



## Conferences/Events

- STEM in the Middle Years – practical investigations that develop STEM skills and disposition – Wednesday 24 May
- Investigations in Primary Science – STEM Focus – Friday 2 June
- Designing STEM Tasks – Middle Years – Friday 16 June
- Designing STEM Tasks – Primary Years - Friday 23 June
- Early Career Teachers Conference – Friday 13 October
- STEM Middle School Conference – Friday 1 December

Term 2 Professional learning workshops and conferences are now published. Please see page 6 for details.

## Oliphant Science Awards

- Project Registrations close 22 June
- Judges Registrations close 23 June

For further information see page 9 or visit [www.oliphantscienceawards.com.au](http://www.oliphantscienceawards.com.au)



## Resources

SASTA Study Guides are now on sale. School orders can either be faxed to the SASTA office on 8354 0008 or email [office@sasta.asn.au](mailto:office@sasta.asn.au) quoting a school purchase order number.



SASTA is on Facebook go to [www.sasta.asn.au](http://www.sasta.asn.au)



SASTA is on Twitter go to [www.sasta.asn.au](http://www.sasta.asn.au)

## Latest Events

For the latest events and Conference information go to SASTA's website: [www.sasta.asn.au](http://www.sasta.asn.au)

For information about science competitions go to: [www.oliphantscienceawards.com.au](http://www.oliphantscienceawards.com.au)

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## 2017 SASTA Committee

### Patron of the South Australian Science Teachers Association

**Dr Leanna Read FTSE, FAICD, Chief Scientist for SA**

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Mark Divito (Vice President)  
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Bruce Baker  
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##### PD & Conferences

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##### Oliphant Science Awards

John Glistak

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## Newsletter copy deadlines 2017

(Advertising deadlines one week earlier)

Edition	Deadline
February	11 January
May	11 April
August	11 July
November	10 October

## Advertising

Advertising rates & booking form online at [www.sasta.asn.au](http://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 alternative spellings 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.

## From the President



Congratulations to our wonderful past president, Karen Palumbo, on the birth of her daughter Zoe Linda Janet Page, born 10<sup>th</sup> April, weighing an impressive 3.61kg, with blonde hair and blue eyes like her brother Luca. Both mother and baby are thankfully doing well.

Subsequently a new SASTA President has been elected, and I am enjoying adjusting into the role!

I am currently the Coordinator for STEM and Girls at the Australian Science and Mathematics School on the Flinders University campus, hold a Bachelor of Science in Mathematical Sciences from Adelaide University, and greatly enjoy working in the innovative Interdisciplinary curriculum being developed here as it gives me the opportunity to teach physics, chemistry, biology, mathematics and English in our newly developed Central Studies topics.

I hope you had an opportunity to enjoy attending the highly successful 2017 Annual SASTA Conference during the school holidays, on 27<sup>th</sup> and 28<sup>th</sup> April, at Brighton Secondary School. The opportunity for expanding our levels of understanding about diverse areas of scientific discovery and research in South Australian academic and corporate entities is both refreshing and energising. The opportunities for networking with members of the science teaching fraternity are extensive, especially during the excellent catered morning tea and lunches, or at the engaging Happy Hours or the Conference Dinner held at The Junction, Morphettville.

I would also like to congratulate the 2017 SASTA Medal winner, Ms Katrina Elliott on her lifetime of work in and excellent support for the scientific educational community, whether in science teaching or in supporting science teachers. Katrina is currently the Strategic Design Project Officer for Mathematics and Science at DECD, and has significantly contributed to SASTA for many years.

Congratulations are also due to the highly engaging and capable teachers of science Ms Teresa Erceg from Glossop High School; as well as Ms Rachel Pillar from Kangaroo Island Community Education, Kingscote campus, for both being awarded the Helen Castle Memorial Scholarship, which enables country-based science teachers to attend the SASTA Annual Conference.

Additional congratulations are also due to the Credit Union SA Outstanding Secondary Teacher Award winner Mr Anthony Armstrong of Glossop High School. The Outstanding Teacher Awards recognises teachers' extensive and high quality contributions to the education of students in science, in this instance for many decades of academic and engaging scientific discovery for student learning.

The newly released Year 8 Student Practical Workbook developed in conjunction with Thomas More College proved to be a very popular item with conference attendants.

Please take the opportunity to explore the ASTA website and visit the CONASTA 66 link to the national science teachers' conference held in Hobart from the 9<sup>th</sup> -12<sup>th</sup> July. "The Art of Science" is this year's Conasta theme. The spectacular opening event activity will ferry conference delegates to the world famous Museum of Old and New Art (MONA) from the Wrest Point Casino, where the official Welcome Function includes drinks and nibbles surrounded by stunning artwork including the monumental Rainbow Serpent. The rest of the conference promises to be just as memorable!

The Early Career Teachers' Conference is also coming up on Friday 13<sup>th</sup> October, as well as the consistently successful annual STEM Middle School MASA/SASTA conference on December 1<sup>st</sup>, so please put these dates into your diary and register online.

The very popular Oliphant Science Awards competition will again be in full swing, with the Awards Ceremony on 22<sup>nd</sup> September, so students' preparations are currently underway. I would like to congratulate the 2016 Oliphant Trophy Winner Alexandra Stephenson from the Adelaide Hills Homeschool Group for her Scientific Inquiry "Vibration Damping on the Cello for Cello Mutes".

Thank you to the very hardworking SASTA volunteers and office staff, without whose dedication and enthusiasm SASTA's ongoing successful operations would not be possible.

**Vanessa Fay**

## UniSA Awards Presentation

On Wednesday 29 March, Vice President Mark Divito presented Outstanding Pre-Service Science Educator Awards to UniSA graduates Alana Cooper (Left), and Philomena Scrafton (Right). Georgie Toth also received an award but was not present.



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<sup>^</sup>Interest rates are current as at 11 April 2017 and are subject to change. Lending criteria, fees, terms and conditions apply and are available upon request.



## Annual Conference Round Up

SASTA's Annual Conference & Expo was held on Thursday 27 & Friday 28 April at Brighton Secondary School. The program included keynote, cutting edge and workshop presentations and the participation of sponsors and exhibitors who displayed their latest resources.

### Helen Castle Memorial Scholarship

SASTA's Patron Dr Leanna Read presented the Helen Castle Memorial Scholarships to Teresa Erceg (Glossop High School) and Rachel Pillar (Kangaroo Island Community Education) at the opening ceremony of the Annual Conference.



*Teresa Erceg, Dr Leanna Read and Rachel Pillar*

### SASTA Medal

SASTA Patron, Dr Leanna Read presented Katrina Elliott with the SASTA Medal at the opening ceremony of the Annual Conference. Katrina was also congratulated by the Conference Convenor Dr Jane Wright.



*Katrina Elliott and Dr Leanna Read*

### Outstanding Teacher Awards

Peter Dinan from Credit Union SA, presented the SASTA/Credit Union SA Outstanding Teacher Award (Upper Secondary) to Anthony Armstrong (Glossop High School) at the Annual Conference Dinner which was held at The Junction.



*Katrina Elliott and Dr Jane Wright*

### SASTA Annual General Meeting Results

SASTA's Annual General Meeting was held on Thursday 28 April 2017 at Brighton Secondary School in conjunction with the Annual Conference & Expo. At the AGM it was announced that Yvonne Zeegers had been elected to the board for a three-year term of office and that there are currently four vacant positions.

SASTA Vice-President, Mark Divito, expressed SASTA's appreciation of the contribution made by former President, Karen Palumbo, and Peter Turnbull who had both recently resigned from the board.



*Peter Dinan and Anthony Armstrong*



*Yvonne Zeegers*

## Term 2 2017 Teacher Professional Learning Science

The workshops provided through SASTA will **provide practical strategies and resources to support teachers** in the development of teaching and learning programs that embed science Inquiry Skills and provide clear opportunities for reflection and recording of student achievement.

### For Secondary/Middle school teachers:

#### STEM in the middle years – practical investigations that develop STEM skills and dispositions (repeat)

**Date: Wednesday 24th May, 9.00am-3.00pm**

**Venue: Education Development Centre, Hindmarsh**

This workshop explores curriculum resources that integrate Science, Technology, Engineering and Mathematics (STEM) and are designed to support teachers in implementing learning experiences that are linked to the Australian Curriculum – Science.

Participants will engage in hands-on inquiry based activities that will inform their understanding of investigation types and how to employ them in their teaching program.

The workshop will provide teachers with links to explicit curriculum materials, investigations and contemporary pedagogical strategies that will enable them to successfully plan and deliver integrated science investigations with a STEM focus.

**Who should attend: Secondary/Middle school teachers.**

#### Designing STEM tasks–Middle Years

**Date: Friday 16th June, 9.00am-3.00pm**

**Venue: Education Development Centre, Hindmarsh**

This workshop is designed to help teachers acquire the skills and confidence to design, develop and implement their own STEM-based teaching resources.

Building on a common understanding of STEM teaching, teachers will explore methods of transforming inquiry based science investigations into tasks that reflect real world challenges and incorporate the technological/engineering design process.

Using provided exemplars and strategies, teachers will collaborate to develop STEM focussed tasks to use in their own classrooms.

**Who should attend: Secondary/Middle school teachers**

### For Primary Years Teachers:

#### Investigations in Primary Science – STEM focus (repeat of session held in Term 1)

**Date: Friday 2nd June, 9.00am-3.00pm**

**Venue: Education Development Centre, Hindmarsh**

Children need opportunities to develop practical and inquiry skills in order to engage with the world in a scientific way and to make sense of what they are learning.

This workshop will look at science investigations in action with a focus on integrating STEM skills and dispositions. Teachers will be led through the elements of a scientific investigation, develop an understanding of how to use an investigation planner and have access to a range of ready to use resources.

The workshop will provide teachers with explicit curriculum materials, investigations and contemporary pedagogical strategies to enable them to successfully incorporate the Science Inquiry Skills into their lessons.

**Who should attend: Primary school teachers**

#### Designing STEM tasks–Primary Years

**Date: Friday 23rd June, 9.00am-3.00pm**

**Venue: Education Development Centre, Hindmarsh**

This workshop is designed to help teachers acquire the skills and confidence to design, develop and implement their own STEM-based teaching resources.

Building on a common understanding of STEM teaching, teachers will explore methods of transforming inquiry based science investigations into tasks that reflect real world challenges and incorporate the technological/engineering design process.

Using provided exemplars and strategies, teachers will collaborate to develop STEM focussed tasks to use in their own classrooms.

**Who should attend: Primary school teachers**

### Time

**All Workshops run from 9.00am–3.00pm**

### Registration Fees

- **Personal Members \$135**
- **Corporate Members \$175**
- **Non-members \$215**

Program details and registration available online at – [http://www.sasta.asn.au/professional\\_learning](http://www.sasta.asn.au/professional_learning)

**Morning tea and lunch will be provided**

## Laboratory Induction Workshop

**Cabra Dominican College**  
**Monday 13 February 2017**

An introductory workshop aimed at new / early career / pre-service science teachers and laboratory technicians was presented by SASTA in conjunction with and hosted by Science Staff from Cabra Dominican College. 17 teachers and Lab technicians from all sectors attended the day, some coming from as far away as Burra or Swan Reach.

The sessions were well structured to take participants from the very initial stages of planning to more advanced practical management. Sessions included safety matters, lab lesson organisation, identification and use of basic equipment, safety procedures and risk assessments. The day was rounded off with an introduction to useful resources and there was plenty of opportunity for participant engagement and contribution.

The workshop was very well received by all who attended, a comment from Emily Johns who is in her third week of teaching at Gladstone High School; *'I feel inspired to change the way I run my lab and try new ideas. Great for a new teacher!'*

Thank you to Lara Lang (Science Coordinator), Lucy Barker (Lab Manager) and Kate Dilger (SASTA Education Officer) for presenting a very practical, informative and well organised workshop that I would highly recommend for all new science teachers and laboratory technicians.

**Bruce Baker**  
**Board Member**



Lara Lang (Science Coordinator)

# International Aeronautical Congress

## Scholarships for all STEM Teachers to attend the International Aeronautical Congress 25-29 September

SASTA is pleased to announce that 25 scholarships are available for public and private school teachers of science to gain professional development from attending the largest science congress ever held in Adelaide.

The International Aeronautical Congress (IAC2017) is to be held at the Convention Centre in Adelaide 25-29 Sept. IAC2017 will be a congress in which there will be 24 space science paper sessions running in parallel over five days. It is expected to attract over 3000 international delegates including a significant number of space astronauts.

More details are at <http://www.iac2017.org/>

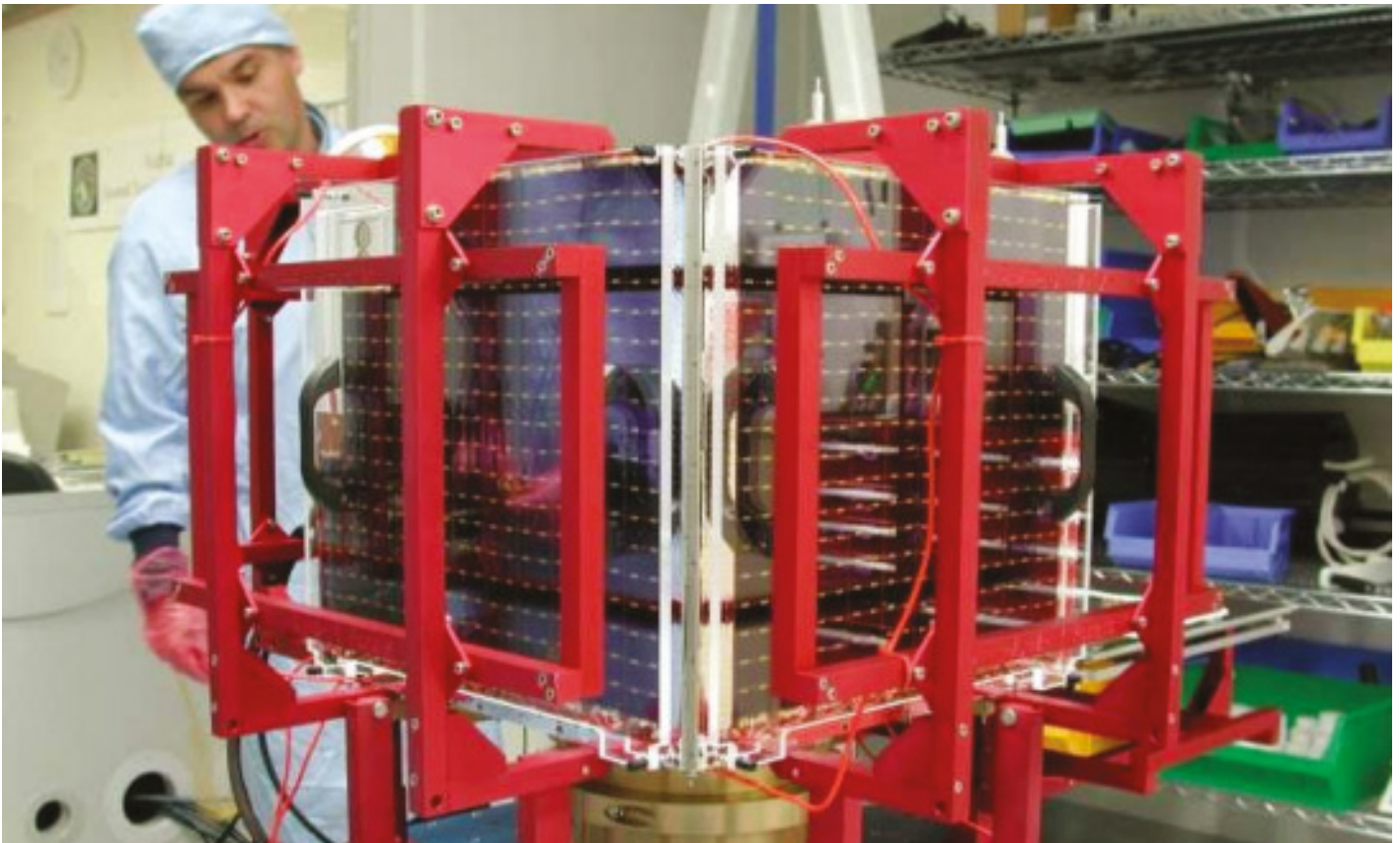
Each recipient of an IAC2017 Teachers Scholarship will receive free Congress registration and be expected to attend one day of the Congress. Attendance at appropriate lecture sessions should provide teachers with a knowledge and understanding of aerospace science which could be used to illustrate

applications of science in their school classes. It is planned that each teacher will be paired with a suitable mentor who will guide their selection of lecture sessions and meet with them at the Congress.

The sponsors of these Scholarships are the Australian Academy of Technology and Engineering (ATSE) and the Sir Ross and Sir Keith Smith Fund. The IAC2017 organisers have agreed on specially discounted Congress registration fees for teachers. The Secondary Learners Directorate of DECD have agreed to provide funding for TRT days to complement the scholarships awarded to public school teachers.

SASTA will be responsible for receiving applications and selection of teachers to be awarded the IAC2017 Teachers Scholarships. Details of how to apply, along with the selection criteria, will be posted on the SASTA website and advertised via the state wide communication system LINKED in early May.

**Applications close on Tuesday 27 June**



*FedSat – a scientific Australia-made satellite built to celebrate the Centenary of Federation in 2001*



THE SIR ROSS & SIR KEITH SMITH FUND





## Oliphant Science Awards

*South Australia's largest student science competition*

### Great opportunities for learning through science

#### 2017 OLIPHANT KEY DATES

**Thursday 22 June** – School Coordinator Registration and Project Registrations due.

**Friday 23 June** – Judges Registrations due.

**Monday 24 to Friday 28 July** – Delivery of Science Writing, Scientific Inquiry, Games and Multimedia entries to SASTA.

**Saturday 12 August** – Computer Programming and Robotics judging interviews

**Friday 25 August** – Crystal Investigations, Models & Inventions, Photography and Poster entries delivered between 9am – 5pm to Festival Functions.

**Saturday 26 August** – Crystal Investigations, Models & Inventions, Photography and Poster Judging Day.

**Sunday 27 August** – Open Day 12:00 noon – 4:00pm.

**Monday 28 August** – ALL Entries to be collected from Festival Functions between 9.00am - 5.00pm

**Friday 22 September** – Presentation Ceremony (Invitation Only event).

**All details are subject to change, please keep checking The Oliphant Science Awards Website ([www.oliphantscienceawards.com.au](http://www.oliphantscienceawards.com.au))**

#### SCIENCE COORDINATORS & TEACHERS

If you are interested in incorporating The Oliphant Science Awards into your classroom or school, SASTA now has a free Teachers Resource Kit available to download!

This kit has been designed to help assist teachers to integrate the competition into their classroom learning to assist students learning and engagement in science.

Download a copy, find out more about the competition or register as a coordinator via our website:

[http://www.oliphantscienceawards.com.au/participant\\_information/coordinator\\_information](http://www.oliphantscienceawards.com.au/participant_information/coordinator_information)





## Oliphant Science Awards

### 2017 Open Day

**Sunday 27 August, 12noon – 4pm at Festival Functions**  
**Entry: Gold Coin Donation**

Come along to our 2017 Oliphant Science Awards Open Day to experience the fun side of science!

Hosted by Andrew 'Cosi' Costello (from Channel 9's South Aussie with Cosi), there will be several Science Spectacular Shows, including presentations by; Mobile Science Education, SciWorld, The Young Scientists of SA, Engineers Without Borders, The RoboRoos Student Robotics Club, ZoosSA and The Nature Education Centre.

Try getting hands-on with our Come & Try stations organised by groups such as The RoboRoos, Southern Bricks Lego Users

Group, The University of Adelaide Bright Sparks Club and SASTA.

Or take time to have a browse through our large collection of 2017 winning science projects and Model & Invention projects from schools all around SA!

Food and beverages will be available to purchase on the day to help support some of our local community groups including a BBQ from The Rotary Club of Regency Park and coffee from Beans Talk Coffee Cart (a Hutt Street Centre initiative).

Make a day of it and bring your class, colleagues, friends and family too!



Are you on Facebook... start following the NEW Oliphant Science Awards Page  
<https://www.facebook.com/Oliphant-Science-Awards-747432958742385/>

# Teacher Professional Development Day



Learn teaching strategies for the nuclear science components of the **new Australian Curriculum** for **Year 9 Science** and **Senior Physics**.

## SOUTH AUSTRALIA

Professional Development Day





JUNE

9

Friday

9.00am - 3.00pm

The Science Exchange  
55 Exchange Pl,  
Adelaide, SA 5000

-  Hear from prominent Australian scientists
-  Learn about Australia's capabilities in nuclear science
-  Participate in workshops
-  Receive new educational resources


This day is suitable for teachers at all levels of experience wanting to know more about the wide applications of nuclear science, the properties of radiation and the management of nuclear waste.

### REGISTRATION

[www.ansto.gov.au/education](http://www.ansto.gov.au/education)

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**Save over \$100**  
by registering  
before 31 May

**REGISTRATION NOW OPEN**

**HOBART 9-12 JULY 2017**

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**HEAR FROM** a world-class array of keynote presenters

**ATTEND** a rich selection of workshops, cutting-edge science presentations and pre and post-conference tours

**NETWORK** with other like-minded educators at a variety of social events

**CONASTA.EDU.AU**

## SACE Stage 1 Workbooks

Adapted for the Australian Curriculum now available for Biology, Chemistry and Physics for 2017

SASTA's workbooks are a **brand new resource** written for the launch of the new SACE Stage 1 curriculum. They contain **all new original questions for students**. The SASTA resource covers all topics outlined in the new SACE curriculum in an easy to read format **and** will be printed in colour and **rich with illustrations** and diagrams to **enhance learning**.

- Fully illustrated;
- Over 100 original questions in each book;
- Over 250 problems with worked solutions;
- Questions range from simple to challenging;
- All questions are mapped to the new performance standards for Stage 1 & 2; and
- Topic test for each chapter.

Order online at [www.sasta.asn.au](http://www.sasta.asn.au)

For schools preferring to use a purchase order, simply fax your purchase order (including postage of \$11 flat fee plus \$1 per book ordered) to 08 8354 0008 or email it directly to Rebecca at the following address: [office@sasta.asn.au](mailto:office@sasta.asn.au)



# Science Resources Catalogue

## Biology Levels of Life

Brian LeCornu and Tony Diercks

**Biology Levels of Life – Teacher Resource Pack**  
**BILOL.TRP \$110.00**

Includes lesson notes and complete Workbook answers.

**Biology Levels of Life – Text Book**  
**BILOL.S2.TB \$62.00**

A comprehensive resource now in full colour. Covers all Key Ideas and Student Outcomes. Up to date and relevant information with study questions for each chapter.

**Biology Levels of Life – Workbook**  
**BILOL.S2.WB \$24.00**

Complements the Levels of Life Textbook. Key words and phrases tested. With a range of questions types to maintain student interest.

**Biology Levels of Life - Multiple Choice Revision**  
**BIL.OL.S2.MCRG \$30.00**

Hundreds of multiple choice questions from SACE past exams. Questions have been assigned a degree of difficulty and an appropriate assessment design criteria. Each possible answer is fully explained. An ideal revision tool.

**Biology 'Starter Pack'. Purchase all four resources for \$205 .00**



## Watch This & Watch This Too!

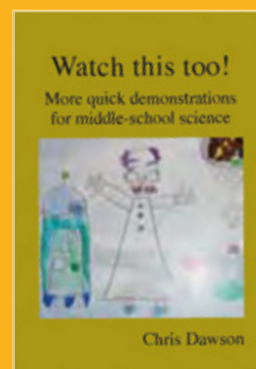
Chris Dawson

**Watch This! OTH10.1 \$ 30.00**

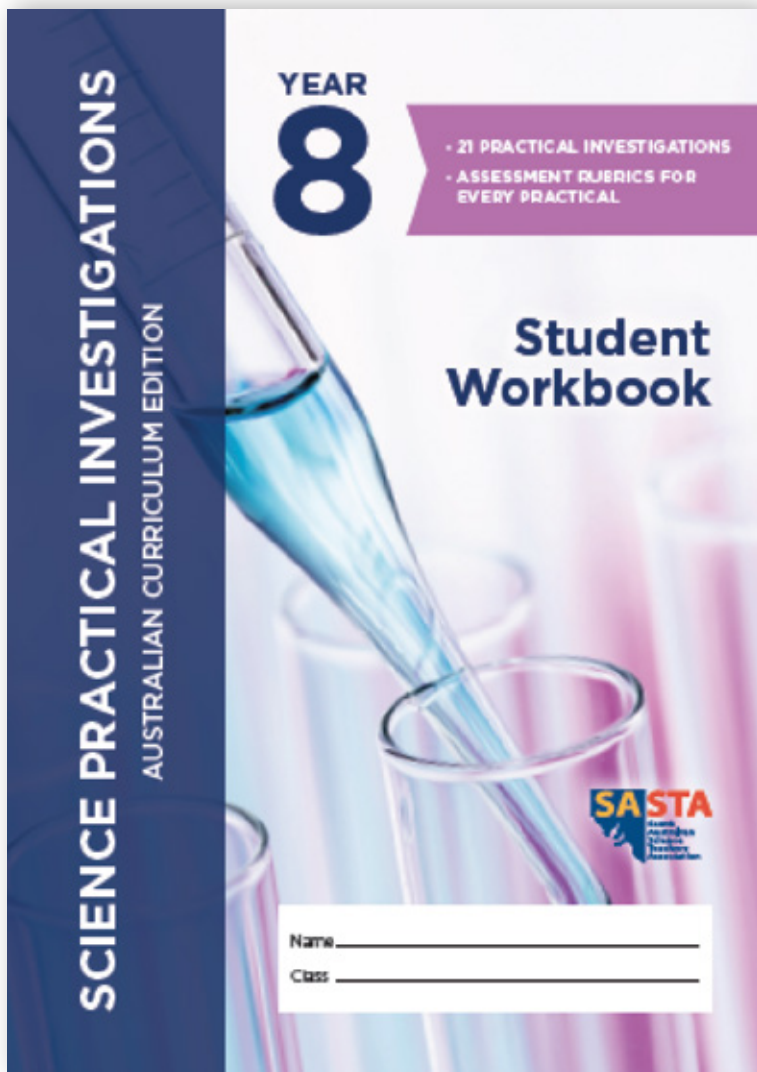
Over 100 quick demonstrations for middle-school science with a chemistry, physics and biology focus in different chapters.

**Watch This Too! OTH10.2 \$ 30.00**

Another 100 quick demonstrations for middle-school with a biology, chemistry, geology and physics focus in different chapters.



# NEW PRACTICAL INVESTIGATIONS WORKBOOK FOR YEAR 8 SCIENCE STUDENTS



The SASTA Year 8 Practical Investigations Resource is a student workbook that has been written specifically to support the Australian Curriculum: Science.

The workbook contains **new**, up-to-date, engaging and innovative science practicals in an easy to use design.

This **write-in workbook** guides students through each investigation, encouraging them to practice and **enhance their inquiry skills**, design procedures and answer questions about their learning.

Each practical investigation comes complete with an **assessment rubric** to allow teacher feedback on student learning.

## Features:

- **21 Science Investigations** that comprehensively explore the content of Biological sciences, Chemical sciences, Earth and space sciences and Physicals sciences for the Year 8 Australian Curriculum
- An emphasis on **Science Inquiry Skills**
- Explanations of how to **work scientifically** including; manipulating variables, graphing and measurement
- Australian Science **Curriculum overview** that highlights the content explored in each of the three strands; Science understanding, Science as a human endeavour and Science inquiry skills.
- **Assessment rubrics** for each practical giving an A-E scale for assessing the Science Inquiry Skills.
- Consistent format for ease of use

## Cost:

- \$16.50 per book
- Minimum order of 20 copies. (This can be negotiated for schools with a smaller class size.)

## Chemistry Investigations Manual

### Assessment Of Stage 2 Chemistry Using Sace Performance Standards

A new book for SA Chemistry Teachers.

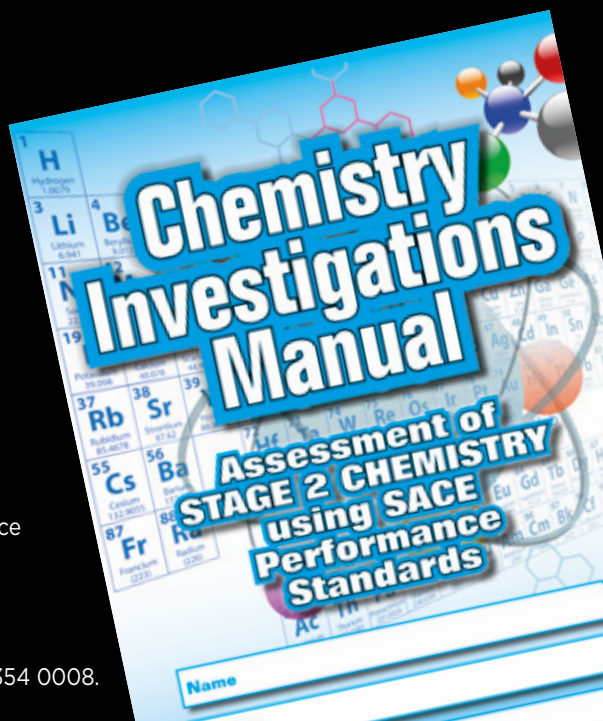
The Chemistry Investigations Manual has been prepared to meet the needs of teachers and students in line with the new SACE requirements and moderation procedures. The manual contains

- 10 familiar practical activities covering analysis, organic preparation, reaction chemistry and experimental design
- 2 issues investigation activities
- All **Assessment Design Criteria** are addressed
- A comprehensive **Assessment Table** for each activity
- A **Performance Standards Table** matched to each activity
- Intended Student Learnings are identifiable within each activity
- A free set of Teaching Notes provided to assist staff
- Prepared by experienced chemistry teachers and moderators Lynton Hall, Ian McMahon and Clive Nikkerud
- It is a **student workbook** rather than a photocopiable teacher resource
- Preview sample pages on the SASTA website

**Order now from SASTA at the price of \$18 incl.GST.**

N.B. Minimum order of 5 copies. On Sale Now for \$18.00 incl.GST

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## SCIENCE INVESTIGATIONS RESOURCE

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- ★ Highlights the Science Inquiry Skills
- ★ Year 5 and Year 6 resources currently available.

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# SASTA 2017 Study Guides

Study Guide Range Available Term 2

**ORDER  
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OBH 21369

Biology  
Chemistry  
Geology  
Nutrition  
Physics  
Psychology

SASTA Study Guides (approx.. 250 pages) are the complete resource for students preparing for Year 12 SACE Board of SA exams.

These guides include questions with suggested solutions covering each topic in the subject outline and address all sections of the exam.

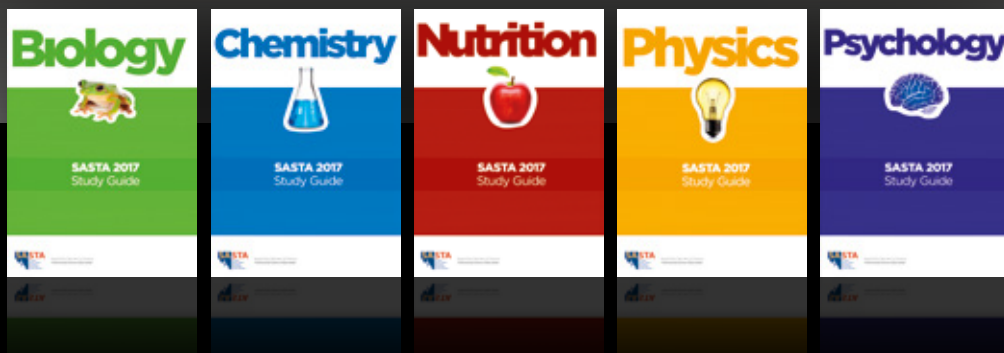
Please fax school purchase orders to 8354 0008 or order online at [www.sasta.asn.au](http://www.sasta.asn.au)

Inquiries concerning resources can be answered by the SASTA office by telephoning 8354 0006 or email [office@sasta.asn.au](mailto:office@sasta.asn.au)



Supporting Teachers of Science  
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## SACE Stage 1 mid-year Trial exams



**The 2017 Stage 1 mid-year exams feature a range of questions with difficulty levels ranging from simple to challenging.**

All questions are in context, are mapped to the subject outlines for teaching in 2017, and are designed to prepare students for examinations at Stage 2. Students apply their knowledge to a 100 mark examination which is designed for formative or summative assessment at Stage 1. Each exam comes with a complete set of solutions with variations on each answer to cover a wider range of student responses. Take some of the pressure off in term 2 this year and purchase one or all of our mid-year exams for Stage 1 biology, chemistry and physics. Two different marking schemes are provided for teachers to simplify the assessment process. These exams are worth your investment!



**Purchase and download at  
[www.sasta.asn.au](http://www.sasta.asn.au) for \$165 each.**

SACE STAGE 2 TRIAL EXAMS FOR BIOLOGY, CHEMISTRY, NUTRITION, PHYSICS AND PSYCHOLOGY WILL BE AVAILABLE EARLY TERM 3