

February 2020

SASTA Newsletter

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SASTA Annual Conference

23–24 April 2020, Pulteney Grammar School
See page 4.

Teachers New to Teaching Stage 2 Science

- Biology – Friday 14 February 2020
 - Physics – Friday 14 February 2020
 - Chemistry – Friday 21 February 2020
 - Nutrition – Friday 21 February 2020
 - Psychology – Monday 2 March 2020
 - Scientific Studies – Monday 2 March 2020
- See page 8.

Designing Lab Lessons with a STEM Focus (secondary)

Friday 28 February 2020
See page 8.

Let's Really Do Science Inquiry (primary)

Friday 6 March 2020
See page 8.



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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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Professor Caroline McMillen, Chief Scientist for SA

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Board Representatives

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Priscilla Martinus

Awards

Yvonne Zeegers (Convenor)

Nominations Workgroup

Marianne Nicholas

Peter Beveridge

Vanessa Fay

PD & Conferences

Jane Wright (Convenor)

Marianne Nicholas

Oliphant Science Awards

Anita Trenwith

Anthea Ponte

Peter Turnbull

Membership

Vanessa Fay (Convenor)

Anthea Ponte

Yvonne Zeegers

National Science Week

Priscilla Martinus

Anthea Ponte

Vanessa Fay

Regional Members

Peter Beveridge

ASTA Board &

Working Group Members

Vanessa Fay

Jane Wright

Educators SA

Marianne Nicholas

Anthea Ponte

Vanessa Fay

Newsletter copy deadlines 2020

(Advertising deadlines one week earlier)

| Edition | Deadline |
|----------|------------|
| February | 10 January |
| May | 10 April |
| August | 10 July |
| November | 9 October |

Advertising

Advertising rates & booking form available online at www.sasta.asn.au

Views expressed in this newsletter are not necessarily those of SASTA or the editors. Whilst every effort is made to be factual, no liability is accepted for the accuracy of information presented.

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Adhering to the following guidelines would be appreciated:

- Save as a Microsoft Word document
- Tables to be set up as text with one tab between columns and a return at the end of each row.
- For spelling please use the Macquarie Dictionary and where several alternatives are listed, use the first. The exception to this is when you are citing, referencing or quoting directly from a source which uses alternative spelling.
- Photographs should be high quality untouched digital photographs.

Honorary Life Members

Doug Anders

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

From the President



Welcome to a busy start for science education in 2020! Dedicated science teachers have supported students to complete what is now the second year of the 'new' SACE science subjects, and students' achievements reflect growing confidence, skills

and capacity through their learning journey in scientific understandings.

However, I am sure we are all very grateful for the tireless dedication and determination of Australian firefighters in many locations, including the Adelaide Hills and Kangaroo Island. Our felicitations and condolences go out to all those affected by these devastating events. We hope that the recovery from their impacts will be supported by our energetic and concerned communities.

It was interesting to discover that the bushfires' impacts were so pronounced and spread over such large areas that they created their own weather patterns. Giant thunderstorms of pyro-cumulonimbus clouds which then spread fires through lightning, spreading embers through

severe winds which then started more fires elsewhere, which have astonished us all with their destructive severity. Increasing the level of scientific understanding about these weather patterns will be very beneficial for humanity in the future.

In February, SASTA is running their 'Teachers New to Teaching Stage 2 Science' seminars for Biology, Chemistry, Physics, Nutrition (Stage 1 and 2), Scientific Studies and Psychology (Stage 1 and 2). Check the SASTA website or see p. 8 for registration dates of each seminar.

Lifting our focus to the Australian Science Teachers Association, new ASTA CEO Shenal Basnayake has been developing policies, examining past projects and financial practices, and devising ideas for new revenue streams based on his national and international experience in both the corporate and not-for-profit sectors. Nathan Curnow is now the incumbent ASTA President from Western Australia, with Geoff Quinton now becoming the Past President. The ASTA team will be engaging with the challenge of renewing the ASTA federation in changing economic and political times for science education funding and support from government and corporate entities.

Vanessa Fay

Have you renewed your membership for 2020?

Thank you to those who have recently joined SASTA or renewed their membership for 2020. Professional learning events are already under way, so if you wish to register for events at members' rates then renew your membership quickly if you haven't done so! You can only join or renew your membership via the SASTA website, so whether you're joining as an individual or corporate member, you will first need to create a website user account if you haven't already done so.

Individual members

Complete the form and pay (credit card or EFT)! It's that simple. There are many benefits to being an individual member – greater discounts, voting rights, and the chance to be on the SASTA Board among others! See the website for more information.

Corporate members

Corporate membership must be renewed by your school's primary contact person. Select "Payment by cheque or bank transfer" to be emailed a tax invoice which you can forward to your school's finance department if you wish. If you're not the primary contact person, you will need that person to make sure that your SASTA website account is listed under your school's corporate membership in order to take advantage of any discounts.

If you have any questions, see the Membership FAQ on the website or contact the SASTA office.



Join primary and secondary teachers and other members of the science education community at SASTA's 2020 Annual Conference, 23–24 April at Pulteney Grammar School in Adelaide.

The theme of the conference is 'Science: Saving the Planet' and aims to inform and inspire delegates with current research and practices in the fields of science, as well as in the classroom.

As usual, the program is shaping up well with a broad program of seminars, discussions and professional learning workshops, and hands-on activities.

Keynote speakers

Thursday's keynote presentation will be from **Prof. Chris Daniels, the Director of Cleland Wildlife Park**. Chris wholeheartedly agrees with a quote by French explorer and conservationist Jacques Cousteau who famously said, "You can't save what you don't love, and you can't love what you don't know." Chris will talk about how zoos and wildlife parks need to engage and educate the public about the necessity and practice of conservation, especially in the face of growing 'anti-zoo' sentiment. Chris will talk about how this challenge is leading to many new and exciting methods for delivering educational outcomes in environmental science and conservation.

Friday's keynote presentation will be from **Dr Hannah Brown, the Chief Science Storyteller for SAHMRI**, who is an Adelaide born and educated, internationally trained, researcher-turned-leader and communicator who leads Science Strategy and Operations at the Victorian Heart Institute.

Having trained and worked as an academic, she now sits at the interface between science and the public, helping to turn ideas into impact through storytelling. Hannah's talk will focus on how in a world where it is increasingly difficult to identify 'fake news', communicating and telling stories with impact is key and how using the science of communication and marketing to share science messages and tell science stories can make people want to save the planet.

Cutting Edge speakers

Cutting Edge speakers include:

- **Dr Danny Wilson** who is researching Malaria biology and parasitology at the University of Adelaide
- **Dr Marnie Winter** who is researching biomedical engineering at the University of South Australia
- **Dr Sean Geoghegan**, the State Director of Radiation Oncology Medical Physics in SA

They will be joined by other Cutting Edge speakers.

Concurrent workshops

The call for workshop presentations closes on Sunday 9 February. The complete program of concurrent sessions will be made available on the conference website once compiled.

Trade display

And there will be the usual trade display so that you can check out the latest books, resources and other materials for your classroom or school.

So, come along in April to network with others and see what you can learn in order to teach and inspire your students! Registration will open soon!

Program

| Thursday 23 April | |
|-------------------|------------------------------------|
| 9.00 am | Welcome & SASTA Medal Presentation |
| 9.30 am | Keynote by Prof. Chris Daniels |
| 10.35 am | Morning Tea & Exhibition |
| 11.10 am | Workshop Session 1 |
| 12.15 pm | Workshop Session 2 |
| 1.15 pm | Lunch & Exhibition |
| 2.05 pm | Panel Discussion |
| 3.25 pm | Workshop Session 3 |
| 4.30 pm | SASTA Celebration & Happy Hour |

| Friday 24 April | |
|-----------------|-------------------------------|
| 8.45 am | Welcome & Awards Presentation |
| 9.10 am | Keynote by Dr Hannah Brown |
| 10.10 am | SASTA AGM |
| 10.40 am | Morning Tea & Exhibition |
| 11.15 am | Cutting Edge Session A |
| 12.20 pm | Cutting Edge Session B |
| 1.20 pm | Lunch & Exhibition |
| 2.10 pm | Workshop Session 4 |
| 3.15 pm | Workshop Session 5 |
| 4.15 pm | Happy Hour |

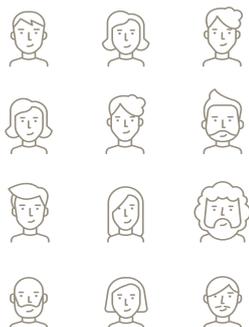


See the website for up-to-date program and registration information:
<http://tiny.cc/sastaconf2020>

Why should you support the credit union that supports SA's educators?



We help more than **10,000** educators with their banking



Dedicated mobile team supporting the banking needs of the education community



Teachers of SA Facebook community



Awarding SA's quality teachers through our 18 annual awards



Primary sponsor of CEASA World Teachers' Day Awards



Proud supporter of SASTA since 2001

Sponsoring over **180** education professional development events

Over **660** school staff rooms visited each year

Established by South Australian teachers over 60 years ago



\$221,000 in fundraising support for South Australian schools

Award winning credit card exclusive to the education community*



Financial education seminars tailored to the needs of the education community



*Lending criteria, fees, terms and conditions apply. Education Community Banking Benefits are available to any employee of the education community and students carrying out studies in education. Credit Union SA Ltd ABN 36 087 651 232, AFSL/Australian Credit Licence 241066. Credit Union SA Centre, 400 King William Street, Adelaide SA 5000. 190531

Find out more about how Credit Union SA supports South Australian educators:
creditunionsa.com.au/supporting-education

2020 SASTA Awards

Have you considered nominating yourself or a colleague for a SASTA Award or Scholarship?

There are many great teachers out there that SASTA would like to acknowledge, but often they do not get nominated for Awards because teaching is a very busy job and people do not get the time to fill in nomination forms. Start thinking now! Alert your Principal. There are a number of Awards for SASTA members.

SASTA Medal

SASTA offers its members an award for excellent contribution to science education or teaching or both. The SASTA Medal is awarded to an individual who has made a significant contribution to SASTA and has been active in science education.

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

The Outstanding Contribution to the Teaching of Science Awards recognise teachers' contributions to the education of students in science.

Helen Castle Memorial Scholarship

This scholarship is in memory of Helen Castle, a dedicated and enthusiastic science teacher who tragically died during the Eyre Peninsula bush fires in 2005. The scholarship is designed to assist country science teachers attend the SASTA Annual Conference and gain professional development to assist themselves and other country teachers to maintain a high standard of science teaching in country areas. Two (2) scholarships of \$500 will be awarded to enable country-based science teachers to attend the SASTA Annual Conference, 23–24 April 2020.

Awards are presented at the Annual Conference (23–24 April; see p. 4).

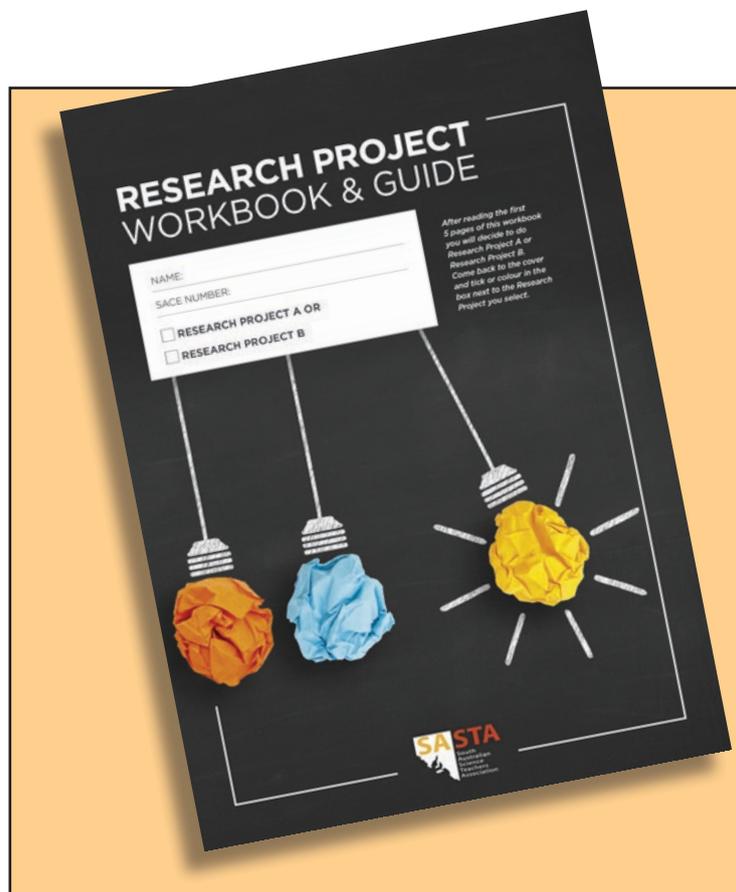
Nominations close Friday 20 March 2020.
Nomination forms are available at
www.sasta.asn.au.

Notice of Annual General Meeting

Notice is given that the 2020 Annual General Meeting of members of the South Australian Science Teachers Association Incorporated will be held at Pulteney Grammar School, South Terrace, Adelaide, on Friday 24 April, commencing at 10.10 am for the purpose of transacting the items of business listed below.

Agenda

1. Welcome and Apologies
2. Minutes of the 2019 AGM
 - (a) Acceptance
 - (b) Business Arising
3. President's Report
4. Treasurer's Report
5. Election of Board Members
6. General Business
 - (a) Membership Fees
 - (b) Appointment of Auditor
7. Any Other Business



Call for SASTA Board nominations 2020

South Australian Science Teachers Association
ABN 22 938 317 192

Closing date: 5.00 pm 27 March 2020

Call for nominations

All members of SASTA are hereby notified of a call for nominations for two (2) positions on the Board.

Composition of the Board and terms of office

The board consists of up to nine (9) elected members who shall hold office for a term of three (3) years. Continuous elected membership shall not exceed nine (9) years.

Responsibilities of Board Members

The Board governs SASTA and has overall responsibility for determining the strategic plan and priorities, monitoring implementation and developing a resource base to support the organisation's activities. It is also responsible for the financial viability of SASTA and ensuring compliance with statutory requirements applicable to an association. All Board members are required to act in what the Board considers are the best interests of the organisation, being the interests of the membership as a whole.

Nominees should be aware that there are at least six Board meetings each year for the purposes of corporate governance of the organisation. There is an emphasis on policy and, specifically, corporate governance. The Board is not involved in the day to day running of the association's business.

Position description and nomination form

A Board Member position description and nomination form is available on the SASTA website in the 'Members Area'.

NOTE: Only Personal Members are entitled to vote and hold office in the Association. Each Corporate Member shall be entitled to one vote by a nominated delegate acceptable to the Board in elections of the Association but no such delegate shall be entitled to hold office through Corporate Membership nor may Corporate Members nominate others for office.

Further information

Members interested in nominating for the Board are welcome to contact Kate Dilger, Executive Officer, on 8354 0006 or email kate@sasta.asn.au if they require further information.

RESEARCH PROJECT WORKBOOK & GUIDE FOR SACE STAGE 2

\$39.00

ISBN 9780975684535

This step-by-step workbook guides students through the three parts of the Research Project:

- the Folio
- the Research Outcome
- the Evaluation/Review.

Students are guided through activities and supported with information to enable them to:

- generate an idea
- develop a research question
- plan, conduct and analyse research, and then
- structure a research outcome and an evaluation or review with a focus on achievement of the performance standards (at a high level).

Along with activities and information, the workbook also includes sections that enable students to organise and store hard copy project material.

Professional Learning for Term 1

Teachers New to Teaching Stage 2 Science

Education Development Centre, Hindmarsh
9.00 am – 3.00 pm

Some of the key topics covered in these workshops include: an overview of the course, planning and assessment, sample tasks and discussion and moderation.

Participants will be given the opportunity to share and discuss ideas, tasks and other resources for teaching the new course.

Biology

Friday 14 February

Presented by Brian LeCornu & Tony Diercks

Physics

Friday 14 February

Presented by Michael Smith (Concordia College)

Chemistry

Friday 21 February

Presented by Glen Arthur
(Education Innovation Project Officer, SACE)

Nutrition

Friday 21 February

Presented by Lisa Cibich (Gleeson College)
& Angela Leopold (Kangaroo Inn Area School)

Psychology

Monday 2 March

Presented by Carolyn Pinchbeck (Xavier College)
& Irena Atherton (Pulteney Grammar School)

Scientific Studies

Monday 2 March

Presented by Lois Ey (Senior SACE Officer,
Curriculum and Assessment)

Designing Lab Lessons with a STEM Focus (secondary)

Friday 28 February

Underdale High School, 9.00 am – 3.00 pm

Presented by Kate Dilger

This workshop examines how we can make the laboratory experience more meaningful for students and reflect the emerging emphasis on STEM. Through hands-on engagement, teachers will be guided through how to design practical investigations that ask students to apply their content knowledge and skills to create solutions to a real world application of science. Copies of the practical activities explored will be supplied to all participants. The workshop is aimed at resourcing teachers of Years 7–10 science.

Let's Really Do Science Inquiry (primary)

Friday 6 March

Education Development Centre, 9.00 am – 3.00 pm

Presented by Kate Dilger

The Australian Curriculum: Science emphasises inquiry-based teaching and learning. Scientific inquiry promotes critical and creative thinking by encouraging flexibility and open-mindedness as students speculate about their observations of the world. In an inquiry classroom, students are able to challenge themselves to identify questions and draw evidence-based conclusions using scientific methods.

In this workshop teachers will investigate the process and practicalities of inquiry learning in the Science classroom. They will engage in hands-on activities that will inform their understanding of the types of inquiry and how to implement them in their teaching program.

The workshop is aimed at resourcing teachers of Years R–6 science.

Registration fees

| | |
|------------------------------|-------|
| Personal Member | \$145 |
| SASTA Student Member | \$50 |
| Corporate Member (SA School) | \$185 |
| Non Member | \$225 |

Morning tea and lunch provided.

For more information and to register, go to sasta.asn.au/professional_learning

Psychology Teachers Meet-up – Free networking event

Monday 2 March, 3.00–6.00 pm

The Governor Hindmarsh Hotel, Saloon Bar
59 Port Road, Hindmarsh

SASTA invites all Psychology teachers to a free networking event. All teachers are welcome, particularly those who are in the early stages of teaching the subject. Meet other educators to exchange information and resources in a relaxed environment – and develop ideas for future professional learning that SASTA could provide. This would be a great way to finish your day if you are attending the Teachers New to SACE Stage 1 & 2 Psychology workshop.

As a free event, there is no need to book – just come along!

Professional learning calendar

Don't miss out on any SASTA professional learning events!

You can download the 2020 Professional Learning Calendar as a PDF or subscribe to SASTA's Google Calendar and have all the information at hand in your calendar app.

Go to www.sasta.asn.au/professional_learning

Biology: Levels of Life

Brian LeCornu and Tony Diercks

Updated to match
minor changes in
the subject outline
for 2020

Biology: Levels of Life – Australian Curriculum Edition Textbook (2020), \$62.40

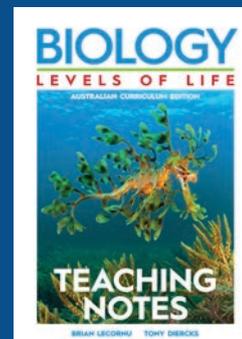
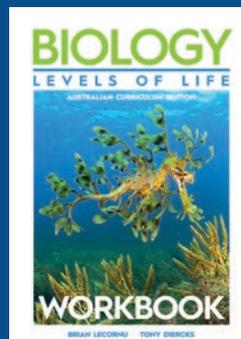
This textbook provides detailed coverage of all the content (Science Understanding) of the SACE Stage 2 Biology subject. The new content is relevant, up-to-date and addresses Science as a Human Endeavour, with many examples throughout. It is attractively presented in full colour with numerous links to videos, animations, and useful resources. 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.

Biology: Levels of Life – Australian Curriculum Edition Workbook, \$23.95

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. The book is designed so that when open on the desk the pages lay flat and the notes can easily be seen at a glance. There are teaching tips throughout as well as additional information. Answers to questions in the Workbook will assist teachers in explaining concepts to students.





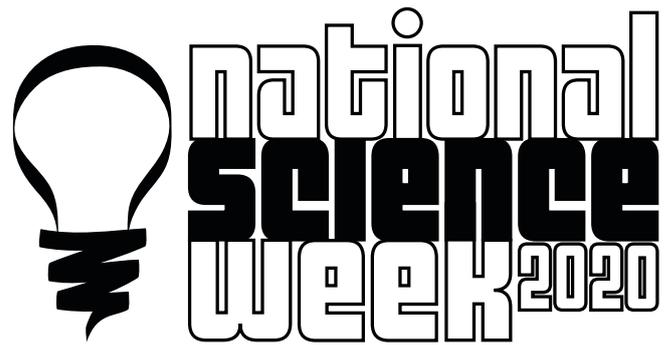
Time once again for School Coordinators to register and download the information booklet from the SASTA Oliphant Science Awards website: www.oliphantscienceawards.com.au.

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).

Please note that each school (or school campus) can only have ONE registered Coordinator.

Key dates

- **Thursday 4 June:** Student registrations close
- **Friday 5 June:** Judges registrations close
- **Thursday 2 July – Wednesday 22 July:** Multimedia, Science Writing, Scientific Inquiry entries and Reports for Computer Programming, Apps and Robotics to be submitted online
- **Saturday 8 August:** Computer Programming, Apps & Robotics Judging Day
- **Thursday 20 August:** Crystal Investigation, Models & Inventions, Photography, Games & Poster entries to be delivered to Festival Functions, Findon
- **Saturday 22 August:** Final Judging Day
- **Sunday 23 August:** Open Day at Festival Functions, Findon
- **Monday 24 August:** All entries to be collected
- **Friday 18 September:** Presentation Ceremony



This year, National Science Week is 15–23 August with the theme *Deep Blue: Innovations for the future of our oceans*.

This is an important theme for teachers and their students to focus on the oceans. They are always out there, creating climates, absorbing carbon dioxide, lapping away at the shoreline, and it is impossible to ignore, as the Earth's oceans cover more than two-thirds of the Earth's total surface area. The ocean theme also enables teachers and students to discover and investigate Australia's world-renowned contributions to marine science, marine based industries, marine technologies, and marine innovations.

School grants from ASTA

Each year, ASTA receives federal funding for grants to schools of \$100 to \$500, to stage school events to promote and encourage science. The grant money available for SA schools will be about \$15 000.

Grant applications will open Monday 24 February and close on Friday 27 March. Successful applicants will be announced on Friday 1 May.

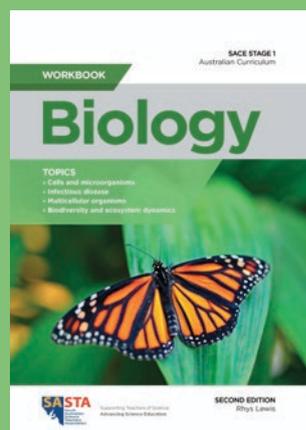
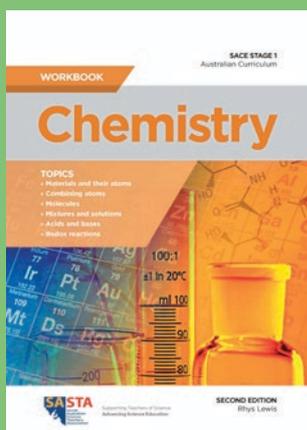
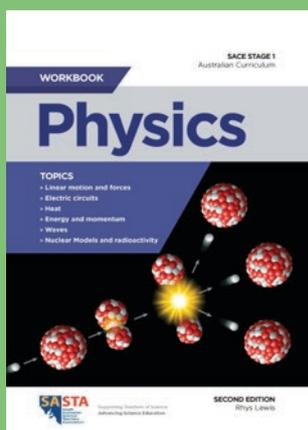
Poster

The 2020 National Science Week poster will reflect the school theme and be available as an ePoster that can be downloaded and printed by schools.

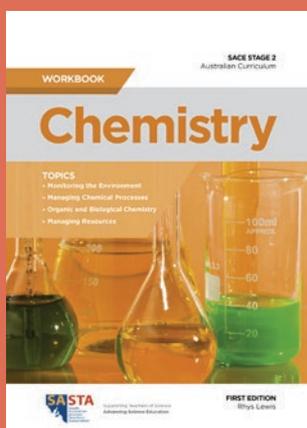
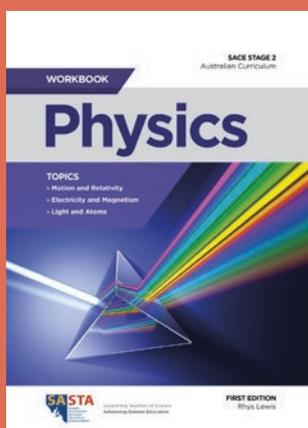
The poster and resource book will be available at the end of February 2020 on the ASTA website: asta.edu.au/programs/natscienceweek.

Student workbooks

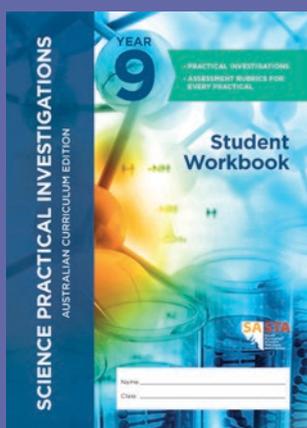
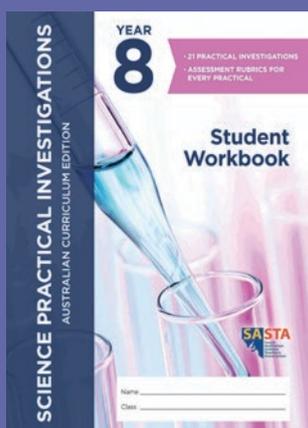
SACE Stage 1



SACE Stage 2



Year 8 & 9



See the website for information about all titles and to order

sasta.asn.au

ALL NEW Stage 2 Biology Workbook 2nd Edition

This workbook follows the revised SACE subject outline for Stage 2 Biology with statements from the Science Understanding section beginning each chapter.

The Second Edition includes revised chapters, extended explanations, new diagrams, and best of all, hundreds of new questions! The review tests have been revised to include questions that address criteria relevant to the strands of science inquiry skills and science as a human endeavour.

See the website for more information.

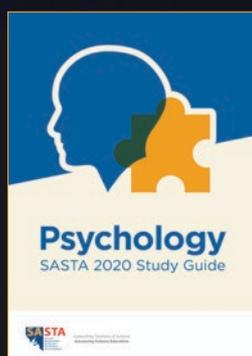
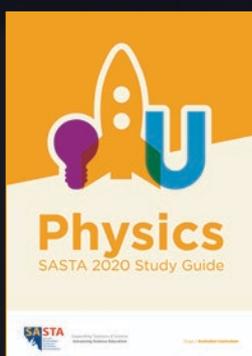
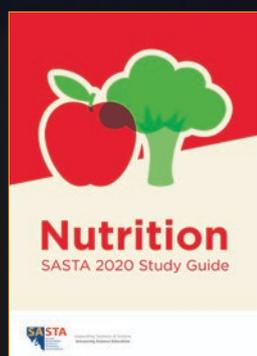
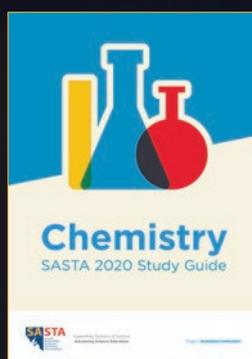
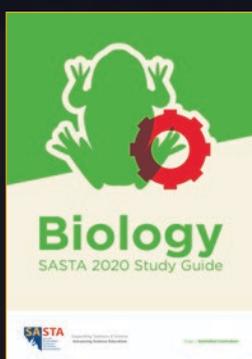
Discounted First Edition still available!

2020 STUDY GUIDES

Pre-order your copies now to ensure you don't miss out!

SASTA Study Guides are the complete resource for students preparing for Stage 2 SACE exams. These guides include questions with worked solutions covering each topic of the Subject Outline and address all sections of the exam.

\$29 each
+ delivery
or collect
orders from the
SASTA office



www.sasta.asn.au/resources/study_guides_stage_2



All new for 2020:

- Suggested solutions to the 2019 exams.

Biology

- All sections reviewed and any parts to questions beyond the scope of the course have been removed or modified.
- New questions have been added to all sections.
- Marks for communication on short answer questions have been removed to align with SACE marking standards.

Chemistry

- All sections reviewed and any parts to questions beyond the scope of the course have been removed or modified.
- Codes to indicate all SIS and SHE parts to questions.
- Any parts of questions that are from Stage 1 have been identified (Stage 1 Science Understanding).
- Marks for communication on extended response questions have been removed to align to new direction.
- A whole new SHE section with 5 full questions and extensive potential responses.

Nutrition

- All sections reviewed and any parts to questions beyond the scope of the course have been removed or modified.
- Chapters have been adjusted to be more user friendly.
- Preparation for Investigations and Exams has been reviewed and updated to reflect the advice from SACE Lead Practitioners.

Physics

- Complete restructuring of the guide for easier use.
- New questions in most sections.
- Solutions to questions updated to align with course requirements and expectations.
- Updated formatting of questions and solutions.
- All sections reviewed to align with the 2020 Subject Outline.

Psychology

- All sections reviewed.
- New questions added to the Revision section.