

THE Santos SCIENCE EXPERIENCE



7, 8 and 9 June, 2022

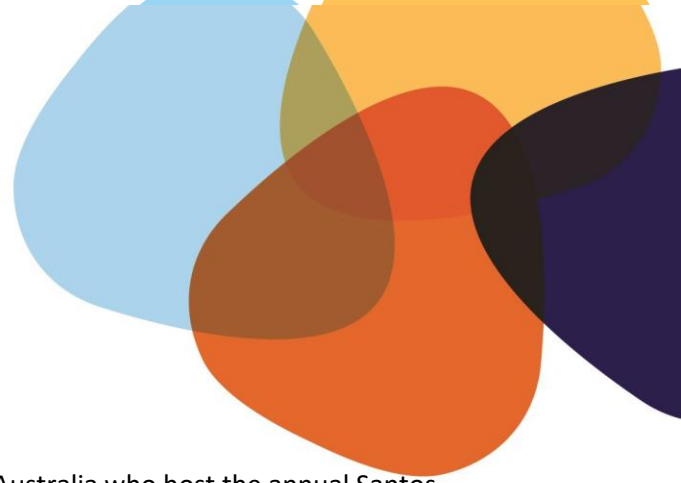
Charles Darwin University, Casuarina Campus



You make CDU

Students from Darwin Middle School, The Essington School of Darwin, Good Shepherd Lutheran College, Haileybury Rendall School, Henbury School, Katherine High School, Marrara Christian College, O'Loughlin Catholic College, Our Lady of the Sacred Heart Catholic College (Alice Springs), Palmerston Christian School, Palmerston College, Sanderson Middle School, Sattler Christian School, St John's Catholic College, Xavier Catholic College (Wurrumiyanga)

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Program Overview

Charles Darwin University (CDU) is one of 34 universities in Australia who host the annual Santos Science Experience. The event program is open to any year 9 student who may be interested in learning more about science, engineering, and information technology, regardless of their academia. CDU is committed to supporting and encouraging participation from students of Indigenous or low socioeconomic status (SES) background, regardless of their current year level. Each year, we secure additional sponsorship to support the travel costs of transport, meals, and accommodation for remote students.

CDU acknowledges that our success relies on sponsorship from our national sponsor, Santos Australia, the Science Schools Foundation, NT Government, local, interstate, and intrastate business, and community organizations. This support ensures all NT students have the opportunity to participate in this event, not just those who have the financial means.

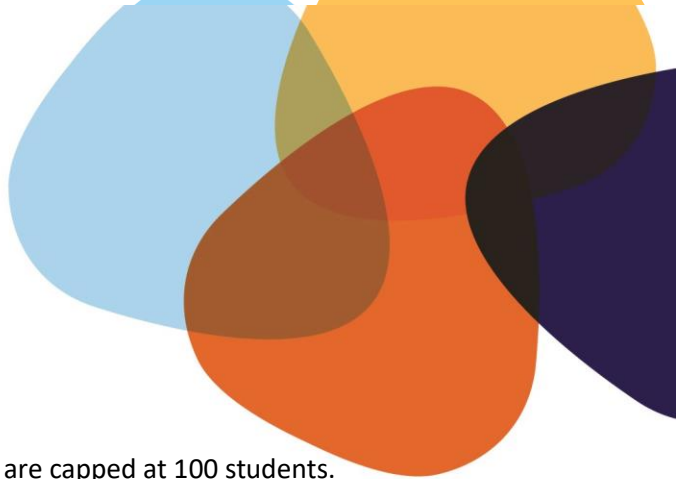
Program Objectives

It is our goal to ensure that students know what to expect as they enter their senior schooling, and of the direct link between their education and future opportunities. We understand that this time in their life is vital, and a positive approach to education can make a world of difference. By providing a solid educational foundation, we are allowing students to make informed decisions regarding subject selection for their senior studies.

Our aim is to highlight the need for skilled workers in the NT and demonstrate the opportunities available to them locally. We do this by;

- Offering a broad range of both interesting and practical learning experiences in both our Vocational Education and Training (VET) and Higher Education sectors.
- Introducing the supportive network of local business' in the Territory, and the wide range of employment opportunities available.
- Providing an overview of the research programs and activities CDU are currently engaged in on a local and national level.
- Including career investigations, offering an insight into the options they will have in the next 3 years of secondary schooling, as well as highlighting the differences in obtaining a Northern Territory Certificate of Education and Training (NTCET) and NTCET with Australian Tertiary Admissions Rank (ATAR).

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Event Information

To maintain a high standard throughout the event, numbers are capped at 100 students. This number does not include supporting staff from schools. All attendants receive meals and refreshments, with students also receiving a Santos Science Experience uniform shirt and bag.

All students and teachers also receive a certificate of participation. Students are encouraged to write a brief thank you letter to their sponsor, as well as an event evaluation form to ensure that we keep offering an enjoyable experience for the students.

In 2022, we had 15 schools in attendance, including Xavier Catholic College from Wurrumiyanga, Our Lady of the Sacred Heart Catholic College, Alice Springs, and Katherine High School. Unfortunately, due to travel restrictions, Shepherdson College, Galiwinku were unable to join us.

Student Evaluation – Summary

In total, we received 95 student surveys. 100% of students who attended confirmed having a better understanding of the courses available to them at CDU. 98% of students stated that the activities included within the event were both informative and fun, with Paramedicine and the HIVE tied as two of their favourite activities. This was followed closely by the NT Medical Program, Exercise and Sport Science and the session on Study and Careers.

63% of students have requested further information be sent to them, with 98% of students saying that they would now consider studying a Vocation Education and Training (VET) or Higher Education qualification.

Student career/study requests

Science	Health Science	Engineering	Psychology
Paramedicine	Architecture	Business	Aquaculture
Nursing	Design	Agriculture	Humanitarian Aid
Midwifery	Environmental Science	Conservation	Exercise and Sport Science
Medicine	Nutrition	Hospitality	Forensic Science
Mechanic	Electrical	Computer Science	Information Technology
Education	Metal Work	Biology	Law

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Our Invaluable Student Sponsors

Rotary Club of Litchfield/Palmerston



Science Schools Foundation



Rotary Club of Darwin Sunrise



Dept. of Environment, Parks and Water Security



Santos Australia



Casuarina Lions Club



Department of Education



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The Experience!

NT Medical Program



The NT Medical Program gives students an opportunity to study medicine locally, preparing them for a rewarding career. In affiliation with Flinders University, students complete both the Bachelor of Clinical Sciences and the Doctor of Medicine. Students had an opportunity to view the anatomage table, practice their CPR skills and test their knowledge of human anatomy and rebuild a skeleton.

www.cdu.edu.au/study/course/bachelor-clinical-sciences

Engineering – Bungee chicken



Students are provided with a mathematical equation – where the correct answer provides the right amount of bungee cord to drop from the third floor of Purple 14, without hitting its head on the ground below!

<https://www.cdu.edu.au/engineering-it-environment>

Exercise and Sport Science



Exercise and Sport Scientists are experts in understanding how human bodies respond to exercise, and how to make a difference to the quality of life for all people. Exercise and Sport Scientists use exercise as an intervention to improve health and fitness, enhance physical performance and prevent and rehabilitate injury in both healthy and physically challenged populations. Students tested their concentration and teamwork with individual and group activities.

<https://www.cdu.edu.au/health-human-sciences>

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Health Immersive Virtual Education (HIVE)



The Health Immersive Virtual Education (HIVE) uses virtual and augmented reality to allow students to explore complex subjects in a virtual environment, engaging all their senses. Students were able to virtually explore the heart and lungs, observing the differences in healthy and sick organs.

<https://www.cdu.edu.au/health-human-sciences>

Paramedicine



Students were introduced to life as a Paramedic in the vast NT. Experiencing the resources available in the fully kitted out CDU Ambulance, as well as the tools and techniques used to move injured patients. Students got to put their skills to the test on one another and learned some life savings techniques to inspire them in the coming years.

<https://www.cdu.edu.au/health-human-sciences>

ERGT – Oil and Gas Demonstration



Students were introduced to Emergency Response Group Training (ERGT) Australia. Safety is paramount in any situation, but there are some specialist industries with complex working environments who require further training. ERGT work with industries including oil and gas, maritime, mining, aviation and the Australian Defence Force. The simulated practical training gives all involved a better understanding of workplace safety and the practices around incident response.

<https://ergt.edu.au/>

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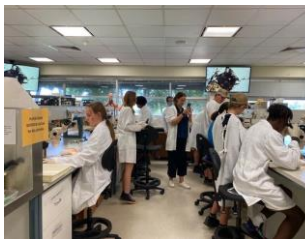
Aquaculture



Students were shown through the shade gardens and taught about aquaponics and how it can be implemented in their schools or at home to grow fresh herbs and vegetables. In addition to seeing the coral tanks, students had the opportunity to hand feed our large barramundi.

<https://www.cdu.edu.au/study/vet-aquaculture-maritime>

Environmental Science



This activity looks at biodiversity and the amazing variety of small creatures living in simple, everyday environments. Students will collect samples from simple environments (such as pond water and decomposing flora waste) and examine under microscopes the different forms of life present. Students were encouraged to use the resources provided to identify the life forms discovered, ask questions and then participate in discussion.

<https://www.cdu.edu.au/engineering-it-environment>

Study Pathways for the job you want



What do you need to do now, at school, to prepare for your dream career?

We explain the differences between Vocational Education and Training (VET) and Higher Education, define what an ATAR is and prepare students for their senior years of high school. Students were provided with a bit of an insight into the different job and career opportunities available to them, with information around the different levels of qualifications.

<https://www.cdu.edu.au/schools-engagement>

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Trades Tour

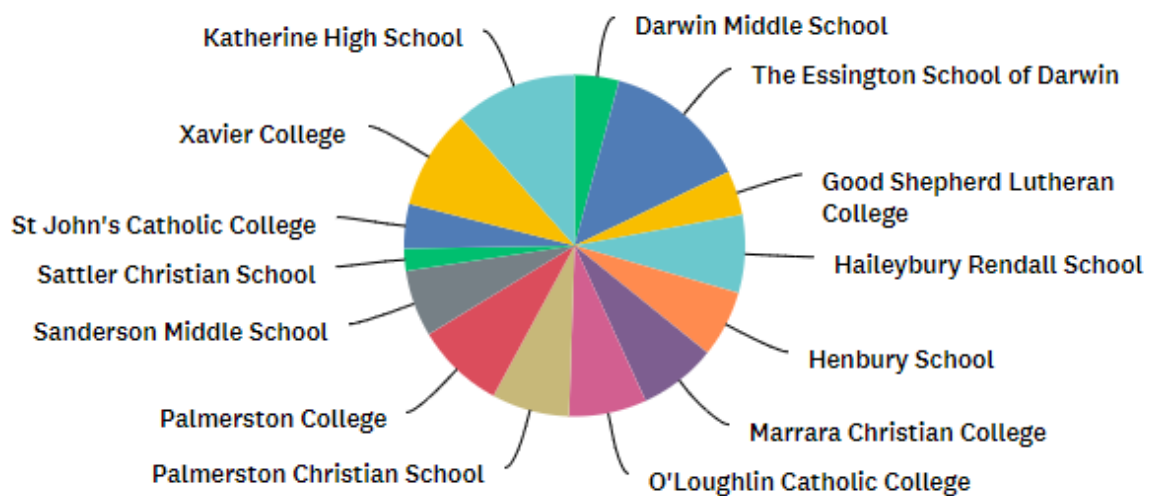


Students were taken on a tour of our VET precinct, highlighting the numerous trade options available at CDU. VET for Secondary Schools opens to students in year 9, so it provides an opportunity for students to see the facilities and register their interest in enrolling into a program.

Students were shown through automotive, spray painting and panel beating, construction, metals and engineering, 3D printing, fitting/turning, plumbing, refrigeration and electrotechnology.

<https://www.cdu.edu.au/study/vocational-education-training>

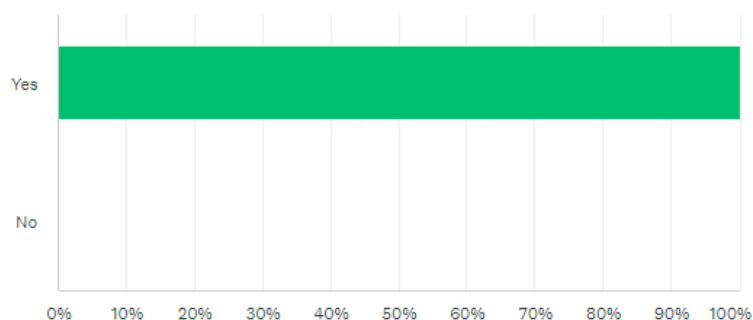
Student Statistics



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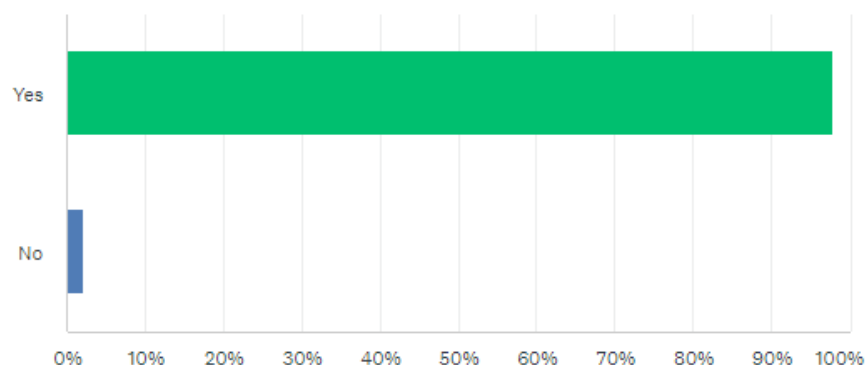
Did the event give you a better understanding of the courses available at CDU?

Answered: 95 Skipped: 0



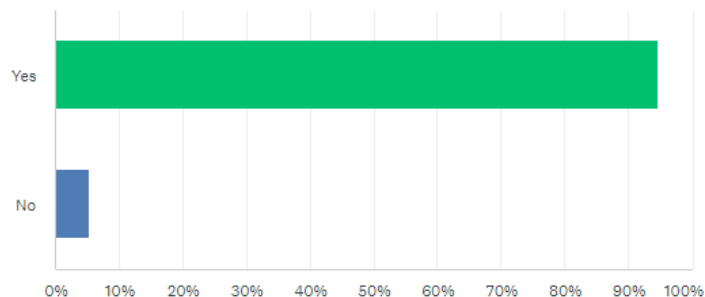
Were the activities involved in this event informative and fun?

Answered: 95 Skipped: 0



Do you think the event included sessions that are important for you to know?

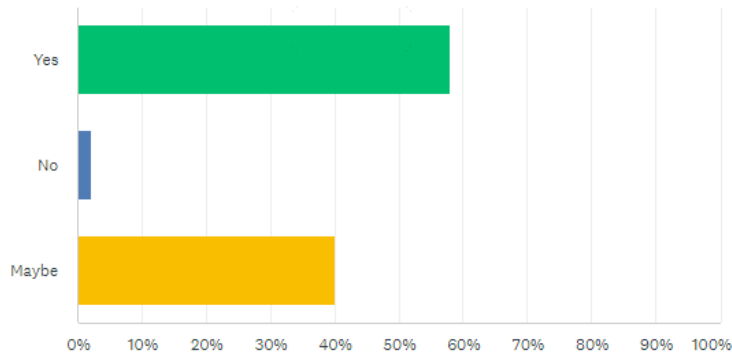
Answered: 95 Skipped: 0



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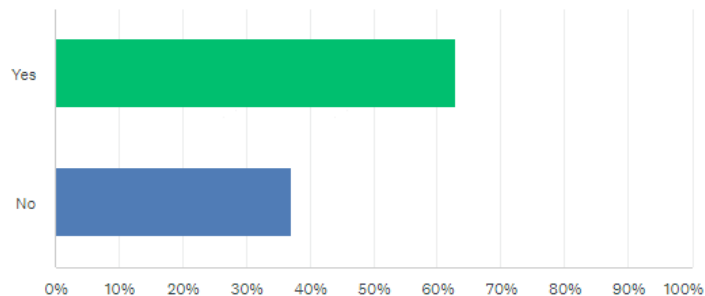
After school, would you be interested in studying a Vocational Education and Training or Higher Education qualification?

Answered: 95 Skipped: 0



Would you like more course information sent to you? If yes, please tell us what study areas below and we will send it to your school

Answered: 78 Skipped: 17



#	RESPONSES	DATE
1	Using the microscopes to try and identify organisms in the soil and pondwater	11/4/2022 8:48 AM
2	Learning how to perform compressions and mouth to mouth using a training dummy during the NT medical training	11/4/2022 8:46 AM
3	I found it interesting seeing the preserved organs at the medicine program. I also found the paramedicine area really good!	11/4/2022 8:45 AM
4	Seeing automotive with my friends and learning along the way about careers and TAFE	11/4/2022 8:23 AM
5	Looking around the university and looking for my future job!	11/3/2022 2:07 PM
6	During this experience, my favourite memory was the paramedicine session. It was very interesting and fun, it sparked my curiosity.	11/3/2022 1:52 PM
7	Doing the hands on activities at all the sessions really helped me to get an idea of what's available and what can be expected as a student	11/3/2022 12:12 PM
8	Going through the trades areas!	11/3/2022 12:10 PM
9	This whole event was a great memory and will help me with my future career!	11/3/2022 12:09 PM
10	Eating yummy food and learning with my friends in an interactive environment	11/3/2022 12:04 PM

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11	The paramedicine was fun, learning about what to do and how to operate under stress was helpful and interesting. The teacher explained it well and the examples were engaging and fun.	11/3/2022 12:02 PM
12	I really enjoyed looking at the hydroponics system and looking at all the fish. I also loved the paramedics workshop	11/3/2022 11:58 AM
13	the science lab	11/3/2022 11:54 AM
14	I really enjoyed the engineering bunjee chicken. It sparked an interest in me and with Paddy I was able to solve the problem	11/3/2022 11:53 AM
15	I had a lot of fun! Everything was fun!	11/1/2022 9:35 AM
16	Seeing people from other schools that i know from the past	8/4/2022 3:06 PM
17	On day one, finding a tiny snail and a minuscule golden millipede and putting them under a microscope	8/4/2022 3:02 PM
18	I enjoyed the paramedic session as we got to see the cool equipment and understand the intense training	8/4/2022 2:59 PM
19	The environmental science watching a bug have asesiar	8/4/2022 2:57 PM
20	Washing hands vs hand sanitiser in the medical room	8/4/2022 2:54 PM
21	The Automotive Mechanics vet tour	8/4/2022 2:53 PM
22	Doing the digital escape room with my friends.	8/4/2022 2:51 PM
23	My favourite memory was the para-medicience biology. I liked it because there was things to learn	8/4/2022 2:50 PM
24	My favourite memory while at the santos science experience was the paramedic course. It was fun to see how paramedics deal with medical situations and it was very engaging.	8/4/2022 2:47 PM
25	My favourite memory was going to the arts building and doing an escape room with my friend	8/4/2022 2:45 PM
26	Day 1 was the best. It had interactive experience fun ecohnological discovers and best opportunity to meet and collahorah with kids from my school and others	8/4/2022 2:43 PM
27	I really enjoyed the expensive microscopes to see good quality images of micro-organisms. We were able to be very independant with this and it was an awesome experience	8/4/2022 2:36 PM
28	Health science testing	8/4/2022 2:33 PM
29	Sport science	8/4/2022 2:32 PM
30	The hive where we got to look at human body parts and escape rooms	8/4/2022 2:31 PM
31	I liked sports science and testing our strength and reflexes. I also enjoyed looking at Aquaculture	8/4/2022 2:28 PM
32	My favourite memory was making friends that i never see again	8/4/2022 2:26 PM
33	Watching the fish and learning about agriculture, making friends	8/4/2022 2:25 PM
34	The science lab	8/4/2022 2:20 PM
35	The science lab	8/4/2022 2:19 PM
36	I really enjoyed the engineering (bungee chicken) it sparked an interest in me and along side paddy, i was able to solve the problem	8/4/2022 2:18 PM
37	Going to the cafe and looking at the organism though the Microscopes	8/4/2022 2:14 PM
38	The H.I.V.R program way interesting information	8/4/2022 2:10 PM
39	Learning about Para medicine and looking at the Pummys	8/4/2022 2:07 PM
40	The human body	8/4/2022 2:06 PM
41	My favourite memory was the Paramedic session. It was very interesting and hands on. We got to learn lots about the training they go through	8/4/2022 2:05 PM
42	Medical Program- Washing Hands, Sport science	8/4/2022 2:02 PM
43	all of it	8/4/2022 2:00 PM

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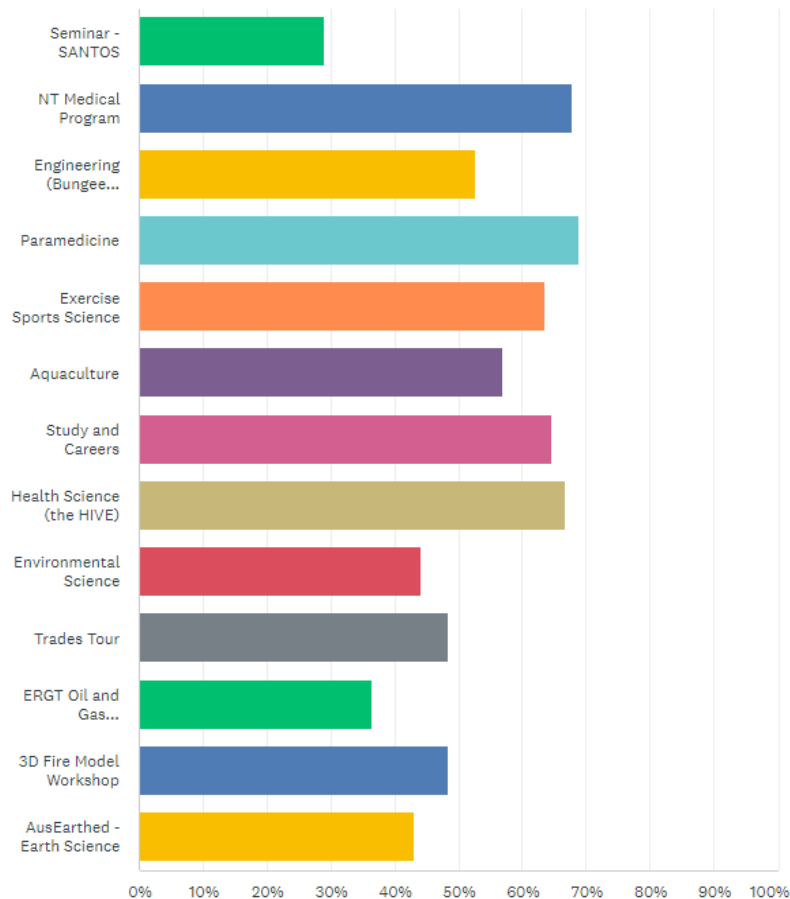
44	I really enjoyed learning about geology, environment, bushfires, species, ERGT, engineering, Aquaculture, sport, science, study/ careers and the Santos seminar	8/4/2022 1:59 PM
45	I really like the Aquaculture and the NT medical program, I like to playing with the take fummy even though are run out of time it way still fun. The Aquaculture has a lot of interesting that i really liked	8/4/2022 1:55 PM
46	My favourite memory from these past three day, we looked at all the different places and talked to different people along the way	8/4/2022 1:50 PM
47	My favourite memory is the fish farm, Organs in the resin, looking at the 3D model of the heart.	8/4/2022 1:48 PM
48	Exercise and sport science	8/4/2022 1:43 PM
49	Looking at the microscopes and looking at the different rocks session	8/4/2022 1:41 PM
50	The rock session	8/4/2022 1:39 PM
51	Making new friends that I will never see again	7/19/2022 11:12 AM
52	I enjoyed the Flinders Clinical Studies experience. In particular, I enjoyed learning about CPR using the dummies. It was interesting to see how technology has allowed us to create realistic simulations of real like simulations.	7/19/2022 11:10 AM
53	NT Medical Program, looking in depth of the human anatomy!	7/19/2022 10:55 AM
54	I thoroughly enjoyed studying the various systems on the interactive screen	7/19/2022 10:53 AM
55	I enjoyed the medical faculty and the activities. I also thought the faculty was well equipped. The presentation from Santos was something I also found interesting.	7/19/2022 10:52 AM
56	The time where we all sat in a circle with the other schools and played 21.	7/19/2022 10:50 AM
57	Looking at things through the microscope	7/13/2022 11:57 AM
58	Looking at the dirt and worms through the microscope in the lab. Seeing the live medicine dummies	7/13/2022 11:56 AM
59	Being buckled into the emergency stretcher and being carried around	7/13/2022 11:53 AM
60	I really going and doing the medical stuff as it was the closest and most informative regarding forensic science.	7/13/2022 11:52 AM
61	Looking under the microscopes in enviro.	7/13/2022 11:50 AM
62	The sports session was an amazing experience as it was more physical than talking.	7/13/2022 11:48 AM
63	The VR was interesting as it demonstrated an educational practical use for more modern technology than other uses.	7/13/2022 11:46 AM
64	The paramedicine and human biology classes were my favourite because I'm very interested in them. Very informative.	7/13/2022 11:45 AM
65	NT Medical Program	7/13/2022 11:43 AM
66	Getting the mathematically correct answer when we were hanging chickens	7/13/2022 11:42 AM
67	Seeing the mannequin come alive and talk.	7/13/2022 11:40 AM
68	Hanging out with my friends and making new friends too!	7/13/2022 11:40 AM
69	Learning about the rocks in biology (AusEarthed)	7/13/2022 11:37 AM
70	The HIVE	7/13/2022 11:29 AM
71	Looking around the University for my future job.	7/13/2022 11:28 AM
72	I really enjoyed the paramedics and ERGT sessions, as well as the aquaculture session. It was incredibly interesting and informative. I really enjoy gardeing and I am glad I was able to ask so many questions.	7/13/2022 11:27 AM
73	I enjoyed the activities with the medical dummies which were the Flinders Medical program and the Paramedicine program. The engineering program was also fun.	7/13/2022 11:26 AM
74	The aquaponics when we fed the fish and the water got in my eyes	7/13/2022 11:23 AM
75	I really enjoyed paramedicine with the dummies. Now I have more of an interest in this area.	7/13/2022 11:22 AM
76	The two cars from the auto workshop with overpowered engines, and the fish in aquaculture were awesome	7/13/2022 11:20 AM

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77	Doing the reaction test in sports science	7/13/2022 11:18 AM
78	I liked the ERGT session - I was put in a rescue bed and it was really fun.	7/13/2022 11:17 AM
79	I really enjoyed the medicine lesson on day 1 with the electric table where you can get a better understanding of how the body works.	7/13/2022 11:16 AM
80	Going to Kingpin and bowling 7 gutter balls in a row, and then playing lazer tag and coming 1st	7/13/2022 11:14 AM
81	Walking around on the trades tour and seeing the different courses.	7/13/2022 11:13 AM
82	Making friends with the boys from Katherine High School.	7/13/2022 11:12 AM
83	I like the medical program, sports science and the careers information session.	7/13/2022 11:11 AM
84	My favourite memory is when we went on the trades tour and then we got to go and see the fishes in aquaculture.	7/13/2022 11:09 AM
85	My favourite memory was seeing how good we can clean our hands. Putting a germ potion on our hands and using UV light to see it.	7/13/2022 11:08 AM
86	I saw some really cool things in the car shed	7/13/2022 11:06 AM
87	Burning down houses in the fire simulation and doing the reaction test in health science.	7/13/2022 11:05 AM
88	The HIVE was very interesting as we got to experience playing around with the human body models. Flinders was also cool but I wish we got to do CPR on the mannequin - there wasn't enough time.	7/13/2022 11:04 AM
89	The food and playing basketball	7/13/2022 11:02 AM
90	Day 1	7/13/2022 11:01 AM

Please tick the Activities you loved!

Answered: 93 Skipped: 2



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Sponsor 'Thank You' Letters

Dear Dept. of Environment, Parks, Water Security,
I would like to send my thanks and gratitude towards you for allowing me to experience this at CDU. This event has allowed me to explore the different career options at CDU in order to make me find my passion. I think that you should continue to sponsor kids to attend this event as it helps us realise our passions and career goals. This experience has helped me find my passion to follow medicine or science. My favourite activities include the medical experience, as well as the microscope activity. As of day 2, I am looking forward to the VR experience in order to extend my knowledge in the IT field.

Thanks - Louis (Yr 9, O'Loughlin)

Dear Department of Education,
My name is Tennyson Phillips and I am currently attending Sanderson Middle School. I am very grateful and it means a lot that you paid the full fee for me to attend this event. This event has taught me about after high school and what it is to attend a university. It has also helped me open my eyes to more future career choices. At first I was only considering one job, now I'm considering many jobs. STEM is my favourite part of school and being able to attend a science experience for free makes me very happy. Currently my future job is being a mechanical engineer. I hope to succeed in school and achieve this dream. Allowing me to attend this event for free has been one of the best things someone has done to me. My favourite activity that we've done so far has been the physics activity. Again, thank you for sponsoring me and being able to experience this event.

Yours Sincerely,

Tennyson Phillips

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Dear Santos Australia

Thank you for allowing me to be one of the lucky students to come to this event.

I am very happy to be allowed to visit Darwin and CDU.

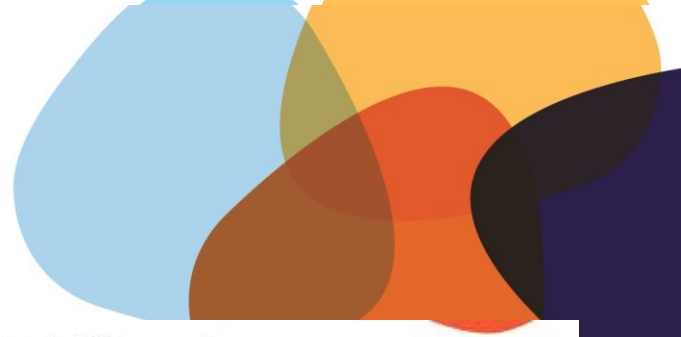
These types of event and activity are important for students. My favourite activity was the paramedic talk.
Xavier Catholic College.

Dear Science Schools Foundation,

I thank you very much for sponsoring me \$190 to attend the 2022 Santos Science Experience. My name is Shiva Heydarpour, I am 14 years old, and I go to school at St John's Catholic College, Darwin. It means a lot to me that you have enabled the opportunity for me to attend this event. Over these three days, I have learnt so many new things and so many of my curiosities. My favourite activity was in the medical lab learning and discussing the human body. Health science is a great passion of mine and I wish to facilitate that passion in my future career. Once again, I thank you very much and appreciate your sponsor.

Shiva Heydarpour

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Dear Rotary Club of Litchfield/ Palmerston,
Thankyou for sponsoring me and allowing me to expand my knowledge of engineering, aquaculture, medical science, the oil and gas industry, physics, sport science, biology, and university itself. I am very thankful of the opportunity and I am now more certain on my descision to go into the engineering sectors.

From Jamie of Palmerston Christian School

Dear Rotary Club of Darwin sunrise
my name is Roanin Santiago
I go to henbury school

I am very excited to be
here
I have learnt about organs
and microscoping

My favorite activity is
microscoping

this has help me discover
different careers

I like to do Art and
creation stories when I
finished school

Thank you
my friends

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Dear Science in Schools foundation
Thank you for giving me this wonderful
opportunity and helping find what i'm passionate
about!

-Jonathan

Dear Science in Schools foundation.

I am Tamsin Groves in grade 9 from the Essington School. Thank you for allowing me to attend this science experience, I have learnt heaps and I am so grateful. I feel so lucky that you have paid \$190 for me to attend. Attending this experience has already helped me understand different career paths I can take and what I am most passionate about. I still do not exactly know what I am going to study but either something environmental or physical ^{human} sciences. I am now not as stressed as I know how many career paths I can take. Once again thank you so much.

-Tamsin. G

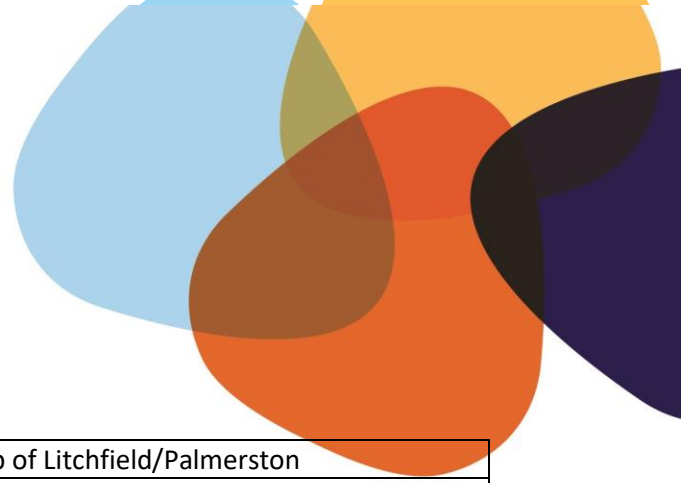
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Dear Santos

My name is Michael Skerrett & I feel very I am from Katherine High School. I feel very privileged that you have giving me the opportunity to experience this great event. I am very grateful that someone I don't know was kind enough to pay for the cost of the course plus King pin and the accomidation at the Michael Long Centre. I have learnt many different career skills like Aquaculture, fire fighting, and paramedics. I think these events are very important for students because it gives them the chance to look at new opportunities that they might have never known they might have liked. Thank you for giving me the chance to look at aquaculture and environmental science as I would like to study something to do with agriculture. I am very privileged to have this experience. THANK YOU!!

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A HUGE thank you to all who made this event possible!

Sponsors

Santos Australia	Rotary Club of Litchfield/Palmerston
Science Schools Foundation	Rotary Club of Darwin Sunrise
Michael Gunner MLA	Dept. of Environment, Parks and Water Security
Hon. Eva Lawler MLA	Dept. of Education
Darwin Casuarina Lions Club	Dept. of the Chief Minister

Opening Ceremony

Chris Chen – Santos Australia Engineer

Kim Brewster – Santos Australia

Liz Cruse – Santos Australia

Lecturers and Industry Professionals – session leads

Buddhika Weerasundera	NT Medical Program
David Newman	
Francois Botha	Engineering
Paul Reeves	Paramedicine
Liz Grylls	Exercise and Sport Science
Morris Pizzutto	Aquaculture
Irta Oakley	Study Pathways for the job you want
Paul Irving	Health Immersive Virtual Education (The HIVE)
Quan Tien	Environmental Science
Carla Eisemberg	
Trisha Kohlweg	Trades Tour
Jaime McCartney	
Emma Donovan	Emergency Response Group Training (ERGT)
Darren Edis	
Roni Opden	3D Fire Model Workshop
Lachlan Hallett	AusEarthed

Group Leaders, Student Ambassadors and CDU Events Team

Jaiden McGregor – Green Group Leader	Evalin, Hajrah, Sadeqar, Thisari, Lesley, Sanjana - Student Ambassadors
John Suelila – Pink Group Leader	Jaime McCartney – Event Coordinator
Nandini Puranik – Yellow Group Leader	Irta Oakley – Master of Ceremonies
Jemima Fernandes – Orange Group Leader	

The 2023 event will take place from 6-8 June 2023.

See you there 😊

