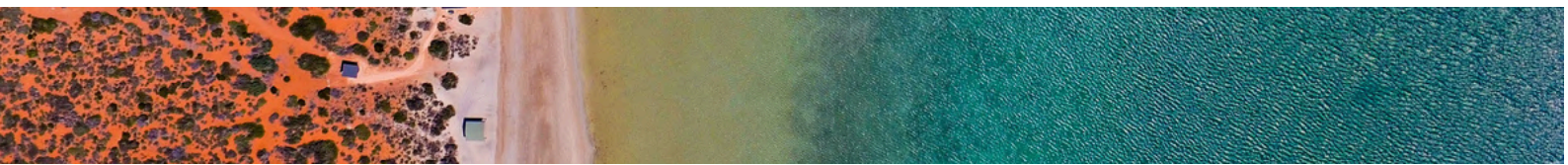
CORE
Full STEAM ahead

2024

JUNE QUARTERLY REPORT



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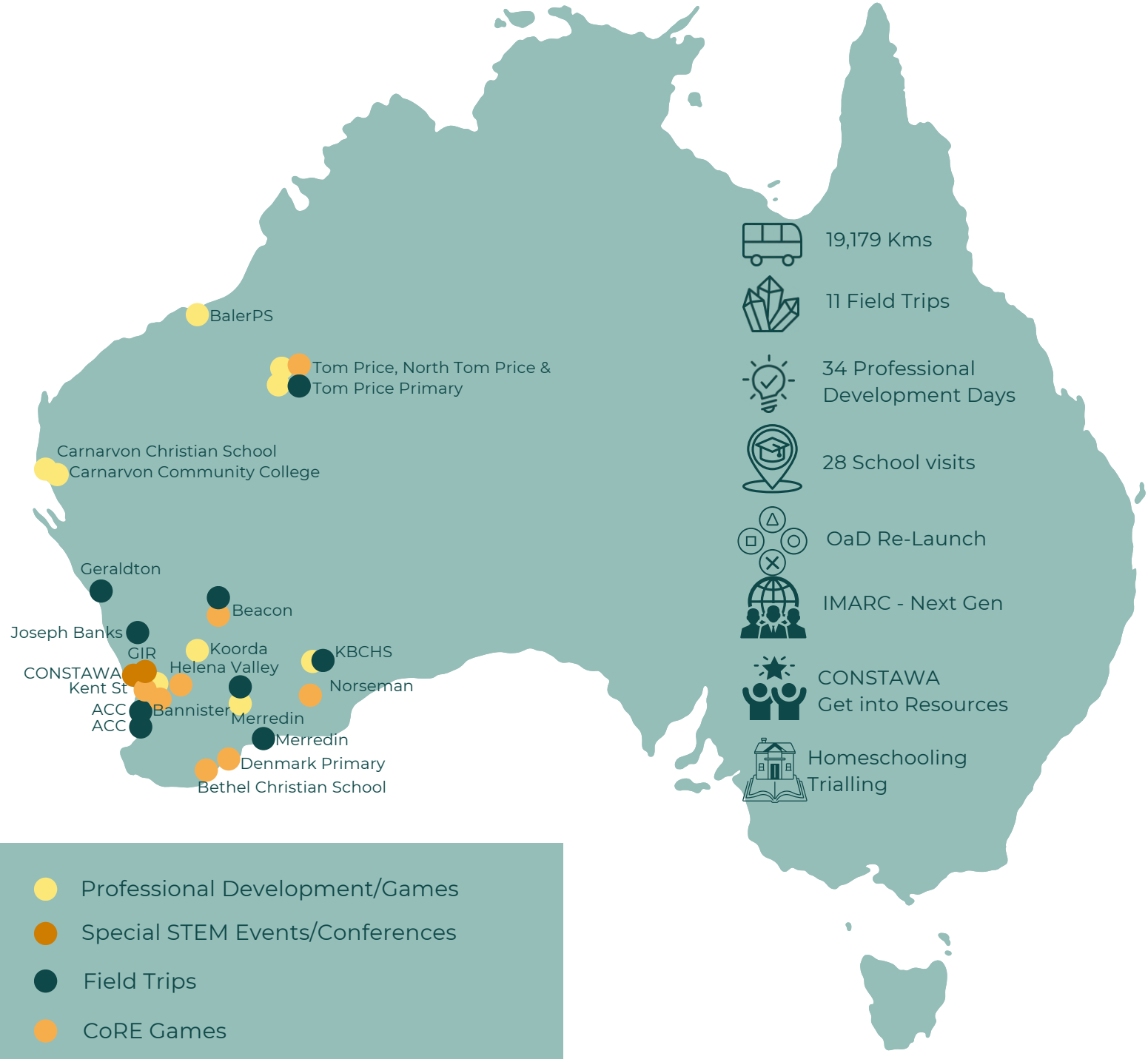
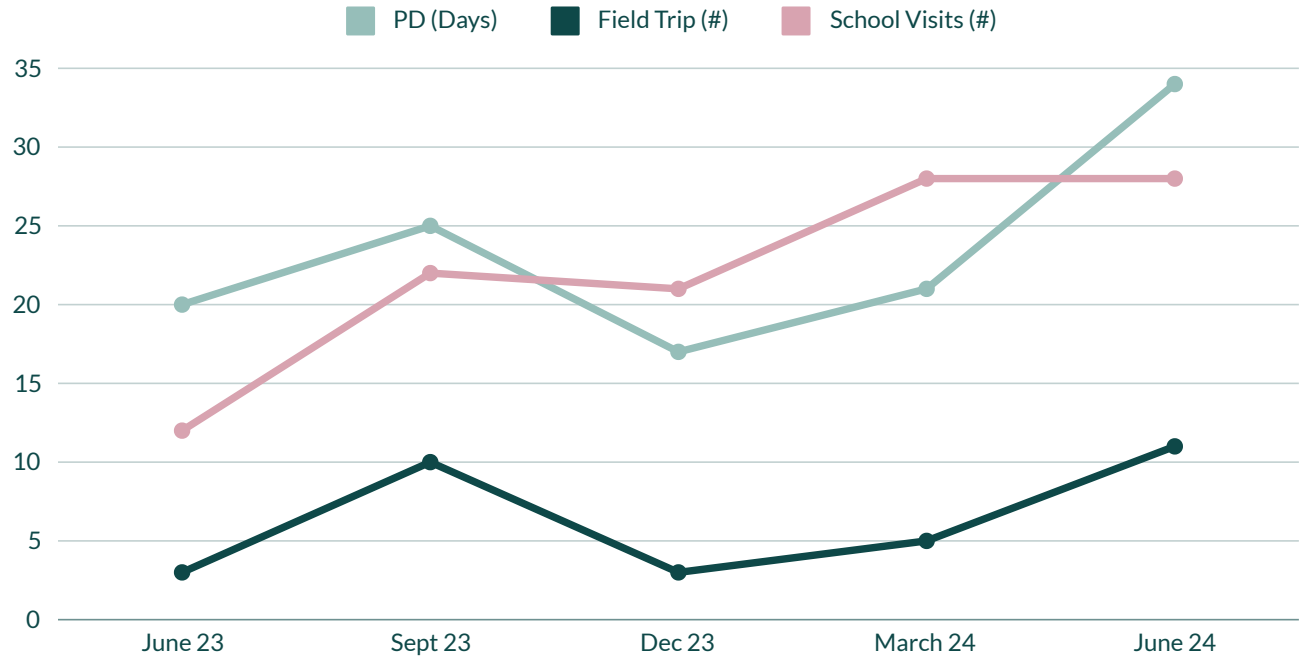


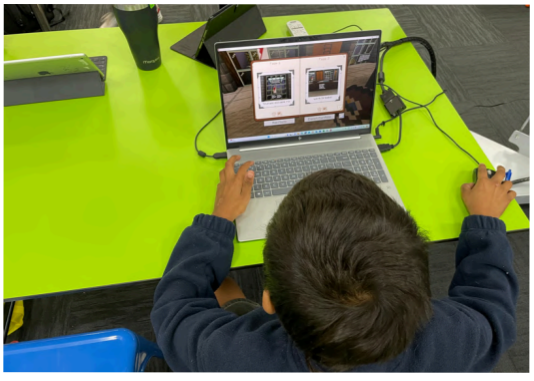
- Professional Development/Games
- Special STEM Events/Conferences
- Field Trips
- CoRE Games

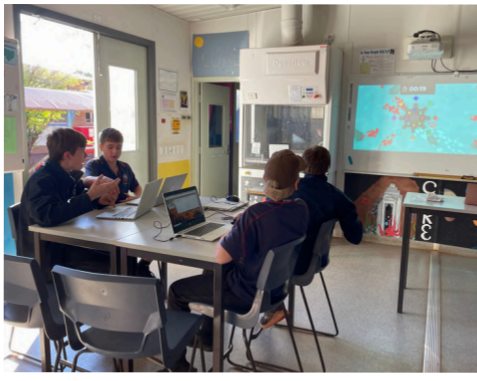
CoRE- Engagement and Impact

CoRE Interactions 2023-24

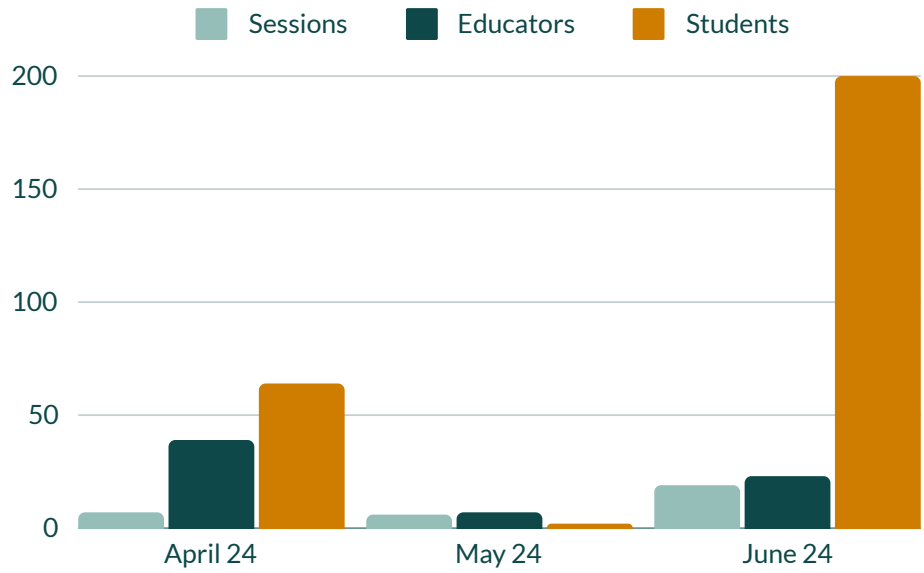


School visits encompass the CoRE Learning Model (CLM) Design and Implementation, offering professional development to grasp the CLM's complexities, and include special events such as Resource Challenges and field trips. These field trips act as professional development opportunities, showcasing CoRE's unique #therealclassroom approach to outdoor learning, which focuses on knowledge and skills. The timing of field trips is affected by end-of-year activities and weather conditions. School visits are most frequent in the fourth quarter, driven by events like Showcases, Townhalls, and Resource Challenges. Since the OaD relaunch, professional development has expanded to include games and mentoring. The CoRE Games are a learning strategy rooted in the CoRE Learning Model.





CoRE Games - Engagement

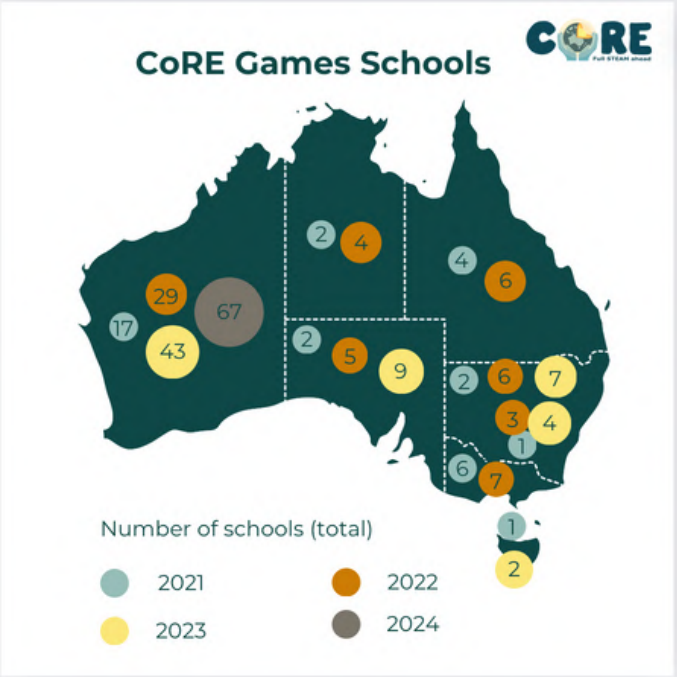


Statistics following the OaD Relaunch

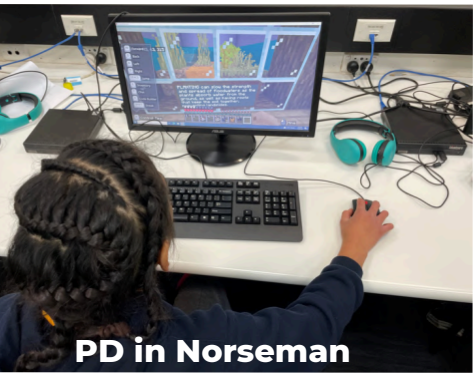
CoRE exhibited at Get into Resources for its second year. Running **18 workshops** over 3 days 212 students roleplayed as a team of geologists, geophysicists and data scientists to analyse a core sample in **Coring and Exploring**. Students developed their workforce skills, starting with rounds averaging of 2 minutes 30 seconds, honing their process down to 15 seconds. The real-world relevance of Earth Sciences and the careers in it were explored as part of the session.

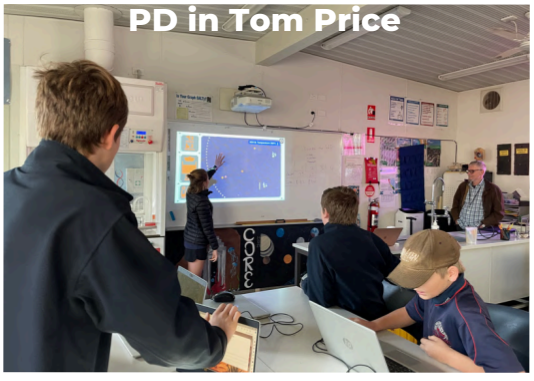
14 Teachers out of the 18 played have signed up for their interest in using the games in their school. Of the 93 students who provided feedback after the session, **94%** of them voted how engaging the session was either 4 or 5 out of 5! April and June worked with educators and their students in the classroom or at a conference. Conversely in May, more specific one -to- one sessions were undertaken with educators as the first or follow-up session(s).

CoRE Games - Engagement and Impact



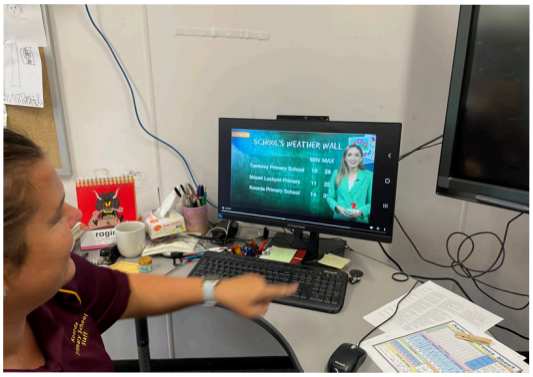
The representation of GES Engagement covers everything from the Pilot Phase to the rebuild of OaD and its relaunch. Educators have responded positively to post-rebuild discussions, praising the new build for its user-friendly interface and ease of implementation. CoRE maintains a supportive and safe relationship with educators, offering excellent mentoring, training, and prompt bug fixes. Educator feedback is highly valued, with adjustments made as needed with diligent follow-ups. Additionally, the comprehensive GES outline includes an increase in the use of games in PBLs, with the CoRE Lead guiding educators on implementation, curriculum connections, and real-world applications.


PD in Norseman


PD in Tom Price

Get into Resources

CoRE's #therealclassroom



"Teaching is a creative profession, not a delivery system. Great teachers (pass on information), but what also great teachers do is mentor, provoke, engage, stimulate."
Ken Robinson

CoRE - Empowering Educators to Empower their students



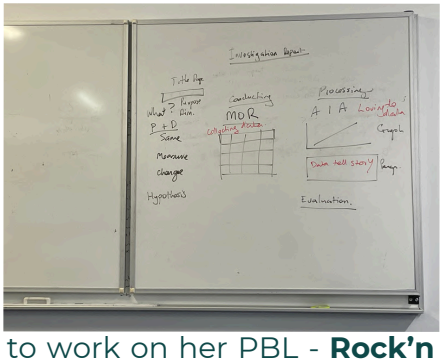
Left & Middle with Deb and Mel from Merredin CoRE in Fitzgerald River National Park. Right - I'm with Mitch from ACC at Point Peron, learning about the Tamala Limestone, its physics, chemistry and biology for Year 5/6 students. **What a rock!**


Baler Primary School Year 5/6 team - the full-on PD. Educators as students role-playing CoRE implementation. From Left to right (Left photo) - Alice, Ally, Tate, Liana and Karina. Their PBL is **'Salty Albedo - Reflecting the salt dome'**


Baler Primary School Year 3/4 team - so much fun with the full-on PD look at the coloured paper and textas as the **Business Units developed their name, logo and motto.** Their PBL is 'Spoiling the Bank - A low tide revelation'. From Left to right (Left photo) - Nasa, Brett, Kelly, Dave and Sue is absent).

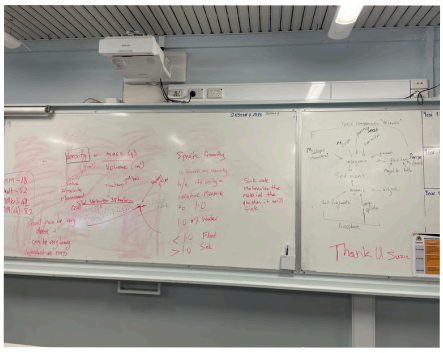
CoRE - Empowering Educators to Empower their students





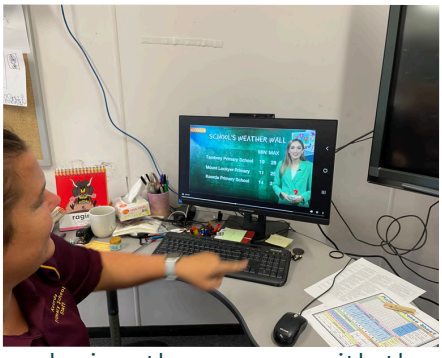
It was a very early start at Carnarvon Christian School with Jen to work on her PBL - **Rock'n the River.** Her **pre-primary students** are the first to do CoRE. Worked with Lindsey in the afternoon for his Year 1 Shipp'in Sheep PBL. MIddle and Right - Amy and Kim from **Carnarvon Community College** are full boar with their PBLs, including PBLs designed for Years 5 - 11. This is huge. Next trip to Carnarvon - 6 days and 4 field trips. Yippee!!!





What a cool and windy day was had with Kayleigh and her Year 8 students on their field trip, at **Tarcoola Beach, Geraldton.** For Kayleigh, this **#therealclassroom** experience demonstrated the connection between the real world, the PBL and curriculum connections and her students now know that sand is sediment and that heavy mineral sands contain rutile and ilmenite and how they are connected to M&Ms and how the deposits form through the interaction of chemistry and physics with respect to the type of mineral being deposited.



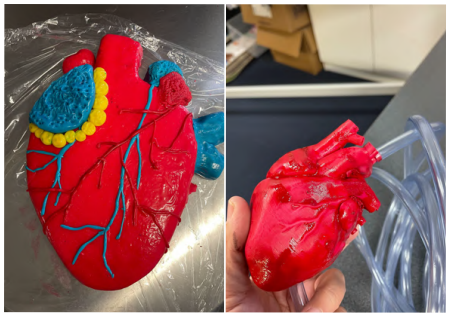


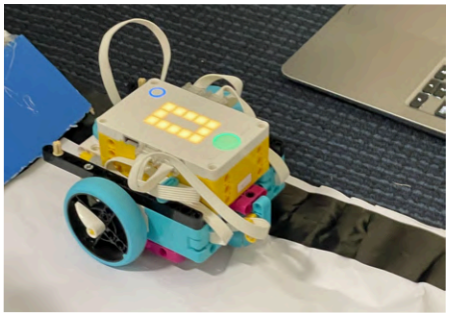
Left and middle - Jett went to Beacon to upskill Lisa with **OaD** by playing the games with the students. Everyone had a ball! Right - Sarah from Koorda is storming along her PBL - 'Summer Storm'in' in Koorda', taking on board the **diversity of learning tasks** available to her students, delivering three PCs simultaneously and introducing new technology such as a green screen for the first time for her students. Sarah also connected her students with **Channel 7 Weather Wall,** as they were recording weather conditions for their PBL anyway.

CoRE Schools



'**Australian Christian College (ACC)** - undertook two field trips this quarter to Point Peron (Y5/6) for coastal ecosystems and to Lake Clifton (Y8/9). "The primary focus was to study thrombolites and their connection to the formation of iron and its significance to life on Earth. These adventures were not just about exploration but also about forging connections with our environment and each other. These were two days of learning, laughter, and unforgettable moments that sparked scientific curiosity in our students, a flame that will continue to burn brightly for years. Here's to more exciting adventures in the realm of science! Overall, the trip was a unique blend of enjoyment and education, offering a wealth of learning opportunities that are not easily replicated in a classroom setting."🌟🌍🔍" - **Mitch Lastrilla, CoRE Coordinator ACC**





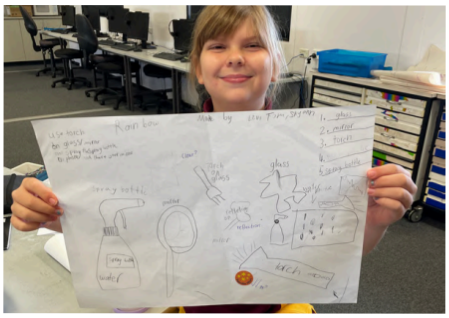
To understand how the Earth rusted, the role of oxygen in changing the chemistry of the early Earth's atmosphere and its effect on biological evolution over the last 3.8 billion years, ACC Year 8/9 students undertook a field trip to Lake Clifton to observe photosynthesis in action and the generation of oxygen from the descendants of Earth's earliest aerobic cyanobacteria. This knowledge formed the foundation for their static model based on the human cardiovascular system and its analogy for the Pilbara Iron Ore systems, describing the process from pit to port. CoRE's OaD, game was fundamental in setting the direction of this **PBL - 'Rusty Rocks.'**

For their **PBL-Martian Invaders**, the Year 7s at ACC created this Lego Spike Miner, to assist the Martian Iron Ore Mining Industry. This includes setting up a Martian civilisation, the mine, processing plant and export for the iron ore back to Earth. A relocation campaign to Mars complemented the PBL.

CoRE Schools



'***Merredin College Primary*** - Engaging Year 5 & 6 Students in the **'Too Salty' PBL**
During the 'Too Salty' project, students from Merredin Primary explored the saline ecosystem of Lake Campion. They were fascinated by the large gypsum crystals and their unique growth patterns as they traversed from the lake's edge to its centre. Activities such as measuring the lake's pH, sketching the salt crystal shapes and sizes, and understanding the patterns they formed, along with discovering the lake's historical connection to the Plaster of Paris industry, showcase the valuable knowledge and skills gained through field trips. Such experiences significantly contribute to students' learning, development, and scientific literacy.



“We have had a busy last couple of weeks at ***Koorda Primary School***.

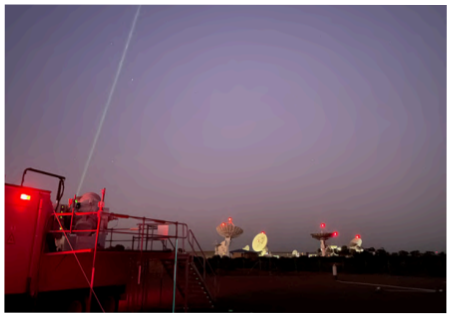
“After the success of our infomercials which we used Canva to create, **we designed and constructed storm-proof houses with working electrical circuits.** The students looked at the different properties of materials and how some materials conduct electricity better than others. Many of the stormproof house designs included a lightning rod to "earth" lightning so it couldn't damage the infrastructure inside the houses. We have decided we still require more instruction in creating scaled designs and models. We have **enjoyed our PBL “Summer Stormin' in Koorda.**”

Sarah Noakes, CoRE Educator

CoRE Schools



Merredin Secondary CoRE - Left - Y7/8 making a steam engine for their PBL- ***'Merredin Time Travel - Powering towards the Future'*** - Project Component (PC) #1 'The Iron Horse - Powering up with Steam Engines'. Middle and Right - Year 9 - Making their deep sea diver for PBL ***'Deep Sea - The Last Frontier'*** Constructing their deep sea diver for PC #3 'A divers body: The effects of deep-sea navigation'.


"**Joseph Banks Year 9s** engaged in a three-day field trip to explore the **rich geological history within Coalseam Conservation Park.**(see link) Student highlights of this trip included "discovering brachiopod and crinoid fossils within the Fossil Cliff Member" and exploring "how **lasers are used to monitor the position of WA** at the Yarragadee Geodetic Tracking Station". In the classroom, students are hard at work animating the mining process, from geophysical survey techniques to extraction and processing. At the same time, other members of the business units are constructing dioramas of the mine site rehabilitation process, highlighting the role of environmental and social considerations at work. This multifaceted project aims to provide a comprehensive understanding of the **mining lifecycle** and its management of the environment."

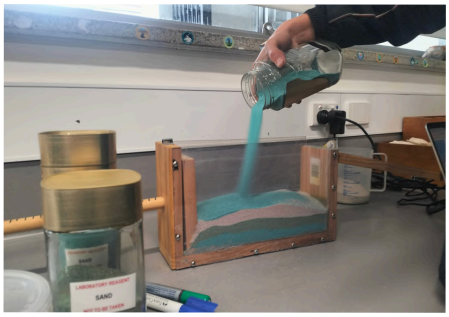
Nathan White, CoRE Coordinator

CoRE Schools



"Students at ***Beacon Primary School*** took a Field Trip to Tammi Downs Farms to look at the proposed area for Wind Turbines and discover a range of different rocks. They looked at the latest machinery as well as old machinery and found out about the changes over time as the size of farms in the areas increased. Students measured the circumference of trees and created a graph to represent the size difference. We were lucky that it happened to be Suzy's Birthday on our Field Trip so made an extra pit stop for Birthday cake." **PBL - "A Journey through Time, from Walkabouts to Hydrogen Energy."**

Lisa Clark, CoRE Educator

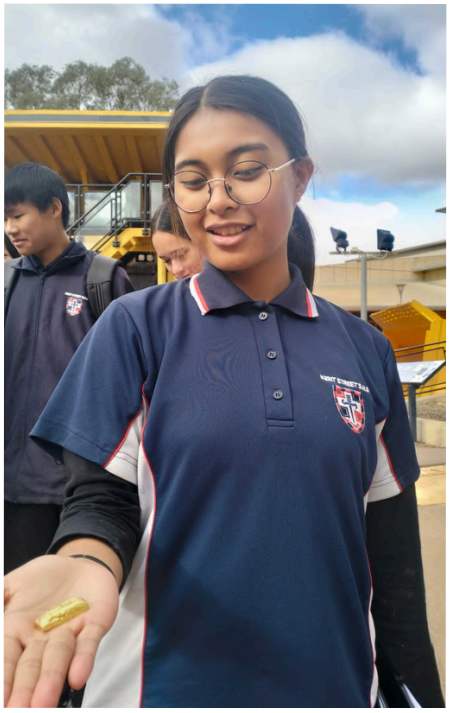


Kent Street - "Through the ***Year 10*** CoRE-Chevron PCiE Program, students have been applying their creativity and showcasing their digital literacy skills to produce and edit stop-motions that explore the 13.8 billion year journey to form hydrocarbon deposits
- modelling the geology of the Carnarvon basin using squeeze boxes and preparing exploration budgets
- investigating the potential impacts of changes to Earth's climate and thermohaline circulation on sea levels in the Barrow Island region to preserve the environment
Year 9 - preparing innovative site rehabilitation plans by investigating Kaarla 'fire' practices to measure the effects of treating native seeds with smoke water and programming micro: bit sensors to measure soil moisture content
Year 8 - preparing for their Kalgoorlie field trip by learning how hydrothermal gold deposits form and building some of the many mines in the region using Minecraft
Year 7 - investigating the Cretaceous carbon dioxide-rich atmosphere
- exploring the flow of energy in Cretaceous ecosystems by constructing creative dioramas
- designing and producing dinosaur classification games

Kathleen Booth, Metro CoRE Coordinator

CoRE Schools

Kent Street... Year 8 Kalgoorlie Field Trip



"Our Year 8's also took their learning to #therealclassroom where they...

"Big opportunities come from big experiences! Last week, our Year 8 CoRE group travelled to Kalgoorlie for four days and participated in a range of activities. They explored mining processes, and engineering feats (C Y O'Connor pipeline) and even compiled their first geological field maps!

Here are some of our student's highlights:

- "Seeing the Superpit blast"
- "Breaking rocks in WASM laboratories"
- "Going to the SuperPit made me consider more work opportunities"

Carol Mengyu, CoRE Educator

Geraldton Senior High School

Students are learning about the Heavy Mineral Sands Industry through their **PBL - 'Coastal Glories'**. On their doorstep, the glorious Geraldton beaches provide the perfect opportunity to examine the formation of Heavy Mineral Sand deposits through the interactions of the physical environment (wind and waves) with the diversity of materials and minerals that form the **beach sediment (not 'sand')**. Mother Nature could not have provided a better scenario when the wild weather system of May 29, with its 40 km/hr winds, created a high-velocity system that demonstrated the formation of ripple marks (small dunes) and the effects of friction and gravitational separation, which separated the sediment according to their specific gravity (density).

CoRE Schools

Tom Price SHS

A lot has been going on at Tom Price SHS CoRE. Here are some highlights:

Year 8 & 9 students recently visited the Tom Price Iron Ore Mine to learn about the formation of iron ore, its subsea depositional environment, and the source of iron from hydrothermal vents, connecting their studies to real-world applications.

Year 7 - 9 mentors, acting as Mine Managers, got ready for the Resources Challenge. Unfortunately, due to rain, it has been postponed for two years in a row, with plans to reschedule it during science week.

All Year 7 students participate in CoRE, spending two days exploring and understanding **Dales Gorge in Karajini National Park** (see link) in #therealclassroom, enhancing their learning through field trips.

Merredin College Secondary Y7/8 - Hopetoun Field Trip

Hakea victorialis, wave-cut platforms and climate change, kyanite, garnets and staurolite minerals formed through medium-grade metamorphic effects, Kybalup Schist, Kundip Quartzite- Welcome to the **Fitzgerald River National Park,** (see link) a globally-registered biosphere. With magnificent geology and unique biospheric elements, the plants are totally endemic and can't be reproduced anywhere else due to the very nutrient-poor soils. They are Gondwanaland remmants. The rocks that define the beaches demonstrate amazing chevron folds in addition to clusters of blue and black coloured kyanites, black star-shaped staurolites and red and orange garnets. In the Kundip Quartzite, whilst climbing East Mount Barren, preserved heavy mineral sand trails were also observed.

CoRE Learning Model - OaD Relaunch

OaD Relaunch

'By Educators, For Educators.'

The recent enhancements in the OaD Relaunch were solely driven by feedback from educators during the Pilot Phase. CoRE diligently gathered this input through workshops, tutorials, and virtual meetings to ensure that the games are utilised as intended – to facilitate integrated curriculum delivery through a digital platform. The updates now emphasise the ***'ease of implementation for optimal student learning outcomes.'***

Key updates include:

- Transition to a web-based platform for simpler implementation and reduced IT complexity
- Introduction of a single-player mode for educators to explore the games, curriculum connections, and delivery methods
- Streamlined joining process requiring only a screen, one computer, and student devices
- Revamp of backend architecture and procedures to minimise bugs, monitor game usage, and improve recording
- Addition of UI features like user authentication and a new admin dashboard for tracking and analysing user data.

Games at Beacon have become common place. Students started with RRR and now progressing to OaD and Lisa is learning how both games can be used effectively to deliver curriculum.

Games in PBLs

Following the OaD relaunch at CONSTAWA, a comprehensive mentoring and feedback program has been implemented, along with an educational strategy. ***Australian Christian College - Darling Downs*** has embraced OaD by integrating some of its games into their ***'Rusty Rocks' PBL***. These games aim to deliver curriculum content, allowing educators and students to participate in advanced learning activities that highlight their natural learning abilities and importance. Watch out for the display of STEM entrepreneurial and technical skills.

ACC - CoRE Educator - Mitch Lastrilla, has wholeheartedly embraced the CoRE Learning Model and its Games, to deliver STEM Learning to her students from Years 5 - 9.

CoRE Learning Model - Games Evolution

Kalgoorlie PEAC

A special recognition goes out to Sharon O'Reilly from Kalgoorlie Boulder Community High School PEAC Program, a distinguished CoRE Games Program participant.

Sharon was among the pioneering educators who tested and implemented CoRE's games, specifically RRR. This marks Sharon's fourth year of integrating CoRE games into her teaching, showcasing the positive outcomes and influence on her students.

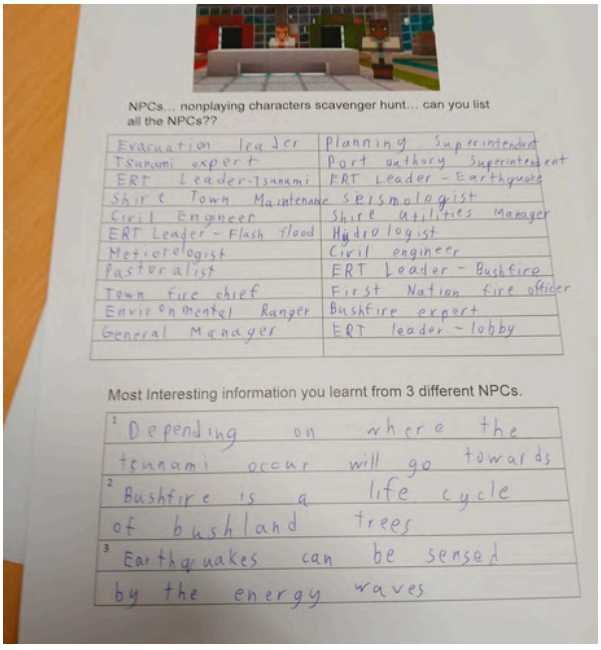
Throughout the four years, Sharon has refined and enhanced the implementation of the games, highlighting the progressive evolution in the curriculum's delivery and depth of content exploration. Her interdisciplinary extension tasks have also evolved.

The impact of the CoRE GES initiative, which evaluates the effectiveness of mentoring and training, was evident during Norseman's initial exposure to GES games. Sharon generously offered her support to the CoRE Lead during the Games PD day held this month.

Despite encountering some technical challenges, the students found the introduction engaging and well-received.

Math teachers who observed mentioned that the games effectively communicate math concepts.

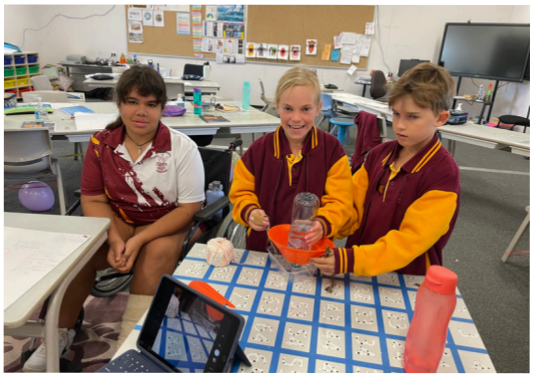
CoRE appreciates Sharon for sharing her feedback with us. It's always a pleasant surprise to come across emails containing feedback and images in our inbox. CoRE is preparing to showcase Sharon and her PEAC class in a feature later this year.



CoRE Highlights & Events

The **IMARC - Next Gen Program** has been finalised. IMARC has backed CoRE all the way. **180** Year 9 students will be exposed to CoRE through our #therealclassroom approach including sessions in the Games Booth, **~430** primary and secondary students are expected to play our games. It looks like the Games Booth is to be relocated into the centre of the Exhibitors Pavilion. The CoRE Lead is also featuring on a panel, highlighting how the CoRE Learning Model has impacted student lives and their transition into STEM Resource Industry careers. 9,000 delegates are anticipated to attend the event. This will provide amazing exposure for CoRE. Thank you to our sponsor ***Newmont*** for sponsoring the Gamifying Earth Science Booth and ***Thiess*** for sponsoring the Next Gen Day.
For any of our other CoRE Sponsors who will be at IMARC and would like to offer their time for the Next Gen Round Table Activity, please don't hesitate to contact CoRE.

The ***Homeschooling Trial*** launched successfully in Sydney. Resource Respond Rescue (RRR) is the core of this launch, as is its integration with the NSW Curriculum. A CoRE Learning Model system has been embedded to capture feedback for technical and curricula modifications and stories, respectively. A review of its impact and engagement is underway.



Oleg Kay, former CoRE Educator now Project Geologist for Northern Star at the Superpit. CoRE is fortunate to have past team members and advocates continue to support CoRE Learning, as was the case for Year 8 CoRE from Kent Street.

Thanks

For the past 10 years, Kathleen Booth has been a pillar of support for the CoRE Learning Model. Starting as a practicum teacher at Kent Street, mentored by the CoRE Lead, she was exposed to the function and structure of the CoRE Learning Model through the delivery of **Chevron's Powering Careers in Energy** Program for Kent Street Year 10 students in 2014.

Kathleen began teaching in 2015, enthusiastically participating in field trips and helping organise the **Kent Street - Rocks the Land of Fire and Ice International Field Trip**. In the same year, CoRE was recognized as a select entry program and had a launch event at the RAC Arena, supported by **Iluka Resources** and attended by over 200 industry personnel. Kathleen ensured the launch proceeded flawlessly.

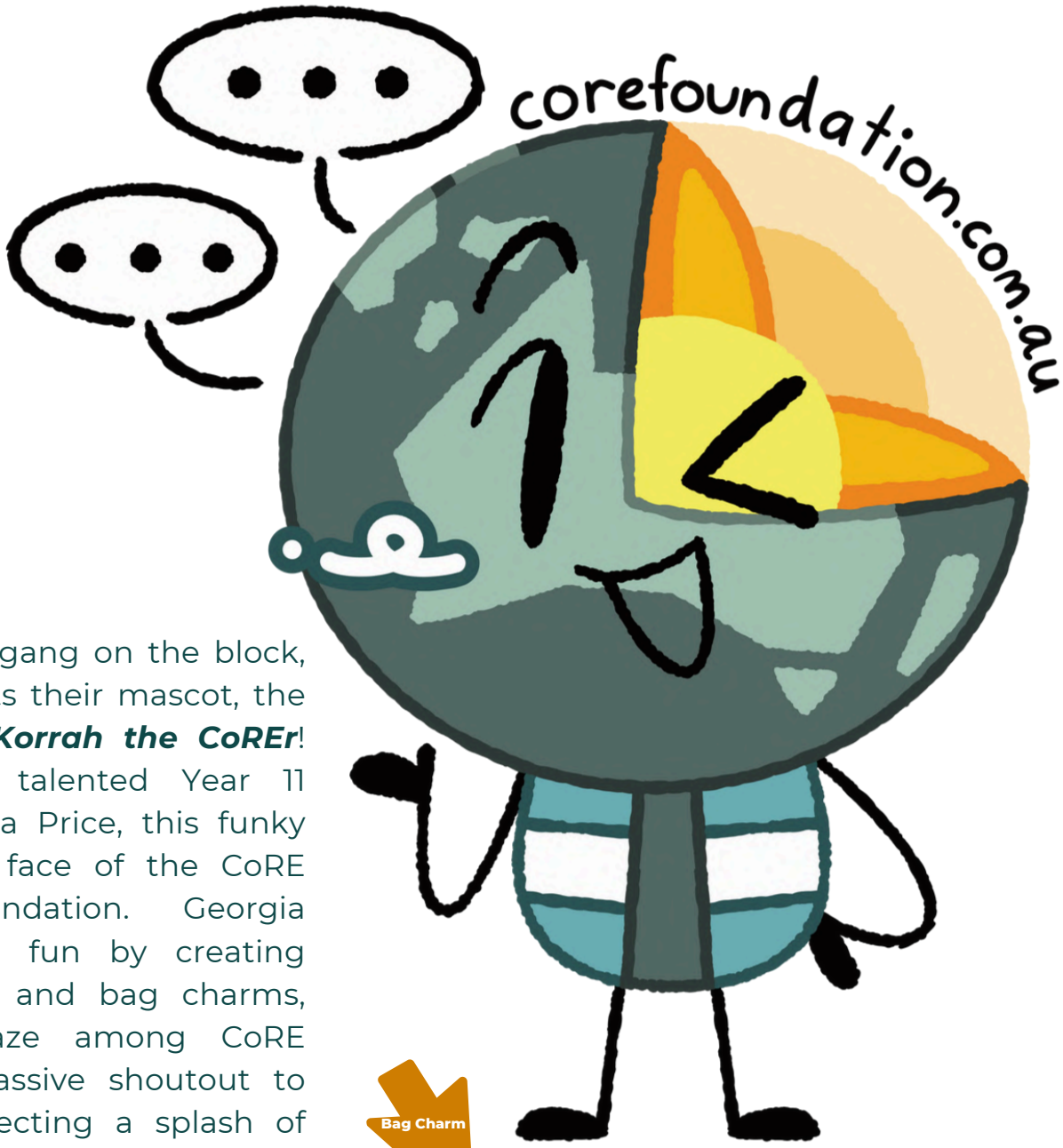
As CoRE at Kent Street grew, Kathleen's enthusiasm remained unwavering. She led the Resources Challenge, the Hackathons, the field trips, and since 2019, the Pedal Prix. These CoRE extension learning events complemented project-based learning (PBL) and reinforced classroom skills with real-world applications. Kathleen's innovative PBL ideas, her ability to integrate traditional pedagogies with the CoRE Learning Model, and her technical and digital expertise have created a rich and diverse learning environment for her students over the past decade.

After the Foundation was established in 2018 and the CoRE Expansion began in 2019, Kathleen took on the CoRE leadership role at Kent Street. She mentored and trained many new CoRE educators, and successfully navigated CoRE through the challenges of COVID-19 by holding virtual town halls with her classes, (demonstrating the futuristic elements of the CoRE Learning Model and its emphasis on student independence). She also supported the Foundation's industry classroom visits and Industry Showcases, which required considerable effort and coordination outside of school hours. Kathleen has been an unwavering supporter of the CoRE Learning Model, its implementation, and its growth. Her dedication, time, and expertise have significantly contributed to CoRE's success. Kathleen has volunteered for the CoRE Learning Foundation for several years and will continue in this role.

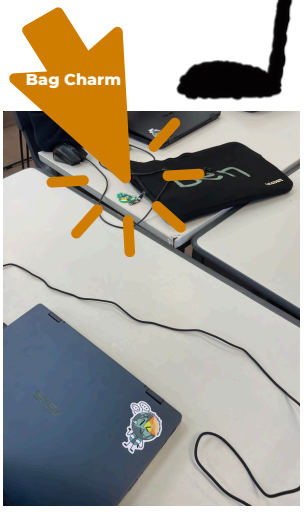
Good luck, Kathleen, on your next adventure. Your students at Kent Street will miss you dearly, and your past students are incredibly grateful to have had you as their educator and mentor.

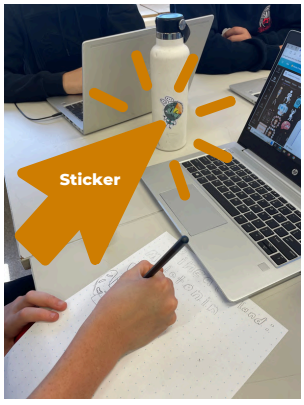
Thank you for everything you have done for CoRE.

Introducing ‘Korrah the CoREr’



CoRE, the cool gang on the block, proudly presents their mascot, the one and only ***Korrah the CoREr***! Crafted by a talented Year 11 student, Georgia Price, this funky mascot is the face of the CoRE Learning Foundation. Georgia kicked off the fun by creating snazzy stickers and bag charms, igniting a craze among CoRE students. A massive shoutout to Georgia for injecting a splash of creativity into our brand! What's next on the agenda? Stay tuned for more exciting designs and goodies!





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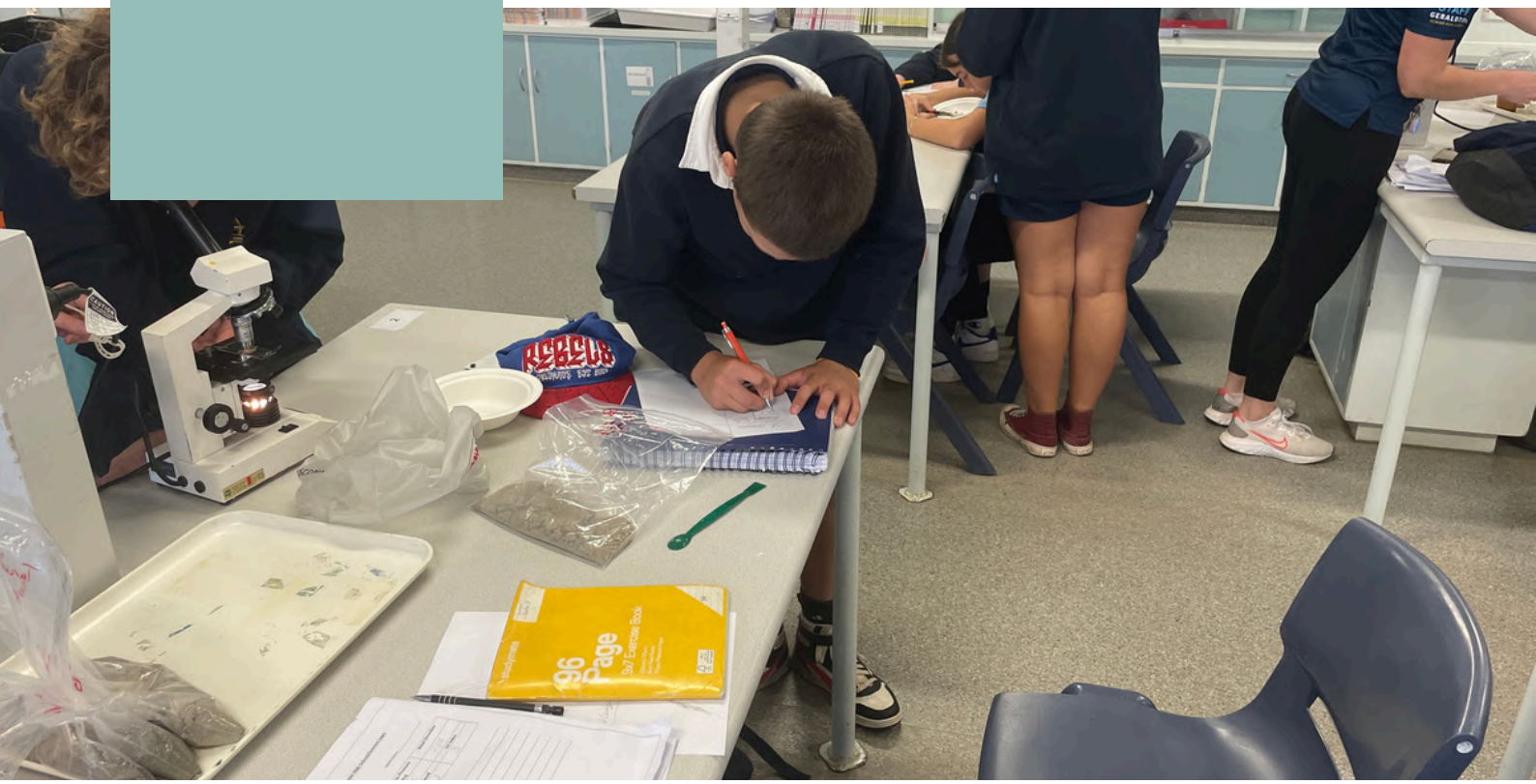

GOT QUESTIONS?
CONTACT US.

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