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**2022 YEARS 3 AND 4
YEARS 5 AND 6**



GATEWAYS
THE CHALLENGE

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SWINBURNE
UNIVERSITY OF
TECHNOLOGY

TEACHER HANDBOOK

CONTENTS

PART 1

OVERVIEW

What is the G.A.T.E.WAYS Challenge?	3
The Challenge objectives.....	4
Dates	8

PART 2

GENERAL INFORMATION

Registering a team.....	7
Nominating students for a team.....	7
Fee.....	7
Structure of the competition day.....	7
Awards.....	7
Challenge training.....	9
General advice.....	10
How to register your school	11

PART 3

2022 CHALLENGE SCENARIOS

Year 3/4 Challenge scenarios	12
Year 5/6 Challenge scenarios.....	13
Contact details.....	14

WHAT IS THE G.A.T.E.WAYS CHALLENGE

The G.A.T.E.WAYS Challenge has been inspiring and stimulating students for over 20 years! In 2022, the competition is open to schools from Melbourne, Canberra, Sydney and Brisbane.

The G.A.T.E.WAYS Challenge is a team event for primary school students. Each team consists of four students. Teams may compete in the Year 3/4 Challenge or the Year 5/6 Challenge.

Challenges are interdisciplinary and designed to extend children's leadership and problem-solving abilities through a series of original, creative and exciting real-life or hypothetical scenarios.

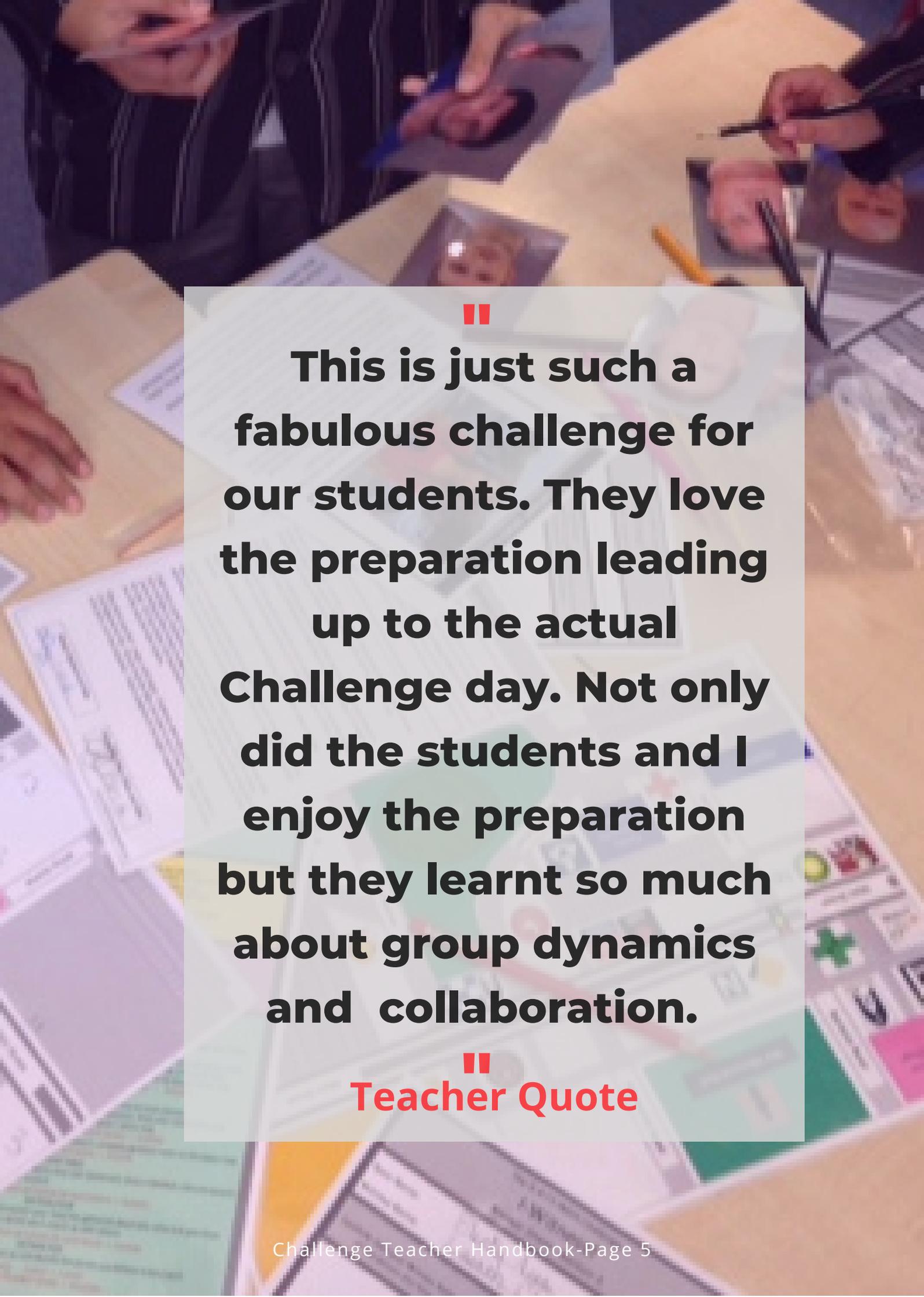
Students use creative and critical thinking skills to innovate and work collaboratively in the search for a viable solution.

This year, to avoid the mixing of students across different schools, Challenge teams will compete from their own school.

THE CHALLENGE OBJECTIVES

- Develop creative and critical thinking skills as students innovate and work collaboratively to find viable solutions.
- Provide a platform for students to develop and demonstrate skills and talents across a range of disciplines.
- Enable students to develop and apply problem-solving skills to real-world or hypothetical scenarios.
- Develop risk-analysis skills as students think on their feet, analyse the situation, and make decisions under time pressure.
- Encourage the development of persistence, resilience, and grit.

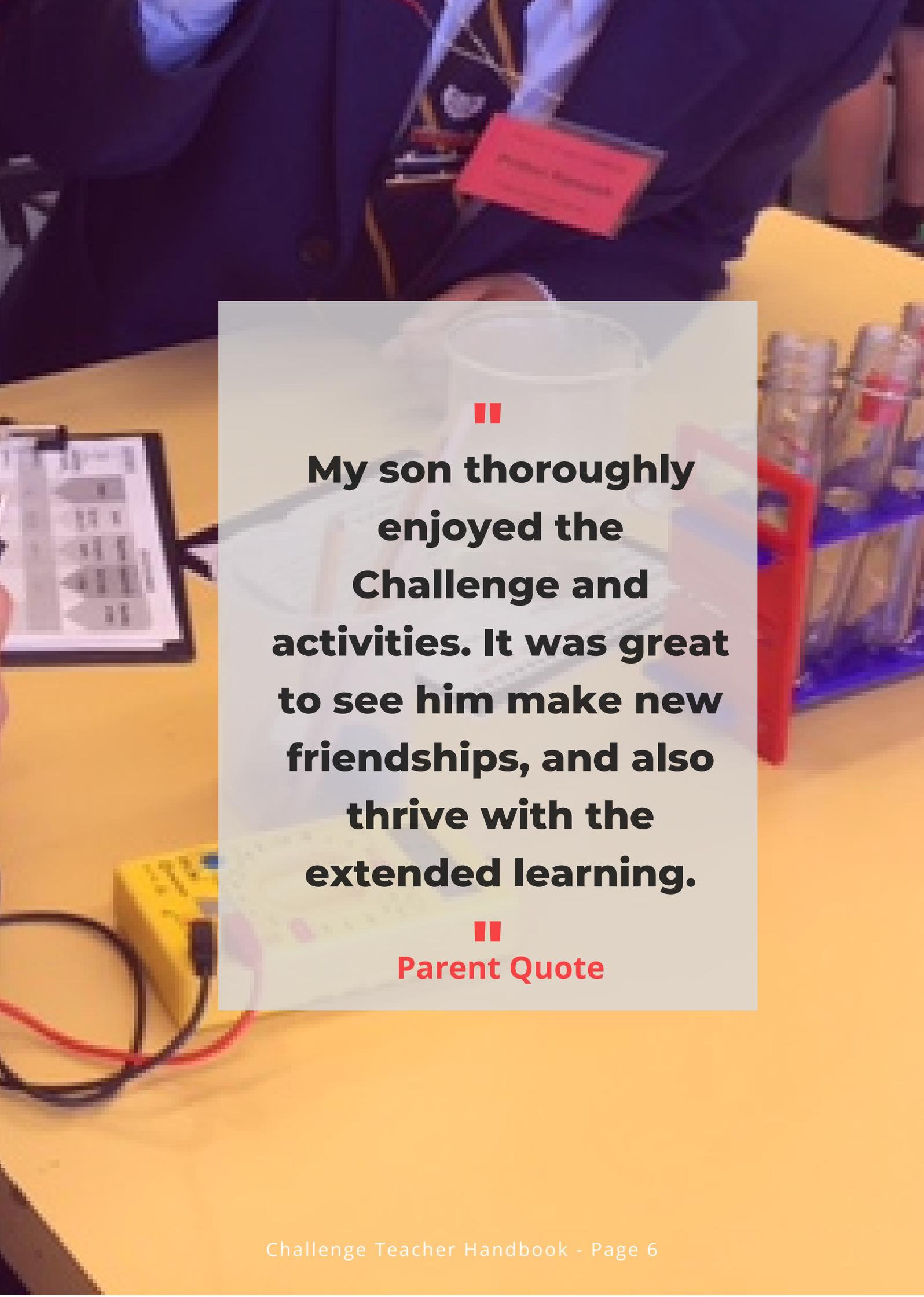




||

This is just such a fabulous challenge for our students. They love the preparation leading up to the actual Challenge day. Not only did the students and I enjoy the preparation but they learnt so much about group dynamics and collaboration.

||
Teacher Quote

The background image shows a classroom setting. In the foreground, there is a yellow table with a white paper on it. To the left, a person is holding a clipboard with a checklist. In the background, several students in blue uniforms are visible, some with red name tags. To the right, there is a blue table with several clear plastic bottles on it. The overall scene suggests a hands-on learning activity or a challenge.

||

My son thoroughly enjoyed the Challenge and activities. It was great to see him make new friendships, and also thrive with the extended learning.

||

Parent Quote

GENERAL INFORMATION

REGISTERING A TEAM

- Schools may register a **maximum** of four teams for our Year 3/4 Challenge **and/or** four teams for our Year 5/6 Challenge. (Minimum of three teams are required for each day of the Challenge. If your needs are different please contact us.)
- Refer to Page 11 for further information.

NOMINATING STUDENTS FOR A TEAM

- Each team consists of **four** students.
- Teams can be a combination of year levels or single year levels.

FEE

The fee for the 2022 Challenge is \$120 per student.
This includes access to the Challenge Training Activities.

STRUCTURE OF THE COMPETITION DAY

- A Challenge Facilitator will oversee the running of the competition **at your school** on the dates you have selected.
- In the morning, teams will have a 30-minute practice session for each Challenge.
- In the afternoon, teams will compete in the four 30-minute Challenges.
- Teachers and parents are invited to enter the rooms at 3.05pm for the presentation of certificates.

AWARDS

- All students who participate will receive a Certificate of Participation and a Challenge badge.
- The top three teams of each district are awarded a trophy.

DATES AVAILABLE



IMPORTANT

Click on the links below for a current list of dates available in your city

[MELBOURNE](#)

[BRISBANE](#)

[SYDNEY](#)

[CANBERRA](#)

MELBOURNE
BRISBANE
SYDNEY

YEARS 3 AND 4

.....
Wednesday
12 October

.....
Wednesday
19 October

.....
Wednesday
26 October

.....
Wednesday
2 November

.....
Wednesday
9 November

.....
Wednesday
16 November

.....
Wednesday
23 November

.....
Wednesday
30 November

CANBERRA

YEARS 3 AND 4

.....
Wednesday
2 November

MELBOURNE
BRISBANE
SYDNEY

YEARS 5 AND 6

.....
Thursday
13 October

.....
Thursday
20 October

.....
Thursday
27 October

.....
Thursday
3 November

.....
Thursday
10 November

.....
Thursday
17 November

.....
Thursday
24 November

.....
Thursday
31 November

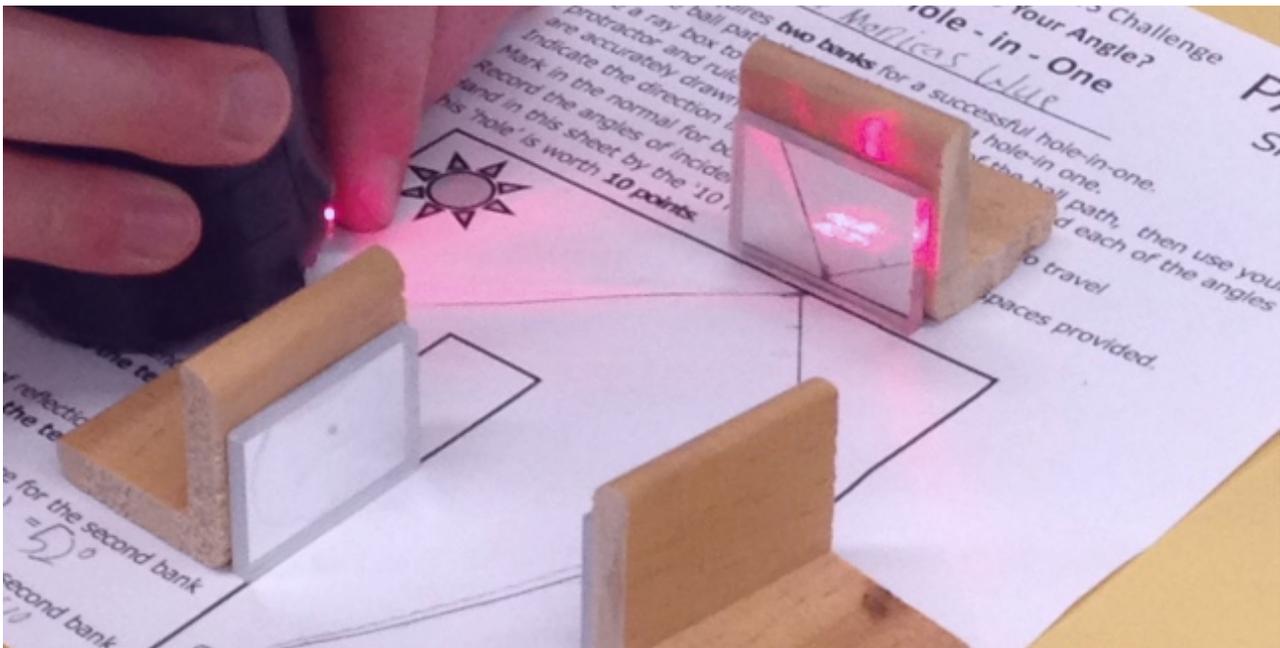
CANBERRA

YEARS 5 AND 6

.....
Thursday
3 November

CHALLENGE TRAINING

- Upon registering a team, the Challenge Training Activity Pack will be made available.
- Training activities have been designed to help prepare teams for each of the four Challenges. Teachers are welcome to use these activities for enrichment programs or withdrawal groups.
- Training Activities are designed to be completed with minimal adult assistance (parent or teacher).



IMPORTANT NOTE:

All team members should complete the training activities for **all** four Challenges, not just the Challenge they will lead.

GENERAL ADVICE FOR TEAMS

- ✓ Each student must be selected to be 'Team Leader' for one of the four Challenges. Students should lead the Challenge in which they feel most confident.
- ✓ Students should decide on a team name. Keep it short or it won't fit on name tags! Eg. Lysterfield Lights, Waverley Wizards.
- ✓ Teams should meet regularly to prepare for the Challenge and to refine their teamwork skills.



HOW TO REGISTER YOUR SCHOOL

1

DECIDE ON A DATE

Check that there is no clash of dates with important school events. Ensure that there is a room available on each of your chosen dates.

2

REGISTER A TEAM

Email steph@gateways.edu.au with your chosen dates to register your teams. Check available dates for your state on Page 8.

3

PARENTS ENROL THEIR CHILD

Once dates have been confirmed we will provide you with a nomination letter to send to parents. Parents enrol directly from links in this letter.

4

COMMENCE YOUR TRAINING

Schools and students will receive a Training Activity Pack filled with rich and exciting activities (and answers!) that can be used to prepare your teams.

YEAR 3/4 CHALLENGES

Maths
Problem Solving

Rescuing Rayder and the Lost Relics

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World-renowned archaeologist Professor Tom B. Rayder has spent a large part of his life searching for the secret chambers of a little-known ancient civilisation known for their mathematical minds. The caverns are rumoured to house priceless relics, so having uncovered their location, Professor Rayder uses his vast knowledge to crack the codes to the locks that secure the entries to the antechambers... but just as he prepares to solve the final puzzle to enter the main chamber, he narrowly escapes capture by notorious tomb thieves who have their own plans for the relics. Despite evading capture, Professor Rayder seems to have vanished and the four antechambers are once again locked! You'll need to use your mathematical expertise to unlock the chambers once again and secure the relics but hurry – the thieves are on your heels and the clock is ticking.

CRIME 'SEEN' INVESTIGATION

Science
Logical Reasoning
Critical Thinking

The police are baffled by their latest case! Evidence abounds - they have several photographs of crime scenes, each with a number of potential suspects, and accompanied with eyewitness accounts, but things just aren't adding up. The one thing that the squad does know is that these crimes are the work of the mysterious criminal mastermind, Professor Optix, and his science pupils. The police have nabbed these suspects but they can only detain them for another 30 minutes. Your team of Private Eyes are their last chance! Armed with your CSI kit and your wits, your job is to pick up the clues in each eyewitness account, use the scientific principles to reveal the secret in each photograph and identify which of the suspects are Optix's pupils. If your investigations are successful, you might just clap eyes on Optix as well – just in time to clap on the cuffs!

History
Geography

Terrestrial Maps for Extra-Terrestrials

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After 500 years of secret research visits to our beautiful planet, a group of extra-terrestrials have landed on Earth keen for their first holiday, armed with a collection of maps they have gathered over the years. Your team has been appointed as special envoys tasked with helping our knowledge-thirsty visitors learn how our globe has changed over time. Using clues from history you must arrange their maps in a visual timeline to communicate how borders have shifted and place names have changed... sometimes over and over again! But your job isn't done there - the alien tourists also want to see what the world has to offer now. Using semiotics - the study of symbols and their meaning - you and your fellow delegates will design map symbols that anybody (or anything) could understand. Can you help these astral travellers on their space odyssey to the blue planet?

Don't lose the P.L.O.T.!

Language
Creative Writing

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P.L.O.T. (Publishers to Literary Outstanding Talent) has their pages in a flap! Launch day is fast approaching for their new anthology, but they are sadly short on flash fiction. The authors have bemoaned that they can't think of anything new to write, so your team have been brought in to assist them in re-working some of their best-known titles for this new format. Sounds simple enough - but each writer has a very specific genre they are known for writing in, characters they have made into household names, and idiosyncrasies that have to be taken into account during the writing process... not to mention you have been handed a set of submission guidelines that may prove rather tricky to work to. It's up to you to create and collate the next prize-winning page-turner before the literary deadline lapses!

YEAR 5/6 CHALLENGES

Writing
Poetry

UNLEASHING THE JABBERWOCKY



As everyone knows, in the strange realms of Wonderland, the poem The Jabberwocky can only be read backwards in a mirror, right? But - the magic Looking Glass has suddenly cracked, and it seems that was the only power keeping all the monsters inside! The fearsome Jabberwocky and all the other bizarre creatures described in those verses are now on the loose. Armed only with your vorpal sword (and trusty pencil!), your team are on an uffish mission to recapture one of the ferocious beasts by writing it back into a brand-new sequel poem! We'll need poetry with peril, rhymes of rampaging, metre for monstrosity, and neologisms in the nick of time – are YOU the writing warriors that Wonderland needs, ready to recapture this dangerous prey in a wily web of words?!



Science
Critical Thinking

Time is critical in toxicology, and two patients have presented at the Hospital of Tropical Medicine with a long list of ailments. All signs point to envenomation - but was it a snake, a jellyfish, or perhaps a disgruntled scorpion? Venoms and poisons contain proteins that pack a punch! All it takes is one bite or sting and they soon take effect... not bad if you want to stop your meal in its tracks but it can spell disaster for an unsuspecting hiker that invades a puff adder's personal space, or a diver who comes too close to a box jellyfish. By modelling protein synthesis, you will need to identify the toxins making your patients ill and the identities of the creatures who bit off more than they could chew! Then spring into action and design the right antivenom to immobilise the toxin... before it immobilises your patients!

Maths
Deductive Reasoning



Detective Gradient has lost the plot! Having missed his calling as a mathematician he has developed a frustrating habit of plotting witness statements on a distance-time graph rather than taking notes on what was actually said! Now the Police Chief must face the media in the next 30 minutes and is demanding answers from your team... pronto! Can you figure out what the eyewitnesses saw? You'll need to analyse the graphs to discover what actually transpired – what was what, who was where and when they were there - before you all lose the plot!!

FAKE NEWS FACTOR FICTION?



Critical Thinking
Deductive reasoning

Can you believe everything you read? In a world besieged by fake news and misinformation, even the most reputable online encyclopaedias and trusted media sites are being flooded with dubious stories and deceptive facts... wreaking havoc for any researcher who wants to find the truth. All we know is that the author of many of these untrustworthy posts can be traced back to an anonymous influencer – known only as 'Miss Information'. This is where your team's expertise comes in! In an effort to clean up the web and remove these unreliable sources of information, your crack team of expert debunkers have been engaged to scour through the most misleading of sites, analyse and fact check, then remove them from the ether if necessary. Can you distinguish truth from (sometimes amusing, sometimes alarming) fiction?

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