEUTICAL SCIENCES BUILDING  
RHODES UNIVERSITY  
ARTILLERY ROAD**

**OFFICIAL PROGRAMME**

**Friday, 3 August 2018**

17h00-19h00    **Registration and Set-up**

Chemistry Laboratory  
Lower Ground Floor

**Saturday, 4 August 2018**

07h00-08h30    **Registration and Set-up**

Chemistry Laboratory  
Lower Ground Floor

08h30-09h00    **Welcome and Orientation**

Chemistry Major Lecture Theatre  
Ground Floor

09h00-11h45    **Judging and Public Viewing (Learners to remain with their projects)**

Chemistry Laboratory  
Lower Ground Floor  
Pharmacy Laboratory  
Ground Floor

12h00-13h00    **Chemistry Show (Learners only)**

Chemistry Major Lecture Theatre  
Ground Floor

12h00-13h00    **Educators Academy (Educators only)**

Chemistry Minor Lecture Theatre  
First Floor

12h00-14h00    **Moderation of Projects**

Chemistry Laboratory  
Lower Ground Floor  
Pharmacy Laboratory  
Ground Floor

13h00-13h45    **Lunch**

Learners: Pharmacy Laboratory Foyer, Ground Floor  
Judges and Educators: Pharmacy Tea Room, Second Floor

- 13h45-14h15    **Astronomy Show**  
Chemistry Major Lecture Theatre  
Ground Floor
- 14h15-14h30    **Official Photograph (Committee Members and Learners Only)**  
Foyer  
Ground Floor
- 14h30-16h30    **PRIZE-GIVING**  
***Top 5 Projects, Special Award Winners, Medal Winners and National Finalists (ISF)***  
Chemistry Major Lecture Theatre  
Ground Floor
- 16h30-17h00    **Briefing session for Finalists selected for the International Science Fair Interviews**  
Chemistry Major Lecture Theatre  
Ground Floor
- 17h00            **Strike Projects**

# Entries

Proj. No.	Project Title	School Name	Grade
<b>Agricultural Sciences</b>			
<b>AGR01</b>	<b>An inquiry into the effects of light wavelength of plant growth</b>		
	Zaza Germond	Victoria Girls' High School	9
<b>AGR02</b>	<b>Cow dung vs soil vs commercial fertilizer</b>		
	Alutha Dyongman	Nathaniel Nyaluza Senior Secondary	8
	Linathi Saki	Nathaniel Nyaluza Senior Secondary	8
<b>AGR03</b>	<b>Green Living</b>		
	Siphesihle Nxantsiya	Ntabenkonyana High School	12
<b>AGR04</b>	<b>Grow! Grow! Grow!</b>		
	Lily Burgess	Kingswood College	9
	Zoë Phillips	Kingswood College	9
<b>AGR05</b>	<b>Save Plants</b>		
	Zobulungisa Teyisa	Ntabenkonyana High School	8
<b>AGR06</b>	<b>The effect of CO<sub>2</sub> on seed germination</b>		
	Nicola Kroese	Victoria Girls' High School	10
	Abongile Nokenke	Victoria Girls' High School	10
<b>AGR07</b>	<b>To help people or animals so that they can feel better</b>		
	Kungawo Notiki	Ntabenkonyana High School	8
<b>AGR08</b>	<b>Ways to save water in agriculture, farming.</b>		
	Siphosethu Mtyapi	Victoria Primary School	7

Proj. No.	Project Title	School Name	Grade
<b>Animal and Veterinary Science, including Marine Animals</b>			
<b>AVM09</b>	<b>Aquatic Veterinary</b>		
	Tamesha Connolly	Victoria Primary School	7
<b>AVM10</b>	<b>Are dogs beneficial for society?</b>		
	Entle Mapapu	Nombulelo Senior Secondary School	9
<b>AVM11</b>	<b>Developing medicine using available plants to cure animals</b>		
	Unathi Manyathi	D.D Siwisa Primary School	7
	Siyabulela Mhletywa	D.D Siwisa Primary School	7
<b>AVM12</b>	<b>How can we combat animal losses due to drought</b>		
	Lisakhaya Boo	Ntabenkonyana High School	10
<b>AVM13</b>	<b>Indigenous plants and herbs used to cure sickness in animals</b>		
	Sanelisiwe Sam	Ntabenkonyana High School	10
<b>AVM14</b>	<b>Investigating round worm resistance to commercially available deworming chemicals</b>		
	Kate Emma Jackson-Moss	Victoria Girls' High School	11

## Chemistry and Biochemistry

<b>CHB15</b>	<b>Acids and bases</b>		
	Masilakhe Mabele	Makana Primary Public School	7
<b>CHB16</b>	<b>Rocketology - baking soda +vinegar = lift off!</b>		
	Sibulele Kulati	Victoria Primary School	7
<b>CHB17</b>	<b>Store bought shampoos ruin natural hair</b>		
	Nikilitha Mondliwa	Victoria Primary School	7
<b>CHB18</b>	<b>The effect of temperature on crystal growth</b>		
	Jessica Amy Lobb	Victoria Girls' High School	9

Proj. No.	Project Title	School Name	Grade
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## Computer Science and Information Technology

<b>COM19</b>	<b>Cloud Usage</b>		
	Catherine Long	Kingswood College	9
	Anna Timmermans	Kingswood College	9
<b>COM20</b>	<b>Language Problem</b>		
	Izakwanda Njikelana	Ntabenkonyana High School	8
<b>COM21</b>	<b>Translation Device</b>		
	Aphelele Foto	Ekuphumleni High School	10

## Earth Science (Geography, Geology, Oceanography) and Housing and Settlement Studies

<b>EAR22</b>	<b>Earth Science</b>		
	Lizole Mvula	Samuel Ntsiko Primary School	6
<b>EAR23</b>	<b>Population Growth</b>		
	Thandolwethu Gxakuma	Fikizolo Primary School	7
	Lisakhanya Wyn	Fikizolo Primary School	7
<b>EAR24</b>	<b>Relationship between temperature and depth of the sea</b>		
	Siphesihle Mbalentle Mpotulo	Mary Waters High School	11
<b>EAR25</b>	<b>The effect of roof paint colour on the internal temperature of a structure</b>		
	Mellisa Leonne Amos	Victoria Girls' High School	11
<b>EAR26</b>	<b>The relationship between depth and chlorophyll in Algoa Bay</b>		
	Chumani Nelo	Mary Waters High School	11

## Energy Productivity and Conservation: Efficient use of energy and ways of using less energy

<b>EPC27</b>	<b>Can my cheap mirror replace a solar panel?</b>		
	Siviwe Zuzile	Nathaniel Nyaluza Senior Secondary	9



## Energy Productivity and Conservation: Efficient use of energy and ways of using less energy

<b>EPC28</b>	<b>Local energy conversation</b> Xhasumzi Zweni	Ntabenkonyana High School	12
<b>EPC29</b>	<b>Most efficient way to save electricity</b> Athenkosi Mtwa	Nombulelo Senior Secondary School	8
<b>EPC30</b>	<b>Saving Electricity</b> Kaylan Fletcher Nhlanhla Masiza	Nathaniel Pamla High School Nathaniel Pamla High School	9 9
<b>EPC31</b>	<b>Solar power station</b> Aseza Magqaza Mwezi Nkayi	Nkwanca High School Nkwanca High School	10 10
<b>EPC32</b>	<b>The effect of sound on a flame</b> Zizipho Vabaza	Victoria Girls' High School	10
<b>EPC33</b>	<b>The generation of electricity using our roads</b> Ethan Robert Gradwell	Port Alfred High School	10
<b>EPC34</b>	<b>What fuel is the most efficient?</b> Erin Faye Bradley	Victoria Girls' High School	9

## Energy: Non-renewable (Fossil Fuels and use of electricity)

<b>ENR35</b>	<b>Flame Duration</b> Lucas Kinghan	Kingswood College	9
<b>ENR36</b>	<b>Gas for electricity</b> Mbonge Labase	Ntabenkonyana High School	11

Proj. No.	Project Title	School Name	Grade
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## Energy: Renewable (Biofuels, Geothermal, Bio-digesters)

ERB37	<b>Biofuels as a renewable energy</b>		
	Shandre Lockwood	Victoria Primary School	7
ERB38	<b>Bio Energy</b>		
	Aphiwe Kasper	Ntsika Senior Secondary School	9
	Chulumanco Mantewu	Ntsika Senior Secondary School	9
ERB39	<b>Generating electricity with plants</b>		
	Thandile Mhlakuza	Victoria Primary School	7
ERB40	<b>Using cow dung as a fuel in Kerosen lamp</b>		
	Livenathi Marambana	Nathaniel Pamla High School	9
	Bathabile Zondani	Nathaniel Pamla High School	9

## Energy: Renewable (Solar, Wind, Wave, Hydro)

ERS41	<b>Efficient water supply</b>		
	Sesethu Gaga	Nomzamo Senior Secondary School	10
	Asomeleze Matyumza	Nomzamo Senior Secondary School	10
ERS42	<b>Free Energy</b>		
	Salizwa Mahote	Nzululwazi High School	12
	Lutho Sompani	Nzululwazi High School	12
ERS43	<b>Hydro-electric (steam) powered generation</b>		
	Siphosethu Rabela	Nkwanca High School	11
	Yonelisa Sidandala	Nkwanca High School	11
ERS44	<b>Sub Marine</b>		
	Lisakhanya Bomvu	Nombulelo Senior Secondary School	8
	Mzobuntu Lumgile	Nombulelo Senior Secondary School	8
ERS45	<b>Which warms faster under direct light between water and soil?</b>		
	Khayakazi Zisoyi	Kwa-Komani Comprehensive School	11

Proj. No.	Project Title	School Name	Grade
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## Engineering: Chemical, Metallurgical, Civil and Mining

ENC46	<b>Magnets on road network</b>		
	Sive Teyise	Archie Mbolekwa Senior Public School	9
ENC47	<b>The perfect bridge design</b>		
	Wanda Madasa	Kingswood College	9
	Azola Poswa	Kingswood College	9

## Engineering: Electrical and Electronics

ENE48	<b>Circuit Diagram</b>		
	Lisakhanya Kwamba	Hendrik Kanise Combined School	9
ENE49	<b>Electric Circuit</b>		
	Sipho Botha	Riebeeck East Combined School	9
	Yolisa Mpiyane	Riebeeck East Combined School	9
ENE50	<b>Electric Circuit</b>		
	Khayelihle Prince	Makana Primary Public School	7
ENE51	<b>Electric Circuits</b>		
	Sbabalo Kwamba	Hendrik Kanise Combined School	9
	Sisipho Tokota	Hendrik Kanise Combined School	9
ENE52	<b>Electrolyte</b>		
	Nasiphi Mangi	Nomzamo Senior Secondary School	10
	Anathi Memo	Nomzamo Senior Secondary School	10
ENE53	<b>Electronic device invention</b>		
	Unathi Fembi	Lingelihle Senior Secondary School	11
ENE54	<b>Electronics components to design devices</b>		
	Abongile Mali	Riebeeck East Combined School	9
	Ongeziwe Mantla	Riebeeck East Combined School	9

Proj. No.	Project Title	School Name	Grade
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## Engineering: Electrical and Electronics

<b>ENE55</b>	<b>Generating electricity from potatoes</b>		
	Xhantilomzi Nondse	Nombulelo Senior Secondary School	8
<b>ENE56</b>	<b>The Maglev Train: The fastest and safe for transport</b>		
	Babalwa Mqubuli	Port Alfred High School	12
	Babalwa Ndlebe	Port Alfred High School	12

## Engineering: Mechanical, Aeronautical and Industrial

<b>ENM57</b>	<b>Assistance Robot (AR)</b>		
	Kamvelihle Gule	Ntsika Senior Secondary School	9
<b>ENM58</b>	<b>Bionic artificial spine</b>		
	Azisa Kashe	Thubalethu High School	9
<b>ENM59</b>	<b>Electrical Bicycle</b>		
	Sinabo Sonamzi	Ekuphumleni High School	10
<b>ENM60</b>	<b>Electrical water generator</b>		
	Khanya Malote	Ntabenkonyana High School	9
	Liyabona Toyi	Ntabenkonyana High School	9
<b>ENM61</b>	<b>Picking Stick</b>		
	Mihlali Leondre Bikaur	Ekuphumleni High School	10
<b>ENM62</b>	<b>Road Safety</b>		
	Tawanda Nhlapho	Kingswood College	9
	Xhamela Sisulu	Kingswood College	9
<b>ENM63</b>	<b>Solar powered centre pivot</b>		
	Robert Francis	Kingswood College	9
	Callum McGregor	Kingswood College	9
<b>ENM64</b>	<b>Solar Reservoir</b>		
	Anam Simelela	Ntabenkonyana High School	9

Proj. No.	Project Title	School Name	Grade
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## Engineering: Mechanical, Aeronautical and Industrial

<b>ENM65</b>	<b>The quitter tank</b> Aphiwe Koliti	Ntsika Senior Secondary School	10
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## Environmental Management: Study of Human Interaction with the Environment

<b>EVM66</b>	<b>Changing attitudes towards illegal dumping</b> Mvumelwano Prince	Nombulelo Senior Secondary School	12
<b>EVM67</b>	<b>Cleaning Dirty</b> Asisipho Frans	Makana Primary Public School	7
<b>EVM68</b>	<b>Decreasing Pollution</b> Jade Frans	Victoria Primary School	7
<b>EVM69</b>	<b>Desalination</b> Andiswa Tyiwa	Thubalethu High School	11
<b>EVM70</b>	<b>Drink it clean from the ground</b> Anothando Sonkosi	Thubalethu High School	10
<b>EVM71</b>	<b>Earth Filter</b> Lindelihle Manyati Siyanda Mpako	Ntsika Senior Secondary School Ntsika Senior Secondary School	10 10
<b>EVM72</b>	<b>Edible and biodegradable plastic wrappers</b> Michelle Brown Raquel Knott	Kingswood College Kingswood College	9 9
<b>EVM73</b>	<b>Finding a way to produce clean water</b> Oyama Lepile Siyolisiwe Mankayi	Nombulelo Senior Secondary School Nombulelo Senior Secondary School	8 8
<b>EVM74</b>	<b>How to save our environment?</b> Lithemba Mpongoshe	Sipho Camagu High School	8

Proj. No.	Project Title	School Name	Grade
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## Environmental Management: Study of Human Interaction with the Environment

<b>EVM75</b>	<b>How to change dirty water to drinking water?</b>		
	Thandazile Funani	Nombulelo Senior Secondary School	9
	Siyathemba Mntumni	Nombulelo Senior Secondary School	9
<b>EVM76</b>	<b>How to save our environment?</b>		
	Sinebhongo Toni	Sipho Camagu High School	8
<b>EVM77</b>	<b>How to save water in environmental taps</b>		
	Ntombikayise Gaven	Sipho Camagu High School	10
	Nande Mbuqe	Sipho Camagu High School	10
<b>EVM78</b>	<b>Lets use greywater to save water</b>		
	Sisipho Amy Yamiso	Mary Waters High School	11
<b>EVM79</b>	<b>Making the use of grey water</b>		
	Lathi-tha Stofile	Victoria Primary School	7
<b>EVM80</b>	<b>Polluted Water</b>		
	Sinalo Diamond	Fikizolo Primary School	7
	Anganathi Sitani	Fikizolo Primary School	7
<b>EVM81</b>	<b>Purify Water</b>		
	Zikhona Shayi	Nombulelo Senior Secondary School	8
<b>EVM82</b>	<b>Purifying Water</b>		
	Avethandwa Someleze Dial	Nathaniel Pamla High School	9
<b>EVM83</b>	<b>Purifying Water</b>		
	Esethu Ndlonglo	Nathaniel Pamla High School	8
	Asithandile Nyongoba	Nathaniel Pamla High School	8
<b>EVM84</b>	<b>Recycling</b>		
	Sinesipho Kleyi	Makana Primary Public School	7
	Anathi Mgandela	Makana Primary Public School	7

Proj. No.	Project Title	School Name	Grade
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## Environmental Management: Study of Human Interaction with the Environment

<b>EVM85</b>	<b>Recycling</b>		
	Lihlonele Precious Tshakweni	Ntabenkonyana High School	9
<b>EVM86</b>	<b>Sewages</b>		
	Elihle Madwara	Fikizolo Primary School	7
	Ovayo Mlonyeni	Fikizolo Primary School	7
<b>EVM87</b>	<b>Valentina Project</b>		
	Siyanda Siphosethu Mkonko	Nathaniel Nyaluza Senior Secondary	9
<b>EVM88</b>	<b>Water</b>		
	Asive Apolis	Fikizolo Primary School	7
	Zimkhitha Marawu	Fikizolo Primary School	7
<b>EVM89</b>	<b>Water is life</b>		
	Buhle Geelbooi	Fikizolo Primary School	7
	Siyambonga Lukhwe	Fikizolo Primary School	7
<b>EVM90</b>	<b>Water Purification</b>		
	Sinovuyo Busakwe	Hendrik Kanise Combined School	9
<b>EVM91</b>	<b>Water Purification</b>		
	Vuyo Kesha	Ekuphumleni High School	10
	Ellen Mabandla	Ekuphumleni High School	10
<b>EVM92</b>	<b>Water Purification</b>		
	Sinawo Mzizi	Hendrik Kanise Combined School	9
	Masiwakhe Siwisa	Hendrik Kanise Combined School	9
<b>EVM93</b>	<b>Water purification with coal and lemon</b>		
	Zimbini Sintwa	Ntsika Senior Secondary School	8
<b>EVM94</b>	<b>Ways to reduce environmental pollution</b>		
	Lisakhanya Tetani	Nombulelo Senior Secondary School	8
	Silakhe Xako	Nombulelo Senior Secondary School	8

Proj. No.	Project Title	School Name	Grade
<b>Environmental Science: Changes to the Environment</b>			
<b>EVS95</b>	<b>Different Temperatures</b>		
	Eventhian Papu	Mary Waters High School	11
<b>EVS96</b>	<b>Geography - Atmosphere</b>		
	Zamalettha Papu	Ntabenkonyana High School	8
<b>EVS97</b>	<b>Global Warming</b>		
	Inganathi Mntundini	Tantyi Primary School	6
	Iviwe Ndwalaza	Tantyi Primary School	6
<b>EVS98</b>	<b>How do volcanoes use gas law?</b>		
	Athandiwe Ndayi	Nathaniel Nyaluza Senior Secondary	9
	Masixole Ntsundwana	Nathaniel Nyaluza Senior Secondary	9
<b>EVS99</b>	<b>How natural gas is formed</b>		
	Liyakhanya Plaatjie	Tantyi Primary School	6
	Salusiwe Simani	Tantyi Primary School	6
<b>EVS100</b>	<b>How seasonal changes affect salinity?</b>		
	Abenathi Claire Nqweniso	Mary Waters High School	11
<b>EVS101</b>	<b>Mutilus vs perna - which is the ultimate survivor?</b>		
	Tosca Stoloff	Victoria Girls' High School	8
<b>EVS102</b>	<b>Plastic Pollution</b>		
	Wafa Rizvi	Victoria Girls' High School	8
<b>EVS103</b>	<b>Pollution</b>		
	Khona Grootboom	Tantyi Primary School	6
	Khazimla Ngqoyiya	Tantyi Primary School	6
<b>EVS104</b>	<b>R.O.D throughout the world</b>		
	Inga Jerry Sakwe	Thubalethu High School	10



Proj. No.	Project Title	School Name	Grade
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## Food Science, Food Technology and Healthy Eating

<b>FOH105</b>	<b>Diseases and food poisoning</b>		
	Sisamkele Fihla	Ntabenkonyana High School	10
	Azasakhe Mtshwane	Ntabenkonyana High School	10
<b>FOH106</b>	<b>Does mint have a cooling effect or is it playing with our senses?</b>		
	Sinazo Zondi	Victoria Primary School	7
<b>FOH107</b>	<b>How do food plants grow in different water?</b>		
	Sinoxolo Bacela	Nathaniel Nyaluza Senior Secondary	10
<b>FOH108</b>	<b>Investigating whether cooking reduces vitamin C in fresh fruit and vegetables</b>		
	Lazancia Hughes	Victoria Girls' High School	9
<b>FOH109</b>	<b>Which method of preparing salad eliminates the most bacteria?</b>		
	Mihle Sibahle Gadu	Victoria Girls' High School	11
	Liyabona Ngumani	Victoria Girls' High School	11
<b>FOH110</b>	<b>Which temperature keeps bread fresh?</b>		
	Sivenathi Bruintjies	Nathaniel Nyaluza Senior Secondary	8

## Innovation and Technology

<b>INN111</b>	<b>A look into homemade pool protectors</b>		
	Eden Rhys Hendricks	Victoria Girls' High School	10
	Kristen Wehr	Victoria Girls' High School	10
<b>INN112</b>	<b>Air Transplant</b>		
	Anam Kamana	Nathaniel Pamla High School	12
<b>INN113</b>	<b>Ashes of burnt tire as a shoe polisher for suedes</b>		
	Lifa Ncumani	Nathaniel Pamla High School	12
<b>INN114</b>	<b>Automatic Lift</b>		
	Avela Koliti	Nombulelo Senior Secondary School	8

Proj. No.	Project Title	School Name	Grade
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## Innovation and Technology

<b>INN115</b>	<b>Bulb pen next vision</b>		
	Nanga Madlangathi	Nkwanca High School	11
	Yamkela Tyala	Nkwanca High School	11
<b>INN116</b>	<b>Cellphone Tower</b>		
	Karim Hoga	Fikizolo Primary School	7
	Thabisa Mcanda	Fikizolo Primary School	7
<b>INN117</b>	<b>Cellphone Tower</b>		
	Lihle Mhlambiso	Fikizolo Primary School	7
<b>INN118</b>	<b>Colgate vs activated charcoal</b>		
	Luniko Kondile	Nathaniel Nyaluza Senior Secondary	8
	Siviwe NdweNdwe	Nathaniel Nyaluza Senior Secondary	8
<b>INN119</b>	<b>Community watch tower</b>		
	Aphiwe Ntamo	Nombulelo Senior Secondary School	9
	Nosibabalo Qawu	Nombulelo Senior Secondary School	8
<b>INN120</b>	<b>DIY Torch</b>		
	Sangenathi Bill	Nathaniel Nyaluza Senior Secondary	10
	Inam Booi	Nathaniel Nyaluza Senior Secondary	10
<b>INN121</b>	<b>Do pool covers really reduce evaporation?</b>		
	Lolita Siyavuya Koti	Victoria Girls' High School	11
<b>INN122</b>	<b>Efficient cheap homemade bar soap: dandruff remover</b>		
	Chantell Diko	Ntsika Senior Secondary School	9
	Vuyisanani Ndyawe	Ntsika Senior Secondary School	9
<b>INN123</b>	<b>Elevator Bridge</b>		
	Hopewell Munyai	Nombulelo Senior Secondary School	10
<b>INN124</b>	<b>Future salt-water car</b>		
	Hlumelo Lento	Thubalethu High School	9

Proj. No.	Project Title	School Name	Grade
<b>Innovation and Technology</b>			
<b>INN125</b>	<b>Household desalination plant</b>		
	Tshepo Madigoe	Adelaide Gymnasium	11
<b>INN126</b>	<b>Improving ozone water purifier</b>		
	Ongeziwe Mkanya	Kwa-Komani Comprehensive School	11
<b>INN127</b>	<b>Lemon Battery</b>		
	Babalo Mangqingwana	Nathaniel Nyaluza Senior Secondary	9
	Kelvin Skosana	Nathaniel Nyaluza Senior Secondary	9
<b>INN128</b>	<b>Lifesaver watch</b>		
	Milani Yose	Archie Mbolekwa Senior Public School	9
<b>INN129</b>	<b>Reducing load shedding</b>		
	Bavuyise Mancam	Fikizolo Primary School	7
<b>INN130</b>	<b>Smart wireless charger</b>		
	Owethu David Mandela	Nkwanca High School	11
	Masixole Thembelihle Noganta	Nkwanca High School	11
<b>INN131</b>	<b>Super intelligent camera assistant</b>		
	Luyolo Komlana	Archie Mbolekwa Senior Public School	9
	Aqhamile Yose	Archie Mbolekwa Senior Public School	9

## Innovation and Technology

<b>INN132</b>	<b>The thermal flask</b>		
	Ntombekhaya Adam	Ntsika Senior Secondary School	10
	Sinengomso Nombewu	Ntsika Senior Secondary School	10
<b>INN133</b>	<b>Using coal as toothpaste</b>		
	Onke Mkalipi	Nombulelo Senior Secondary School	8
<b>INN134</b>	<b>Watch Tower</b>		
	Asive Mafani	Nombulelo Senior Secondary School	8
	Yolanda Malindi	Nombulelo Senior Secondary School	8

Proj. No.	Project Title	School Name	Grade
<b>Medical Sciences and Health Care</b>			
<b>MED135</b>	<b>"Enlightenment regarding ARV's"</b>		
	Misha Batyi	Sipho Camagu High School	9
	Amahle Mananga	Sipho Camagu High School	9
<b>MED136</b>	<b>A cure for fever, mainly dry cough</b>		
	Kamva Kolweni	Ntabenkonyana High School	10
<b>MED137</b>	<b>Acquired immunodeficiency syndrome or AIDS</b>		
	Siphesonke Mbethe	Ntabenkonyana High School	8
<b>MED138</b>	<b>An affordable way to cleanse a face of a teen trouble with pimples</b>		
	Sambesiwe Ngcaku	Nathaniel Pamla High School	12
<b>MED139</b>	<b>Are chemical substances necessary to control and decrease the greasiness of hair and spots on face?</b>		
	Jaden Keira Keulder	Victoria Girls' High School	9
<b>MED140</b>	<b><i>Artemisia afra</i> ginger tea</b>		
	Nzuzo Mpondwana	Ekuphumleni High School	12
<b>MED141</b>	<b>Blood Cancer</b>		
	Onika Langaye	Ntabenkonyana High School	9
<b>MED142</b>	<b>Drug cleaner in human excretory system</b>		
	Khanya Daniso	Ekuphumleni High School	10
<b>MED143</b>	<b>Flu inflection and safety measures</b>		
	Kwandiwe Fetile	Nkwanca High School	10
	Ntsika Maseti	Nkwanca High School	10
<b>MED144</b>	<b>How does hearing of different pitches and volumes change with age?</b>		
	Zainab Bibi Mansoor	Victoria Girls' High School	9
	Athandiwe Stamper	Victoria Girls' High School	9
<b>MED145</b>	<b>Medi Bear</b>		
	Claude Hilport	Hoërskool P.J. Olivier	10

Proj. No.	Project Title	School Name	Grade
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## Medical Sciences and Health Care

<b>MED146</b>	<b>Organic healing remedy</b> Iyapha Homo	Ekuphumleni High School	10
<b>MED147</b>	<b>Pimples Cream</b> Vuyolwethu Babotyana	Samuel Ntsiko Primary School	7
	Qamani Manyati	Samuel Ntsiko Primary School	7
<b>MED148</b>	<b>Shingle remover cream</b> Asemahle Ginida	Ekuphumleni High School	10
<b>MED149</b>	<b>Sugar diabetic treatment</b> Liyema Make	Ekuphumleni High School	10
<b>MED150</b>	<b>Traditional herbal healing</b> Simanye Feni	Nkwanca High School	10
<b>MED151</b>	<b>Using traditional herbs to cure HIV &amp; AIDS</b> Lilitha Mngese	Ekuphumleni High School	10
	Zanda Paul	Ekuphumleni High School	10

## Microbiology and Diseases

<b>MIC152</b>	<b>Chemical balancing in the skin</b> Awiwe Mfakadolo	Nkwanca High School	10
	Sesethu Sokabo	Nkwanca High School	10
<b>MIC153</b>	<b>How to cure flu</b> Lavela Antoni	C.M. Vellem Health Promoting School	6
<b>MIC154</b>	<b>Nature and chickenpox</b> Siphamandla Ndlebe	Nombulelo Senior Secondary School	11
<b>MIC155</b>	<b>The most effective way to bring back algae to water sources?</b> Lutho Habana	Nombulelo Senior Secondary School	8
	Iviwe Mene	Nombulelo Senior Secondary School	8

Proj. No.	Project Title	School Name	Grade
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## Microbiology and Diseases

<b>MIC156</b>	<b>Toxic Spray</b> Zanele Melisa Njoli	Nkwanca High School	10
<b>MIC157</b>	<b>Under which pH conditions does instant yeast produce less carbon dioxide?</b> Zandile Tapileno	Kwa-Komani Comprehensive School	11

## Physics, Astronomy and Space Science

<b>PHY158</b>	<b>How does the amount of liquid in a bottle affect the sound produced?</b> Sivuyisiwe Zimi Nolisi	Victoria Girls' High School	9
<b>PHY159</b>	<b>Invisibility</b> Annette Kroese	Victoria Girls' High School	10

## Plant Sciences including Marine Plants

<b>PLA160</b>	<b>Can plants grow with other fluids?</b> Zurayda Jackson	Hoërskool P.J. Olivier	7
<b>PLA161</b>	<b>Does light wavelength affect growth rate or germination in plants?</b> Cassidy Doyle	Victoria Girls' High School	9
<b>PLA162</b>	<b>How do magnets affect plant growth?</b> Culumanco Kwatsha	Victoria Girls' High School	9
<b>PLA163</b>	<b>Preservation of pumpkins</b> Lihle Ntshoko	Riebeck East Combined School	8
	Xolisa Kevin Roman	Riebeck East Combined School	8
<b>PLA164</b>	<b>Useful Plants</b> Siphesihle Ngoqo	Makana Primary Public School	7
	Asiphile Zamani	Makana Primary Public School	7

Proj. No.	Project Title	School Name	Grade
<b>Social and Psychological Sciences</b>			
<b>SOC165</b>	<b>Advantages and disadvantages of grade 8's using cellphones</b>		
	Maliviwe Mnqika	Nathaniel Nyaluza Senior Secondary	8
<b>SOC166</b>	<b>Albino?</b>		
	Anam Jennifer Nqweniso	Mary Waters High School	11
<b>SOC167</b>	<b>Body temp during hypothermia comparison</b>		
	Saáclé Lessing	Victoria Primary School	7
<b>SOC168</b>	<b>Indigenous medicine vs western medicine</b>		
	Sinovuyo Fobo	Sipho Camagu High School	9
	Lilo Zukiso	Sipho Camagu High School	9
<b>SOC169</b>	<b>Mind and mental process</b>		
	Zenizole Mrwetyana	Ntabenkonyana High School	10
	Yandisa Tali	Ntabenkonyana High School	10
<b>SOC170</b>	<b>Teenage Pregnancy</b>		
	Emihle Phillips	Victoria Primary School	7
<b>SOC171</b>	<b>The brain (DID)</b>		
	Liyema Gacula	Mary Waters High School	11
<b>SOC172</b>	<b>Which way of learning is most effective: reading, writing or talking?</b>		
	Mandlakazi Nqobile Sauka	Victoria Girls' High School	9

## Sports Science

<b>SPO173</b>	<b>How physical activity promotes health</b>		
	Ulakhe Skosana	Ntabenkonyana High School	11
<b>SPO174</b>	<b>How vitamin D deficiency affects netball players</b>		
	Shani Grobler	Kingswood College	9

Proj. No.	Project Title	School Name	Grade
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## Sports Science

<b>SPO175</b>	<b>Human Body</b> Ongeziwe Tshakweni	Ntabenkonyana High School	9
<b>SPO176</b>	<b>Stop eating supplements</b> Emihle Ranuga	Ntabenkonyana High School	10

## Sustainable Development

<b>SUS177</b>	<b>Can a solute in a solution evaporate?</b> Lathitha Gxekwa	Victoria Primary School	7
<b>SUS178</b>	<b>Let us crochet!</b> Carrisa Henning	Hoërskool P.J. Olivier	7
<b>SUS179</b>	<b>Oudorez</b> Sihle Gqoboka	Ekuphumleni High School	10