



# SASTA

May 2024

# Newsletter

## Contents

- 2 Contact SASTA
- 3 Member Dashboard
- 4 2024 Professional Learning for Term 2
- 5 Members Events for Term 2
- 6 Early Career Teachers Conference
- 7 Science Active School - Australian Science and Mathematics School
- 8 2024 SASTA Annual Conference wrap-up
- 10 Credit Union SA / SASTA Outstanding Contribution to the Teaching of Science Award Winners
- 12 Helen Castle Memorial Scholarship Recipient
- 13 Oliphant Science Awards
- 14 Encouraging Student Understanding of Indigenous Australians by Incorporating Highly Engaging Pedagogies
- 16 Mary Anning Art Prize
- 17 PRC: STEM Reading and Design Challenge
- 18 Exploring our Sense of Place through Earth and Environmental Science

## Upcoming Events

### Members FREE Webinar Series (May)

- Embedding gamification, innovation, immersion and storytelling into science lessons to engage and inspire
  - Unlock AI's transformative power in your school
- See page 5 for more details.

### Design and Deconstruct Workshop

Monday 27 May 2024

See page 4 for more details.

### Implementing the Australian Curriculum: Science V9.0

Monday 1 July 2024

See page 4 for more details.

### FREE Excursion - SA Water Desalination Plant

Monday 8 July 2024

See page 5 for more details.

### Oliphant Science Awards

Student registrations close Monday 20 May 2024

Open Day at Science Alive! 2-4 August 2024

### Early Career Teachers Conference

Call for Workshop Presenters. See page 6 for more details.



@SASTAInc



@sascienceteachers



@SAScience

### South Australian Science Teachers Association Inc.

Association member of the Australian Science Teachers Association (ASTA)

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**Supporting Teachers of Science | Advancing Science Education**

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Brent Banham

## Honorary Life Members

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Tony Diercks

Elma Gurney

Bob Morton AM

Ronne Page

Mike Roach

Lester Russell

Peter Schodde OAM

Jack Smith

Ray Smith

Alby Whitelaw

Dr Jane Wright

## Newsletter copy deadlines 2024

(Advertising deadlines one week earlier)

**Edition**      **Deadline**

August      12 July

November      18 October

**Advertising rates & booking form available online at [www.sasta.asn.au](http://www.sasta.asn.au)**

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## Member Dashboard

In case you haven't noticed, we've been a little bit excited about the launch of the new Member Dashboard! Have you seen it?

We wanted to create a space where you could find everything relating to your SASTA Membership. You'll find your membership perks - member only offers, merch, resources and events.

You can access all of your event bookings, resource purchases and workshop applications if you're interested in getting involved with one of our Conferences.

**Don't forget to update your profile so we can send personalised information to you!**

There is also a community space which includes links to our social media to stay up to date with what is happening in the office and a new Forum, where you can post information, connect with colleagues and other members, ask questions, and celebrate achievements.


We have created a Jobs Board where you can search for jobs or upload a job if you're looking for new staff at your school.

Plus you can access the online version of the SASTA Journal and member only Blog posts. And manage the admin side of your membership.

Home | Members Area

# MY DASHBOARD

Welcome back, Jarrod!



## SCIENCE

### COMMUNITY

### At a glance

- Member since 2018
- Personal Member
- Pulteney Grammar School
- 2 events booked
- 7 presenter applications submitted

[Manage membership >](#) | [Update my profile >](#)

Professional Learning Credits

## Congrats! You've got one free event(s) left.

SASTA members receive professional learning credits to attend events at no cost.

[Browse events >](#) | [Find out more >](#)

## Membership perks

### Member Offers & Competitions

Enjoy your member benefits with exclusive discounts, special offers, and competitions!

[Find out more >](#)

### Member Merch

It's time to start representing your science community with our new SASTA merch!

[Browse >](#)

### Member Resources


Resources to assist you in the classroom and contribute to your professional development.

[Read more >](#)

### Member Events

Take advantage of our upcoming FREE Member Events!

[Browse >](#)




### FREE Member Webinar Series

Embedding gamification, innovation, immersion and storytelling into science lessons to engage and inspire

Wednesday 15 May | 1.00pm - 4.00pm  
Presenter: Ross Riach, STEM Innovator & Laboratory Coordinator, Gleeson College

[FIND OUT MORE AND REGISTER](#)




### MEMBER ONLY Blog Post

#### Encouraging student understanding of Indigenous Australians by incorporating highly engaging pedagogies

As educators, we have a unique opportunity to shape students' perspectives and promote respect for Indigenous Australians. By incorporating highly engaging pedagogies, we can create meaningful learning experiences that go beyond textbooks and worksheets.


[READ THE FULL ARTICLE](#)



## Job Board

Looking for a change of scenery or the next step in your career? View our member-exclusive job board.

[VIEW JOB BOARD](#)



## Community

Whether you've got an idea worth spreading or a query to ask your industry peers, connecting with fellow SASTA members is the solution.

[VIEW SASTA FORUM](#)

[f](#) [t](#) [i](#)

## Professional Learning for Term 2 2024

### Inspire & Engage: Crafting Innovative Science Lessons to Engage Young Minds

Friday 10 May | 9.00 am – 3.00 pm  
Education Development Centre

**Presenter:** Ross Riach, STEM Innovator & Laboratory Coordinator, Gleeson College

With the drive for embedded capabilities, STEM engagement and uptake and the rapidly evolving world around us, engaging students in science can be a challenge. We as teachers are often challenged by time to update or innovate our practice and the array of misconceptions or attitudes circling pedagogical best practices and outcomes.

This course is designed for all teachers to provide the tools and strategies to promote and harness the benefits of engagement, embed immersive, gamified and storytelling strategies to your lessons and create a love of science through innovative practices.

### Design and Deconstruct Workshop

Monday 27 May | 9.00 am – 3.00 pm  
Education Development Centre

**Presenter:** Jason Greenslade, Curriculum Leader Science, Westminster School

This workshop is aimed at people who want to further their skills in setting, assessment and providing feedback on the D&D + practical report task. It also will cover the writing and marking of practical questions for tests and exams as well. There will be time to examine your own student work and participate in some cross-moderation and marking of work/drafts.

Morning: The D&D Reporting Task

- Performance Standards
- Introducing + structuring the task
- Providing guidance to students (drafting)
- Marking and moderation

Afternoon: The task continued + experimental questions in tests/exams

- Marking and moderation (cont.)
- Types of experimental questions
- Guiding students to answer these questions
- Writing experimental questions –how to structure them

### SHE Task Workshop (repeat)

Friday 14 June | 9.00 am – 3.00 pm  
Education Development Centre

**Presenter:** Jason Greenslade, Curriculum Leader Science, Westminster School

This workshop is aimed at people who want to further their skills in setting, assessment and providing feedback on the SHE task. It also will cover the writing and marking of SHE questions for tests and examinations. There will be time to examine your own student work and participate in some cross-moderation and marking of work/drafts.

### Implementing the Australian Curriculum: Science V9.0

Monday 1 July | 9.00 am – 3.00 pm  
Education Development Centre

**Presenter:** Jason Greenslade, Curriculum Leader Science, Westminster School

AC 9.0 has been released and with that the need to make changes to our sequences/rubrics and curriculum documentation to fit with the new descriptors. This session will take a practical approach and show implementation and also cover (more briefly): task design, assessment types and rubrics.

Implementing changes due to AC 9.0

- What are the changes
- How can they work with what you currently have
- Moving topics between year levels
- Curriculum documentation
- Leading teams in a time of change
- Auditing

Assessing accurately and meaningfully

- Example assessments
- What needs to be added to what you might already have
- Meaningful assessment of soft skills in the age of AI
- Integration of cross curricular priorities and the general capabilities

Rubrics

- Changes in AC 9.0
- Reports and investigations
- Tests
- Assessing against rubrics
- Moderation/benchmarking activities

## Members Events for Term 2 2024

### MEMBERS FREE Webinar: Embedding gamification, innovation, immersion and storytelling into science lessons to engage and inspire

Wednesday 15 May | 1.00pm - 3.00pm  
Online

**Presenter:** Ross Riach, STEM Innovator & Laboratory Coordinator, Gleeson College

This course is designed for all teachers to provide the tools and strategies to promote and harness the benefits of engagement, embed immersive, gamified and storytelling strategies to your lessons and create a love of science through innovative practices. This course is a modified version of the full day PD offered, focusing more on the benefits, approaches and examples of engaging science lessons without the hands-on, directed coaching on the skills to build / collaboration with peers to develop your own work.



### MEMBERS FREE Webinar: Unlock AI's transformative power in your school

Wednesday 29 May | 4.00pm - 5.30pm  
Online

**Presenter:** Chris Bush, Leading Teacher at University High School

In this webinar, AI expert and Leading Teacher Chris Bush will teach you how to harness ChatGPT and AI for revolutionary results.

You'll learn how to use AI for planning, assessment, marking, and more. Join us to discover the power of AI to transform your classroom and school so you can work smarter, not harder.

What you'll learn:

- Transform planning: Craft compelling, AI-generated term outlines, lesson plans and assessments in seconds, complete with activities, solutions and rubrics.
- Personalise every path: Quickly design differentiated, tailored learning journeys that are adapted to individual student needs and strengths.
- Maximise your time: Streamline feedback and grading using AI, freeing teachers for deeper student interactions.
- Introduce and embed AI: Develop guidelines around the safe and appropriate use of AI in your context, bringing along all community members.

#### Comments from previous webinar attendees:

*"I found all the resources presented were great. I took a lot away from this webinar. I will be excited to join in any future webinars. Thank you so much!"*

*"The resources shared by the presenter and other teachers were helpful!"*

### MEMBERS FREE Excursion - SA Water Desalination Plant

Monday 8 July | 10.00am - 12.00pm  
Adelaide Desalination Plant

The Adelaide Desalination Plant at Lonsdale is the state's largest desalination plant able to produce 100 gigalitres a year. As metropolitan Adelaide's only climate-independent source of drinking water, it has been delivering drinking water since 2011.

Join a guided tour to see how we turn seawater into fresh clean drinking water, and how important desalination is to South Australia's water security.

Please note, this tour takes place from a vehicle.

Participants will need to make their own way to the venue.



# Early Career Teachers Conference

11 October 2024  
Nazareth College

Call for Workshops  
now open



## Call for Workshop Presenters!

SASTA is committed to providing opportunities for Early Career Teachers to network and learn with and from each other. In addition, we seek to provide you with access to expert education practitioners and leaders to ensure you have every opportunity to understand and succeed in this important profession.

This one-day conference provides graduates and teachers in the first few years of their career with an opportunity to share and reflect on their professional identity, professional practice, wellbeing, and to develop connections with other early career educators.

The Conference will include specialised workshops for both Primary and Secondary Teachers.

You may wish to consider choosing from the categories below when determining the focus of your presentation:

### Unpacking the curriculum

- highlighting the essential components of the science curriculum e.g. SHE, General Capabilities, to allow teachers to develop effective and engaging lessons and teaching programs
- teaching specific aspects of the science understanding content
- STEM education

### Practical Tips for Teacher Wellbeing

- exploration of the reality of teaching experiences and the chance to address challenges that may arise in these early years.

- professional and personal wellbeing
- classroom management skills such as building relationships and maintaining high expectations and consistency
- working with peers, administrators, and parents to build support and foster collaboration
- online teaching strategies

### Inquiry-based learning

- developing creative strategies to integrate the science inquiry skills and critical and creative thinking into the teaching of science
- building student capacity to construct their own learning.
- teaching social and emotional learning skills

### Assessment

- discussing how different types of assessment can be used to monitor student achievement and guide future learning opportunities
- e-exams

### Share-a-thon

We will be running the popular share-a-thon again this year! An informal setting for multiple presenters to share an innovative teaching idea. Each presenter will share a strategy or tool during a 10-minute presentation.

*This is a great first session for new conference presenters or as a way for seasoned presenters to share a go-to strategy or tool.*

Workshop submissions close Sunday 7 July

Visit: [www.sasta.asn.au/professional\\_learning](http://www.sasta.asn.au/professional_learning)

## Science Active School Spotlight - Australian Science and Mathematics School

The Australian Science and Mathematics School became a Science Active School in 2023 for their commitment and dedication to Science Education, and their involvement with and support of SASTA.

As a Science Active School, the Australian Science and Mathematics School have contributed to SASTA through:

- Currently hold a SASTA Corporate membership
- Have a personal member on staff
- Staff member attendance at the SASTA annual conference and workshops
- Staff member presented at SASTA conferences and workshop
- Participate in the Oliphant Science Awards

**Lara Lang, Director of learning at ASMS, shares what it means to be a Science Active School, as well as some of the programs they are currently engaging in.**

The Australian Science and Mathematics School (ASMS) was established 20 years ago with the aim to inspire a passion for science and mathematics. It is an innovative, specialist Government school for students in years 10 to 12. We believe that by tackling challenging, interconnected real world problems, our students are more engaged in their learning and better prepared for their future. By applying science and mathematics in a real world context, our lessons have relevance and meaning. Our students don't just remember what they learn, they understand. Being a Science Active School is part of what ASMS is everyday.

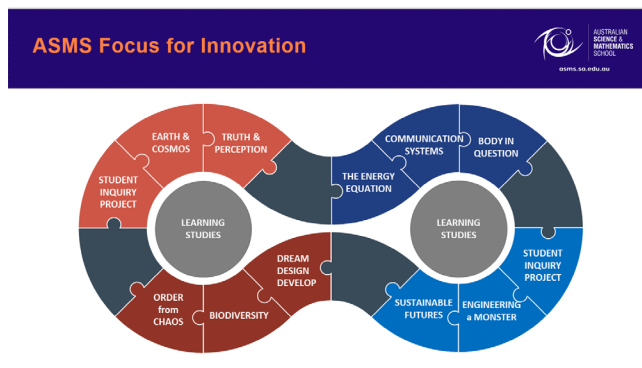
### International Science Fair (ISF)

Since 2004, the ASMS has hosted an annual International Science Fair (ISF). This exciting event welcomes guests from around the world, Australia and South Australia, and is a week of exploration, collaboration, and hands-on challenge based learning of real world issues in science. In 2024, our theme is Engineering a Future, investigating the impact science will have in our future.

### Interdisciplinary science: the Central Studies

In Year 10 and 11, learning is based on a series of unique, interdisciplinary courses called Central Studies. Each Central Study features a core theme, weaving multiple subjects together to bring the theme to life, including English, Mathematics, Science, History, and Health & PE.

For example, in Communication Systems, the theme is 'sending and receiving information'. We cover the English curriculum through a study of Shakespeare's Macbeth, where information is transmitted via the script of the play. We cover Mathematics through a study of linear equations, where the information communicated is used to storm the castle and capture Macbeth from the Great Hall. We cover Science through a study of neural biochemistry, where messages of elation, fear, anxiety, and joy are transmitted through the characters in the play.



### Professional Learning: Primary Science

The ASMS supports public schools and their teachers of maths, science and technology across the state in professional learning. For example, we offer:

Primary Science workshops aimed at primary school teachers of science who want to build their confidence, skills and practical repertoire.

Interdisciplinary planning sessions aimed at secondary school teams who want to design engaging learning for their students.

Personalised mentoring, resource sharing, moderation and support in SACE subjects for teachers who might be the only teacher of that subject in their school.

Custom professional learning delivered at school sites, co-designed with the school, and tours of ASMS to see how the interdisciplinary, self-directed learning occurs in reality.

## 2024 SASTA Annual Conference Wrap-up

The 2024 SASTA Annual Conference was held on Monday 15 and Tuesday 16 April at St Peter's Girls' School, with almost 100 delegates in attendance.



We were welcomed to St Peter's Girls' School with an inspiring speech from Melissa O'Loughlin, STEM Innovation Leader. Tiahni Adamson, Lead Community Engagement Officer - CH4 Global and Young Australian of the Year opened

the Conference with her dynamic keynote presentation **Knowing Country and walking with First Nations to enrich Education**. This set the tone for our Conference theme - Our Sense of Place.

On Tuesday morning, we welcomed Nicola McFarlane, Chief Operating Officer at the Office of Hydrogen Power SA, to discuss **South Australia's Hydrogen Jobs Plan**. Along with Jayne Boase & Professor Delene Weber from the University of South Australia to deliver their presentation **Igniting Learning: Embedding two-way learning and respect into your curriculum** which included a very relatable role play around thoughts on including Indigenous Education in the classroom.

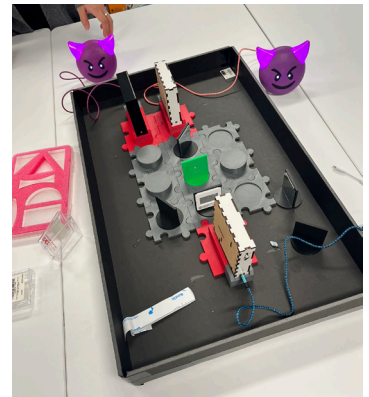
The **2024 Credit Union SA / SASTA Outstanding Contribution to the Teaching of Science Awards** were presented to Miriam Doull, Mitcham Primary School and Lara Lang, Australian Science and Mathematics School by John Elvin from Credit Union SA.



The **Helen Castle Memorial Scholarship** was awarded to **Christine Kemp** this year and presented by Professor Helen Marshall AM, 2023 Scientist of the Year, who also addressed the delegates about her work in vaccination research.

Our Cutting Edge Presentations were very well received and our presenters showcased their groundbreaking research or programs including:

- **Indigenous Artefacts (Tools for Living)**, Trent Hill, South Australian Aboriginal Building, Civil and Construction Academy
- **Understanding animal welfare**, Dr Alexandra Whittaker, The University of Adelaide
- **STEM Problem Based Learning in partnership with industry**, Christie Evans & Candice Martin, Heathfield Primary School
- **Illuminating Possibilities: Precision optics research to improve healthcare**, Dr Chris Perrella, University of Adelaide
- **Harnessing technology and visuo-spatial teaching for active-learning of health and medical science**, Dr Viythia Katharesan, The University of Adelaide
- **Mind-Bending Light**, Ben Sparkes, Irene Bolognino, Thomas Chambers, Darryl Jones, Stephen Warren-Smith, Australian Institute of Physics



With 40 workshop sessions to choose from throughout the Conference, some of our most popular sessions included:

- **Maximising Learning with AI prompts** - Ange Travers, Xavier College
- **Practical Decon and Design in the Junior Science Classroom (7-10)** - Tips, Strategies and Hands on Experience- Jason Greenslade, Westminster School
- **South Australian Aboriginal Contexts in science** - Caroline Dean, Department for Education
- **Using the Oliphant Science Awards to guide student inquiry** - Sarah Finney, Stirling East Primary School

- **Educating the future nuclear workforce of South Australia: Teaching real-world applications of radioactivity and fission** - Bridget Murphy, ANSTO
- **The Earth as an Apple** - Abby Macpherson and Rebecca Mumford, Seaview High School and Greenhill Living
- **Rocking Geology: An innovative, integrated and immersive exploration of the universe with Adelaide University** - Ross Riach, Gleeson College
- **Effective Learning in science** - Katrina Elliott, Mark Oliphant College

- **Mozzie Monitors in Schools** - Craig Williams, University of South Australia
- **The Science of the Ridiculous** - Stuart Lewis, Scientrific

The beautiful grounds at St Peter’s Girls’ School made for some nice Happy Hour locations to enjoy some nibbles, drinks and networking!

Thank you to everyone who helped in the preparations for the Annual Conference. To those who attended, presented and particularly to our sponsors and exhibitors.



## Living lessons in the global classroom

Specialists in STEM educational tour programs in Canberra, Queensland, New Zealand, Asia, Europe, Japan and USA!



Scan the QR code and explore our SCIENCE tours!



## Credit Union SA / SASTA Outstanding Contribution to the Teaching of Science Award

We were excited to announce the winners of the 2024 Credit Union SA / SASTA Outstanding Contribution to the Teaching of Science Awards at the SASTA Annual Conference on Monday 15 April. The awards were presented by John Elvin from Credit Union SA.

- **Primary** - Miriam Doull, Mitcham Primary School
- **Secondary** - Lara Lang, Australian Science and Mathematics School



Miriam is known for her dedication to professional development and innovative teaching methods. With a focus on engaging students and making science relevant, Miriam continuously refines her approach through networking

and participation in conferences such as the SASTA Annual Conference and CONASTA.

Establishing and participating in professional learning communities, like the Southern Primary Science PLC and Mount Barker 2 Science Specialists Hub PLC, Miriam collaborates with peers to share best practices and enhance science education. Her commitment extends to coordinating the school's entries for the Oliphant Science Awards and contributing to judging processes.

In her classroom, Miriam creates hands-on learning experiences that captivate students' interest. From exploring rocks and fossils to engaging in citizen science projects like the annual Bird Count, Miriam fosters curiosity and empowers students to take ownership of their learning. She encourages collaborative discussions and inquiry-based learning, promoting a supportive environment where students' questions are valued.

Miriam's innovative initiatives, such as participating in space-related investigations and establishing student-led sustainability projects, demonstrate her commitment to real-world applications of science. As a mentor and role model, she shares her expertise with colleagues and actively contributes to online science communities.



Lara is a dynamic educator committed to enhancing teaching practices and student engagement. She actively participates in professional development opportunities, presenting at conferences

and sharing her expertise to equip fellow educators with practical tools for their classrooms. Lara's focus on effective communication ensures that her knowledge is readily applicable, improving educational outcomes on a broader scale.

In her teaching approach, Lara prioritises student engagement by leveraging their interests and fostering inquiry-based learning. She secures grants for unique experiences, like Space School trips, and designs innovative curriculum units, such as the Tiny House project and a student-written book on climate change. These initiatives not only captivate students' interest but also develop critical thinking and problem-solving skills.

Lara's leadership extends to whole-school initiatives, including the Curious and Brave exhibition and the development of interactive web quests. At the Australian Science and Mathematics School, she leads the implementation of innovative professional learning programs, fostering partnerships with tertiary providers and industry to enhance education at local and international levels.

As a respected mentor, Lara's organised approach reaches a wide audience of educators, transforming professional learning programs and setting new standards for excellence.

# Freedom to spend and save



**5.40%** pa  
when you open a new  
**Netsave Account**

**4 month introductory  
variable rate with a  
1.50% ongoing rate\***

\*Members who open a new Netsave Account from 25 November 2022, will receive an introductory bonus interest rate on top of the current standard variable interest rate for a period of 4 months from opening of the account. After the 4 month period expires, the standard variable rate will apply on all balances. Interest rates are subject to change. This is general advice only and you should consider the terms and conditions before determining whether this product is suitable for your situation.

## Helen Castle Memorial Scholarship

This year the Helen Castle Memorial Scholarship was awarded to **Christine Kemp from Caritas College** in Port Augusta. This award was presented by Professor Helen Marshall AM, 2023 South Australian Scientist of the Year.



Christine is a dedicated secondary science teacher who brings enthusiasm and innovation to her school community. With her dynamic teaching style, she creates engaging learning environments that spark curiosity and passion for

science among students.

Teaching across various year levels, Christine ensures that all students, from R-12, have access to quality science education. She employs diverse teaching strategies to cater to different learning styles, ensuring every student feels valued and empowered to succeed.

Beyond the classroom, Christine actively promotes science education through initiatives like National Science Week, STEM opportunities, and involvement in the Oliphant Science Awards. She also encourages girls' participation in science and STEM activities, organising lunchtime science sessions for students.

As a collaborative professional, Christine seeks out opportunities for professional growth and development. Her role as the Aboriginal and Torres Strait Islander Lead Teacher reflects her commitment to inclusive education and innovative teaching methods.

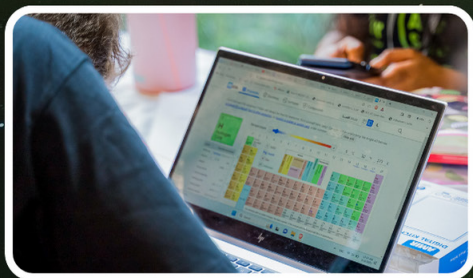
Christine's dedication and passion for science education make her a valuable asset to her school community, inspiring students and colleagues alike.



# Challenge your students with the Junior Science Olympiad Exam

Start their journey as future scientists!

New in  
2024!  
Two exam  
levels



Stage 1 - Students sit the Junior Science Olympiad Exam online



Stage 2 - Select students invited to attend Spring School



Stage 3 - Team selected to represent Australia overseas

**Register online by 7th June**

Junior Science Olympiad Exams  
Years 9 & 10 - Wednesday 12 June  
Years 7 & 8 - Friday 14 June

Proudly delivered by



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# 2024

SASTA

OLIPHANT

SCIENCE AWARDS

## SA'S LARGEST SCIENCE COMPETITION

STUDENT REGISTRATIONS  
CLOSE MONDAY 20 MAY

Don't forget student registrations close on **Monday 20 May!** If you haven't registered / re-registered as a School Coordinator you will need to do this before registrations close so you can enter your student registrations online: [www.oliphantscienceawards.com.au](http://www.oliphantscienceawards.com.au)

As always, the website and booklet have everything you need to know about this year's competition, including registration fees, deadlines, rules, forms, and titles (where relevant).

### Key dates

- **Friday 17 May:** Judges registrations close
- **Monday 20 May:** Student registrations close
- **Friday 7 June - Regional Student Travel Fund Applications** close
- **Friday 7 June - Friday 28 June:** Citizen Science, Multimedia, Science Writing and Scientific Inquiry entries and Reports for Programming, Apps and Robotics **MUST** be submitted online
- **Monday 22 July - Friday 26 July:** Crystal Investigation and Models & Inventions reports / risk assessments **MUST** be submitted online. Supporting documents for Games may also be submitted
- **Saturday 27 July:** Programming, Apps & Robotics Judging Day (strictly by appointment)
- **Wednesday 31 July:** Crystal Investigation, Games, Models & Inventions, Photography & Poster entries to be delivered.
- **Friday 2 - Sunday 4 August:** Open Day at Science Alive!

Make sure your students have downloaded the **category checklists** to help them prepare all required information for their entry! These can be found in the Information Booklet or can be downloaded from the website.

### Models & Inventions Project Checklist

#### Elements of your project

- Completed and signed Risk Assessment form
- Model or invention is no larger than 1m x 1m x 1m and does not weigh more than 8kg
- Must not include liquids, require the use of mains power or include live animals or plants
- Short written report including:
  - The scientific principle demonstrated by your model or used in your invention
  - How the entry was made
  - Any problems that occurred and how you overcame the problems
  - How to operate your model or invention
  - Adheres to the report length requirements
    - Year R-2: less than 100 words
    - Year 3-4 and 5-6: approximately 250 words
    - Year 7-8, 9-10, 11-12: do not exceed 500 words.
  - Acknowledgment of assistance received.

#### Online submission

- Electronic copy of your report (PDF or Word document)
- Electronic copy of your risk assessment (must be signed by your science teacher or Oliphant coordinator)
- Cover sheet (given to you by your coordinator)
- (OPTIONAL)** A short video of your project - uploaded as an unlisted video on YouTube and shared via URL or QR code on your report

Project submitted online: between Monday 22 July - Friday 26 July

#### Onsite delivery

- Identification Label attached to your entry (given to you by your coordinator)
- Hard copy of your report
- Hard copy of your risk assessment (must be signed by your science teacher or Oliphant coordinator)
- All loose parts labelled.
- No valuables attached.

Project delivered onsite: Wednesday 31 July



### 2024 Regional Student Travel Fund

To assist the participation of country and regional students in the 2024 OSA Open Days and Presentation Ceremony, OSA Coordinators can apply for funding of up to \$300 through the Regional Student Travel Fund.

**Closing Date:** Friday 7 June

## Encouraging Student Understanding of Indigenous Australians by Incorporating Highly Engaging Pedagogies

An important focus of the Australian Curriculum is the cross-curriculum priority of “Aboriginal and Torres Strait Islander Histories and Cultures”. Working closely with colleagues over the years, however, teachers have often shared how they struggle with implementing this in a way that is meaningful, a part of the unit of work, and offers students a hands-on experience of the learning style of the First Nations people. As educators, we have a unique opportunity to shape students’ perspectives and promote respect for Indigenous Australians. By incorporating highly engaging pedagogies, we can create meaningful learning experiences that go beyond textbooks and worksheets. Let’s explore how I do this through a year 6 Earth & Space unit.

**A meaningful connection:** An important aspect of learning is that students can find a connection with their learning. I always begin a unit by ‘inviting the students in’ ... creating the means for students to make connections between what they already know and the learning ahead. Working with younger students (year 6), this connection has been easier to develop. Students are generally inquisitive and by starting with a “what do you already know” activity, they are given the opportunity to show off facts they have discovered and immediately connect with the topic. The task from there, is to continue to develop that connection through engaging pedagogies.

I use various tools in my classroom and change activities regularly. Online platforms allow students to engage in the learning if reading and writing is difficult. EdPuzzle is a fantastic tool for this, as students watch a video and respond to questions. Videos are engaging, and the questions offer me an insight into student understanding. Quiz platforms also offer a fantastic snapshot of a student’s learning and understanding.

But not all learning needs to be digital to engage our young learners. Using worksheets for younger students is a great way to channel the learning, however the trick is to make worksheets fun and different! I always like



to add a little twist for the students at this age. Students may write a response to some questions, fill in some gaps, or draw an image ... they might also have to turn the worksheet into a shape or fold and glue to create a flip book. This week, students are creating their own constellations by blindly dotting stars on a page, then connecting the dots and writing a story about their constellation the way the First Nations people of Australia have stories of their own about the constellations. Easy to create but fun and engaging for the learners. Keep worksheets short, change activities up and ensure they offer students the opportunity to achieve.

**An integration of the unit:** the challenge as teachers is to ensure that the learning is not tokenistic, or the task is not added just to tick a box. For this reason, I always ensure that such learning is a part of the unit. Students learn about the stars and their life cycles; the constellations; the way the Earth and moon rotate and revolve around the sun; and the change of the seasons. But they also learn of how the First Nations people of Australia have used the stars for generations to navigate, know when to hunt for certain foods, and when the seasons change. They learn of how the seasons were identified through the wildlife and changes in weather. They learn of the importance of the eclipse as an omen of danger. This is a part of the unit and activities, and assessment tasks reflect this.

One such task this year has been for students to study a text on the different understandings of the night sky by First

Nations people, and then answer questions based on the reading. A great way for students to learn some of the Dreaming stories but also to understand that stories are unique to each nation and are significant to the people.

**Hands-on learning styles of the First Nations people:** So, fast-paced and interactive activities using online platforms and other learning tasks. But how then, do we provide our students with firsthand knowledge of the Aboriginal and Torres Strait Islander Peoples?

Indigenous cultures have a rich tradition of oral storytelling, therefore I aim to teach these lessons in the way that Aboriginal elders did for thousands of years—sitting on the ground in a circle, sharing stories and talking about times past. My favourite book to use is “The First Scientists” by Corey Tutt, which travels through the stories of many Indigenous nations, telling of many deadly feats that are today considered ‘science’. Then, to extend this connection, I teach my students the language. Where possible in the past, I have brought experts in to do this, but this is not always possible. These days there are alternative options available. The ‘Kurna Warrapiipa, Kurna Dictionary’ is a fabulous resource that translates between Kurna and English. I maintain the integrity of the language by watching videos to ensure that I am using correct pronunciation where possible.

To teach the Kurna seasons I have a set of flashcards with symbols and words – some English and some Kurna which students then work to match using the calendar provided by the Bureau of Meteorology. Students review rock paintings depicting the change of the seasons and discuss what they learn.

**What to take away:** learning needs to be engaging, but we must remain authentic to the Indigenous cultures of Australia. It is vital that students understand the history of the country and recognise the living cultures and traditions that deserve the opportunity to flourish. By incorporating these highly engaging pedagogies, we can create a classroom environment that celebrates Indigenous Australians, fosters cultural understanding, and empowers all students. Let’s embark on this journey together, weaving Indigenous perspectives into our teaching practices and nurturing a generation of culturally aware and respectful citizens.

**Danielle Pedler**

Teacher - Middle / Senior  
St Columba College

Check out our other blog posts from April around the Annual Conference theme - **Our Sense of Place:** [www.sasta.asn.au/about\\_us/sasta\\_blog](http://www.sasta.asn.au/about_us/sasta_blog)

**Aboriginal Skies**  
By Paul Curnow



In the Dreaming of Aboriginal Australians, stars and planets often represent ancestral heroes, Dreaming spirits, creator beings and sometimes inanimate objects. For example the Boorong People of Victoria saw the stars Sirius (alpha Canis Majoris) and Rigel (beta Orionis) as two wedge-tailed Eagles in the sky. Sirius was called *Warepil* and Rigel his wife was *Collowgulloric Warepil*. In addition, in line with many other indigenous cultures throughout the world, the band of our galaxy, the Milky Way, has often been seen as a river in the sky.

The Kurna, from the Adelaide region, called the Southern Cross ‘*Wilto*’ and it is seen as the footprint of the wedge-tailed Eagle. This is echoes by groups further north like the *Ngadjuri*, *Nukunu* and *Adnyamathanha* Peoples who all see the Southern Cross, which is also known as ‘*Crux*’, as the footprint or talons of the eagle. In fact, the *Adnyamathanha* often refer to it as *Wildu mandawi*, and it is viewed as the place where deceased spirits travel up into the heavens. The *Aranda* of central Australia also see the Southern Cross as the talon of an eagle; with the addition of the *Coalsack* Nebula as his nest and the pointers as his throwing stick. However, the *Yankunytjatjara* of Central Australia view it not as the footprint of an eagle, but a footprint of an Emu in the sky.

We can also contrast how the Southern Cross is seen by other groups in the southern hemisphere. For example, in New Zealand, or *Aotearoa*, many *Māori* tribes or *iwi*, see it as an anchor in the sky called *Te Punga*. When it is low in the sky some South African groups see it as a group of Giraffes feeding on trees. And in South America the descendants of the *Inca*, see the Southern Cross along with the pointer stars as part of a giant *Llama* constellation.

Paul Curnow (B.Ed) is the Vice President of the Astronomical Society of South Australia and a former council member of the Field Geology

Read through the information above and answer the following questions to the best of your ability.

1. What South Australian Indigenous nation call the Southern Cross constellation ‘*Wilto*’? Highlight this in the reading passage.  
\_\_\_\_\_
2. What does the constellation represent for these people?  
\_\_\_\_\_
3. In the Dreaming of Aboriginal Peoples what do stars often represent?  
\_\_\_\_\_  
\_\_\_\_\_
4. The Milky Way has often been seen as what in the sky?  
\_\_\_\_\_
5. The Boorong People come from which Australian state?  
\_\_\_\_\_

There are a range of interpretations of the Southern Cross for the different Indigenous Nations of Australia and New Zealand. Using the information in the reading, match the different statements and the Indigenous people.

Ngadjuri people

An anchor in the sky called *Te Punga*

## Mary Anning Art Prize

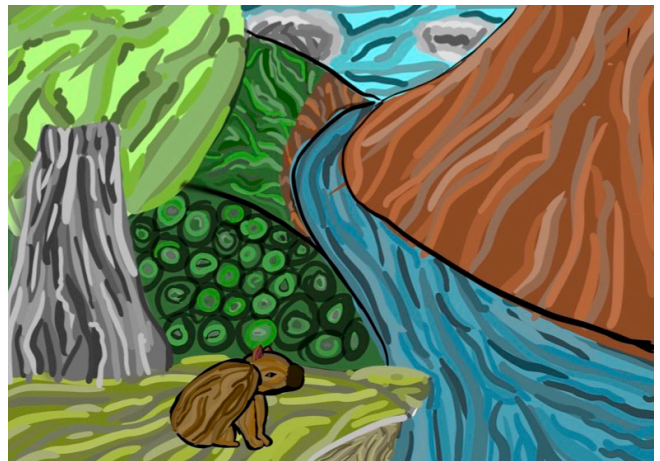
The aim of the Mary Anning Art Prize is to have young South Australian artists create an original piece of artwork that tells us something about the prehistoric life of South Australia. It is essential, to be eligible, that the artwork explores an element of South Australia's rich and remarkable prehistoric past, and that the artist lives in South Australia. To explore and illustrate our own past is to better know who we are as South Australians, and to better understand our unique place in the history of life.

While all visual art-forms are eligible, each entry must be presented in the form of a single photograph of the artwork.

### What makes a successful entry?

- Scientific accuracy, creativity, and originality
- The best art isn't just a picture, or a sculpture. It tells a story!

**Submissions open on Mary Anning's Birthday - Tuesday 21 May and close on Monday 28 October.**



### Entry categories:

- Reception to Year 2
- Year 3 to Year 5
- Year 6 to Year 8

### Prizes

1st, 2nd & 3rd prizes will be awarded in each year group category.

Full details of the competition can be found on the SASTA website: [www.sasta.asn.au](http://www.sasta.asn.au)

View the 2023 winning entries at: [www.sasta.asn.au/student\\_activities/mary-anning-art-prize](http://www.sasta.asn.au/student_activities/mary-anning-art-prize)

## BIOLOGY: LEVELS OF LIFE

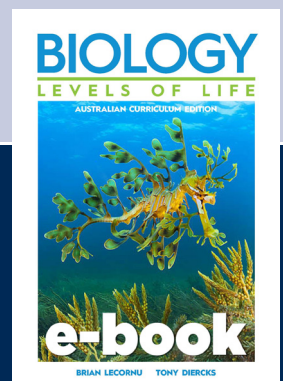
**Brian LeCornu and Tony Diercks**

\$15.00

### Biology: Levels of Life - Australian Curriculum Edition Textbook (\$64.95)

This textbook provides detailed coverage of all the content (Science Understanding) of the SACE Stage 2 Biology subject. The new content is relevant, up-to-date and addresses Science as a Human Endeavour, with many examples throughout. The textbook is divided into four topics, with each topic presented in chapters designed to make the material easy to follow, with study questions at the end of each chapter. **A complimentary 15 month subscription to the e-book is available with every hard copy purchased.**

The Biology: Levels of Life Textbook is now available as an e-book!



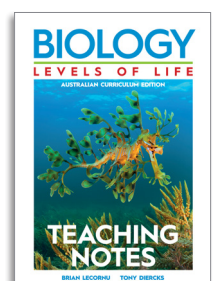
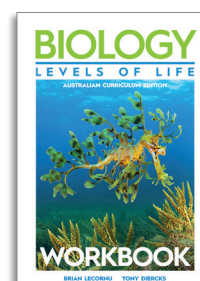
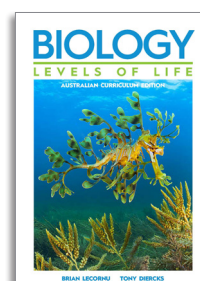
For full details visit the SASTA website.

### Biology: Levels of Life - Australian Curriculum Edition Workbook (\$24.40)

Written specifically to complement the textbook, this workbook covers all Science Understandings of the Biology subject outline. It can be used in conjunction with the textbook or on its own as an aid for understanding and revision. By completing answers to the workbook questions, students will develop their knowledge and understanding of biological principles and concepts.

### Biology: Levels of Life - Teaching Notes (\$120.00)

Teachers will find the Teaching Notes invaluable in ensuring that all Science Understandings are covered for each of the four topics. There are teaching tips throughout as well as additional information. Answers to questions in the Workbook will assist teachers in explaining concepts to students.



**THE 2024 PRC  
STEM Reading and  
Design Challenge**

**Our Sustainable Future**

Starts 2 April and finishes 21 June  
Announcement of winners in National Science Week, August 2024

SASTA and the Oliphant Science Awards are proud to be partnering with Inspiring SA and the Premier’s Reading Challenge (PRC) to support the 2024 STEM Reading and Design Challenge.

The challenge encourages students to read about Science, Technology, Engineering and Maths (STEM) in the lead up to National Science Week. The reading and design competition started in 2016 and last year 3300 entries were received!

This year there are four themes - **STEM, NATURE IN SOUTH AUSTRALIA, SPACE & GREEN HYDROGEN**

The Premier’s Reading Challenge booklist contains excellent STEM books. To enter you need to read a book about one of the four themes, preferably from the Premier’s Reading Challenge booklist and then use your imagination for your entry.

There are great prizes to be won in 4 age categories.

**Links to the Oliphant Science Awards**

There are many opportunities for students to combine their OSA project work with the STEM Reading and Design Challenge. We have created STEM booklists for each age category from the PRC booklist. Students can select books from these booklists that will support them with their OSA project.

Examples:

- An R-2 student may be working on a Poster for OSA around the theme of The World of Pollinators. They could source inspiration for their OSA Poster from one of the books listed in our STEM booklist (e.g., Pollination: How Does My Garden Grow? by Christopher Cheng & Danny Snell). They could then also complete the STEM Reading and Design Challenge task for entry to that competition.
- A Year 3-5 student can use a STEM booklist book (e.g., Mission Shark Bytes by Sophie Deen) to inspire their OSA invention or model and then submit a copy of their invention plan/description to the STEM Reading and Design Challenge.

For full details about the STEM Reading and Design Challenge visit: <https://bit.ly/3UIbIMf>

Winning entries will be on display as part of the Oliphant Science Awards Open Day at Science Alive! from 2 - 4 August 2024.

Age	PRC Task	Possible OSA link
R-2	Create	Posters
3-5	Invent	Models & Inventions
6-9	Design	Posters
Mature	Review	Science Writing

## Exploring Our Sense of Place through Earth and Environmental Science

It is often the voice of students who boast “When will we ever use this information in the real world?”. As educators, our job is to prepare our students with the knowledge and skills they will need in the real world. What they actually need in the real world, however, can vary depending on what that student ends up doing with their life. We do know, though, that there are some underlying knowledge and skills that we believe all students should be equipped with when they leave our classrooms.

I have worked with the organisation, Geoscience Pathways Project, for the last decade to help spread knowledge of the world of Geoscience to students. Now, you might ask (like our students) but what purpose does this have in the real world? To which I reply, do you live on the Earth? The entire population relies on the services and resources that our planet provides us. It gives us with the food and drink on our table and the materials we use to shelter us from the harsh environment and any material form of entertainment comes from the rocks the earth is made of. Whilst the earth can live without us and has done so for the last 4.6 billion years, we cannot live without the earth.

It is hard to be on any social platform and not hear the words “climate crisis”. Mission Australia’s 2023 Youth Survey, which included 19,501 young people ages 15-19, rated the environment (at 44% compared to 51% in 2022 and 38% in 2021) as their top concern. Of that 44%, 21% of young people were personally extremely or very concerned about climate change. You then might ask, what role can we, as educators, play in preparing our students for the real world of climate change?

This has been our goal to, at the very least, create students who are informed citizens of the issues they will face when they go out into the real world. In an age of fake news and misinformation, it is difficult for the average person to navigate through all the information presented to us on the internet. Furthermore, as just one person, one can often feel like any action one does take might not make a difference in the grand scheme of things.



The Stage 1 and 2 Earth and Environmental Science subject explores how humanity uses the planet’s resources and the issues that we will face as we move further towards 2100. We discuss the issues surrounding climate change and sustainability with a focus on solutions that society is already or can embrace but also solutions that any individual can do to make a difference in the world. Anne Marie Bonnaeu said it best by stating “We don’t need a handful of people doing zero waste perfectly. We need millions of people doing it imperfectly.” There are everyday choices we can make in our lives that have a positive outcome on the environment at large but we need someone to show us how to do it, which is where we come in as educators.

I truly believe it is not too late to turn the tide on climate change. It is possible through the effort of every person on this planet, no matter how small or large that action may be. If this article has inspired you to take up Earth and Environmental Science at your school, please contact me at [ksharrad@gmail.com](mailto:ksharrad@gmail.com). My role, as Geoscience Outreach Officer, is to support new schools who want to run this subject by providing them everything, and I mean everything, required to teach the subject at no cost. To learn more about what some of the schools we are already supporting are doing, please visit our website [www.geosciencepathways.org.au](http://www.geosciencepathways.org.au).

**Kelly Sharrad**

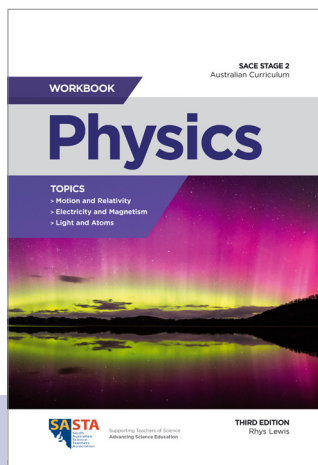
Geoscience Pathways Project

Check out our other blog posts:  
[www.sasta.asn.au/about\\_us/sasta\\_blog](http://www.sasta.asn.au/about_us/sasta_blog)

## STAGE 2 3RD EDITION WORKBOOKS

**\$64 EACH**

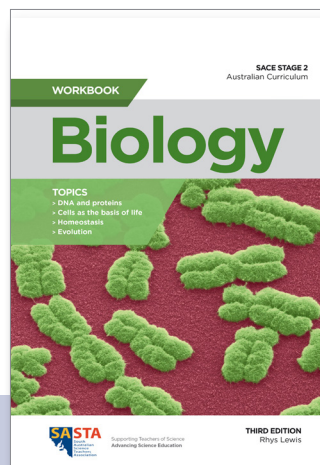
The Third Edition of the SASTA Stage 2 Biology, Chemistry and Physics Workbooks maintain the same concise, accessible, and engaging writing style that readers have loved in previous versions. There is a clear emphasis on developing the reader's ability to apply their knowledge both familiar and new contexts rather than simply recalling it.



### Physics

3rd ed., 2022, 560 pp.  
ISBN 978-0-9808605-5-9

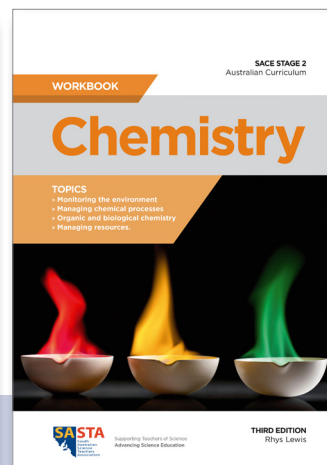
Available now



### Biology

3rd ed., 2022, 532 pp.  
ISBN 978-0-6455814-0-9

Available now



### Chemistry

3rd ed., 2022, 424 pp.  
ISBN 978-0-6455814-1-6

Available now

## TOPIC TESTS

### Biology

### Chemistry

### Physics

SASTA is pleased to offer sets of **2024 Topic Tests**, designed for use as formative or summative Skills and Applications Tasks (SATs) in Stage 2 Biology, Chemistry, and Physics. These tests uphold a high standard of quality and encompass a comprehensive range of original questions, spanning Science Understanding, Science Inquiry Skills, and Science as a Human Endeavour.

**For the list of topics available, full price guide and purchase details visit the website.**

## TRIAL EXAMS

**\$132.00 EACH**

### Biology

### Chemistry

### Nutrition

### Physics

### Psychology

The SASTA 2024 Stage 2 Trial Exams are a 'must have' resource, developed by leading teachers to support SACE Stage 2 teachers. Available in 'Word' or fillable PDF\* format this resource will familiarise teachers and students with the SACE Stage 2 exam format.

Teachers will be able to use the resource as revision for students, a stand-alone assessment tool or to develop exam preparation skills.

*\*Fillable PDF only available for subjects with e-exams.*

## TOPIC VIDEOS

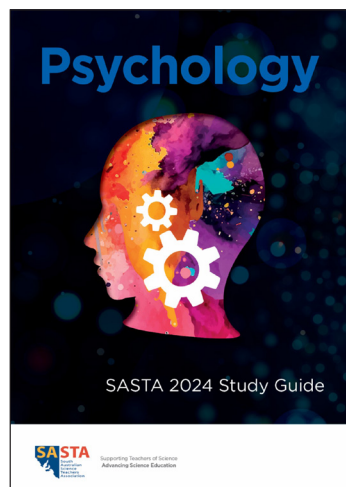
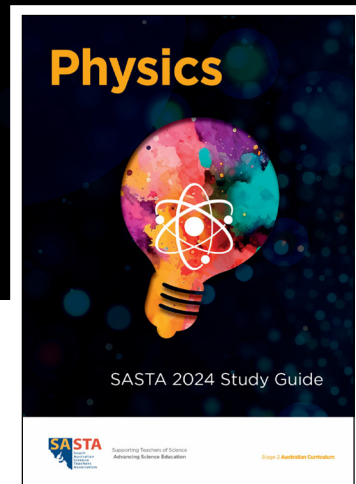
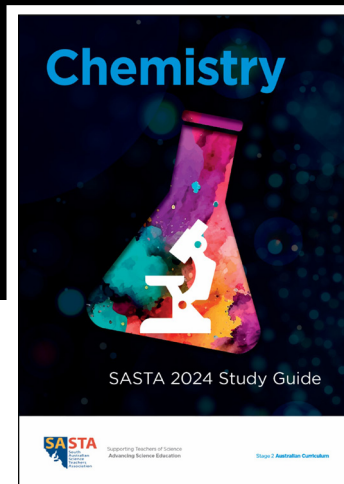
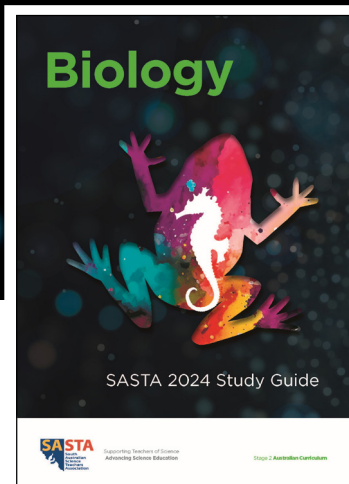
**\$15 PER CHAPTER**

SASTA is thrilled to introduce an exciting new offering for students in 2024! Adapting to the evolving ways of learning, SASTA has developed a comprehensive collection of high-quality videos encompassing all topics within SACE Stage 2 Biology, Chemistry, and Physics.

Each video, ranging from five to ten minutes, delves into one or more key concepts found in the Science Understanding section of the Subject Outline. These videos are designed to complement SASTA's Stage 2 Biology, Chemistry, and Physics Third Edition Workbooks, but they can also be used as standalone resources.



# SASTA 2024 Study Guides



SASTA Study Guides are the perfect companion for students gearing up for their Stage 2 SACE exams. These guides provide a comprehensive range of questions, accompanied by worked solutions covering all topics in the Subject Outline. To keep things fresh and relevant, we update our guides each year with solutions from the previous year's exams and introduce brand new questions to further enhance exam readiness.

**\$33 each**

plus delivery or orders can be collected from the SASTA office

**Now Available!**

Available to order at [www.sasta.asn.au](http://www.sasta.asn.au)