February 2014 SASTA

Newsletter of the South Australian Science Teachers Association Inc.

Conferences and Events



Latest Events

For the latest events and Conference information go to SASTA's website: www.sasta.asn.au

Find us on Facebook & Twitter @ SA Science Teachers Association

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Online Educational Designer, Nick Jackson, provided an inspiring keynote address at the Maths & Science Middle School Conference held at Norwood Morialta High School on Friday 30 November 2013. Once again this popular annual event was booked out.







South Australian Science Teachers Association Inc.

Patron: Dr Barbara Hardy AO ABN 22 938 317 192
Registered by Australia Post – Print Post Publication No. PP 100004158
Member of Australian Science Teachers Association (ASTA)



Supporting teachers of science • Advancing science education



2014 SASTA Committee

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Awards

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CONASTA 63

Peter Turnbull

PD & Conferences

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Journal

John Glistak

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Oliphant Science Awards

Peter Turnbull

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Newsletter copy deadlines 2014

(Advertising deadlines one week earlier)

Deadline Edition February 20 January May 22 April August 21 July November 20 October

Advertising

Advertising rates & booking form 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 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



Welcome back to a new year of teaching science. This year we are hosting the National Science Teachers conference. CONASTA 63, in Adelaide from 6-9 July. It only comes to SA every eight years and we are combining our annual conference to make it the biggest event of 2014 for science teachers. If you can only make it to one conference this year, then this is the one!

On another note, it is interesting that the two scientists acknowledged in the highest Australia Day honours, Professors Bruce McKellar and Sam Berkovic, have commented on the need to fight a growing anti-science sentiment in the general community. McKellar expressed concern about a basic denial in western society that science has done anything for us. As a theoretical physicist he has highlighted the example of how basic radio astronomy research to analyse radio signals from the universe led to the development of mobile phones. Berkovic sees the growing anti-science trend as a 'puzzling paradox'. The honoured neurologist notes that despite the enormous advances and deepening understanding in science, the push to whacky alternative medicine is ever greater. This an important area that I believe science teachers can strongly influence and in particular through the Science as a Human Endeavour curriculum strand.

Middle School Conference 2013

The SASTA/MASA Science/Maths middle school conference held at the new venue of Norwood Morialta High School on November 29 last term was a huge hit and our most popular single event for the year. Well done to SASTA's convenor Jane Wright, her helpers and the MASA group for organising such a successful event.

Mark Divito President

SASTA Awards

Start thinking now for 2014

There are many great teachers out there that SASTA would like to acknowledge, but often they don't get nominated for awards because teaching is a very busy job and people don't get the time to fill in the nomination forms. Start thinking now. Alert your principal.

There are many awards for SASTA members:

- SASTA Medal for significant contribution to SASTA;
- Credit Union SA/SASTA Outstanding Teacher Award for junior primary, primary, middle years and senior years teachers;
- Helen Castle Memorial Scholarship worth \$1,000 for country teachers to attend the the CONASTA 63 national conference.

Nomination forms are available at

http://www.sasta.asn.au/about_us/sasta_awards

Nominations close Monday 28 April 2014.



Fees and Charges, Terms and Conditions apply and are available upon request. The Terms and Conditions contain information that will assist you to compare products and help you to decide whether to acquire a product. Credit Union SA Ltd I ABN 36 087 651 232 I AFSL/Australian Credit Licence Number 241066

Notice of Annual General Meeting

Notice is given that the 2014 Annual General Meeting of members of The South Australian Science Teachers Association Incorporated will be held at 249 Henley Beach Road, Torrensville on Monday 5 May 2014, commencing at 5:30 pm for the purpose of transacting the items of business below.

Refreshments will be provided at the conclusion of the meeting. Members will also have the opportunity to inspect SASTA's premises, which were purchased in 2012.

Agenda

- Welcome and **Apologies**
- Minutes of the 2013 AGM
- Acceptance
- Business Arising
- President's Report
- Treasurer's Report
- Executive Officer's Report
- · Election of Board Memhers
- General Business
- Membership Fees
- Appointment of Auditor
- Any Other Business

Teachers New to

Monday 24 February 2014

Teachers New to SACE Stage 2 Chemistry SACE Stage 2 Biology

Monday 24 February 2014

Wienaa	y 24 i Cbiddiy 2014	Worlday	y 24 rebruary 2014
Program		Program	
9:00 am	Registration – G.11A	9:00 am	Registration
9:15 am	General Introduction Subject outline walk through Investigation skills Content Assessment Performance Standards	9:15 am 10:00 am	 Introduction Stage 2 curriculum development The current SACE course SACE Board documents Designing a Teaching Program Alternative Programs Morning Tea
9:30 am 9:45 am	 Assessment Operations Quality assurance cycle Key dates Assessment Groups Assessment and SACE Board Policies Moderation and external assessment 	10:20 am	 Theory Lessons Teaching biology Analysing worksheets, class assignments, homework assignments using assessment design criteria and performance standards AV and multimedia materials in Senior Biology
10:45 am	 Supervision and verification of students' work Assessment deadlines and submission dates Special provisions 		Practical Lessons Types of Practical Assessing practical work
	Morning Tea		Test questions relating to practicals
11:00 am	 Learning and Assessment Program (LAP) Structural elements Exemplars Addendum Variations 	11:45 am 12:15 pm	 Assessment Plans Designing an assessment plan Sample assessment plans Lunch
11:30 am	Teaching Programs Organization	1:00 pm	ModerationSACE moderation
12:15 pm	ConnectionsLunch	1:30 pm	Preparing tests and issues investigationsAnalysing test questionsPreparing answers
12.45 pm	 Group Work Practical program Formative/Summative Example of a Skills & Applications Task (i.e. Test) Example of an Investigation (i.e. Summative Prac.) 	2:00 pm	Afternoon Tea
		2:15 pm	MarkingMarking tests and issues investigationsMarking extended response questions
		3:15 pm	 Questions & Resources Where do you get help? SACE Board and SASTA – how can they help science teachers?
2.00pm	Afternoon Tea		
2.15 pm	The Moderation Process		
3.00 pm	Resources available to support you (i.e. Texts, Study Guide) • Further Questions and Discussion	3:30 pm	Close

All workshops will be held at the Education **Development Centre, Milner Street Hindmarsh.**

Register online at www.sasta.asn.au

Cost: Personal Members/Student Members \$120 Corporate Members \$155 \$180 Non-Members

Close

3:30 pm

Teachers New to SACE Stage 2 Physics

Friday 28 February 2014

Program

9:00 am

Registration and Welcome

9:15 am

General Introduction to SACE Physics requirements - Lois Ey

Subject outline walk through

- Investigation skills
- Content
- Assessment
- Performance Standards

Assessment Operations

- Quality assurance cycle
- Key dates
- Assessment Groups

Assessment and SACE Board Policies

- Supervision and verification of students' work
- Assessment deadlines and submission dates
- **Special Provisions**

Getting help

10:45 am

Morning Tea

11:00 am

Approaches to Learning – Class Activities – "Here's How I Do It" - Brian and Peter.

11:45 am

Assessment task design – Mostly Brian (current work) with a few thoughts from Peter and attendees.

12:15 pm Lunch

1:00 pm

Use of ICT Resources (in class, practical sessions and for private study) - Brian and Peter:

- Software, video, simulations, PD materials
- Texts with ICT support
- **Tablet opportunities**
- Data loggers

2:00 pm

Administration at the school level – grading, reporting, watching for plagiarism - Brian and Peter + ideas from attendees

2:15 pm

Afternoon Tea

(plus feedback sheet)

2:30 pm

*Here's How I Do it (attendees – come prepared), Q & A (please send us some) – joint approach External exam and Chief Assessor's report – Brian and Peter Physics in Years 7/8 to 11 – Peter and Brian Final discussion generated by attendees

3:30 pm

Close

Teachers New to

SACE Stage 1 & 2 **Psychology**

Friday 28 February 2014

Program

9:00 am Registration

9:15 am Subject Outline - the big picture

9:30 am **Assessment Type 2: Skills & Applications**

Tasks - relevant to Stage 1 & 2

Task design, examples and performance

standards

10:45 am **Morning Tea**

11:00 am

Central Moderation of School - based assessment at Stage 2, which includes

Assessment Type 1: Investigations Folio (30%)

Assessment Type 2: Skills & Applications Tasks (40%)

Stage 2 SACE Board Exam

- How the exam is constructed
- Marks scheme for the exam

12:00 noon Lunch

12:45 pm

Group Investigations - relevant to both

Stage 1 & 2

• How to conduct a research program

Guiding students in writing research proposals, drafts & final reports

Stage 1 Issues Investigation

2:00 pm

Afternoon Tea

2:15 pm

Mock moderation - recognizing grade brands

in sample investigations

3:00 pm

Question time

3:30 pm

Close

Please:

- 1. Come prepared to share at least one good idea "Here's how I do it!". You get a two minute window after lunch to share with colleagues. Please email us with requirements beforehand.
- 2. Also, email us with any extra specific questions, requests or suggestions for the day so that we can try to deal with them. If you want to send us student work (no identifying features) for discussion, please do so.

Our intention is to make the workshop as interactive as possible. Your input will help. Please contact Brian at bparsons@scotch. sa.edu.au or Peter at peterzwaag@gmail.com. All attendees will receive e-copies of useful (we trust) curriculum materials for use in their teaching program.

Teachers New to

SACE Stage 1 & 2 Nutrition

Friday 7 March 2014

Program

9:00 am

Registration and Welcome

9:15 am

General Introduction to SACE Nutrition requirements

Subject outline walk through

- Investigation skills
- Content
- Assessment
- Performance Standards

Assessment Operations

- Quality assurance cycle
- Key dates
- **Assessment Groups**

Assessment and SACE Board Policies

- Supervision and verification of students' work
- Assessment deadlines and submission dates
- **Special Provisions**

Getting help

10:45 am

Morning Tea

11:00 am

Central Moderation of School - based assessment at Stage 2, which includes

- Assessment Type 1: Investigations Folio (30%)
- Assessment Type 2: Skills & Applications Tasks

Assessment Type 3: Stage 2 SACE Board Exam

- How the exam is constructed
- 2013 Exam feedback: the Chief Assessor's report

Assessment Panels

Applying for marking and moderation panels

12:00 pm

12:45 pm

Approaches to Learning & Assessment Task Design

- Teaching nutrition: It doesn't have to be just Classroom based!
- Designing an Assessment Plan, and filling in Addendums
- Designing a Practical program: Types of practicals & Assessing practical work

2:00 pm

Administration at the school level – grading, reporting, watching for plagiarism

2:15 pm

Afternoon Tea

2:30 pm

3:30 pm

Here's How I Do it: Attendees – come prepared with at least ONE good idea to share and discuss, and any Q & A. A Feedback Sheet to finish the day

Close

off (Thank You).



Money Smart Professional Learning Program

SASTA in association with CEASA and the Australian Securities and Investments Commission (ASIC) are offering schools the opportunity to have the Money Smart program introduced to their staff at no cost.

Money Smart Teacher Workshop 1 – Introduction to consumer and financial literacy education in Australia, will provide teachers with an opportunity to investigate a new financial literacy resource developed for R-10 schools through a one hour professional learning workshop led by a Money Smart Facilitator.

The resource package is designed to equip teachers with the tools and resources to effectively teach consumer and financial literacy through real-life contexts and the knowledge and skills to be able to confidently integrate this into and across relevant learning areas of the Australian Curriculum: English, mathematics and science, F-10.

Workshop Purpose:

- to introduce consumer and financial literacy to whole staff — its importance and how it can be taught as a context for implementing the Australian Curriculum
- to provide an overview of the MoneySmart Teaching package and the MoneySmart units of work
- to provide an outline of the professional learning journey for the school to become a MoneySmart School

Workshop Structure:

- A one hour presentation that is interactive an engaging.
- Can be held during a staff meeting or any other suitable time as negotiated by the school.
- Can be held in conjunction with any other SASTA Professional Learning program delivered at the school.

Book Your Session Today!

For inquiries and bookings please contact the SASTA office on (08) 8354 0006 or email Project Officer, Kate Dilger, at projectofficer@sasta.asn.au

Professional Learning

In Term 1 2014, SASTA will offer the following professional learning opportunities:

For Secondary/Middle school teachers

These professional development workshops are suitable for secondary school science teachers of all levels – whether you're just starting out, teaching in a new area, or have years of experience – our programs have something for you.

1. Planning Inquiry-based Science Units - Australian Curriculum

Date: Friday 21st February / Time: 9.00am -3.00pm

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.

Participants will collaborate to develop unit materials that exemplify inquiry approaches to teaching and learning.

This workshop will provide teachers with explicit curriculum materials, investigations, planning tools and contemporary pedagogical strategies to enable them to successfully plan using the Australian Curriculum: Science.

The Workshop will cover the following:

- · What is Inquiry Based Teaching?
- Practical Representation/The 5Es Model
- Strategies for Inquiry Based Teaching
- · Planning materials and templates
- Resources available

Who should attend:

• Secondary/Middle school teachers

2. Investigating Chemical Sciences: Years 8-10

Date: Friday 21st March / Time: 9.00am -3.00pm

How do I teach Chemistry? What activities can I do? Where can I find relevant and engaging activities and resources? This program will allow you to answer these questions and more.

This is the first in a series of workshops for secondary science teachers that aims to give teachers the opportunity to expand their subject knowledge and gather new ideas about how to teach some of the more difficult concepts in this Sub Strand of the Australian Curriculum: Science.

The workshop aims to give teachers the opportunity to:

- Gain in-depth knowledge of the Chemical Sciences sub strand
- Learn instructional tips and techniques
- Perform some investigations and classroom activities
- Build resources
- Share best practice with colleagues

Who should attend:

• Secondary/Middle school teachers.

For Primary Years Teachers

1. Science in a Nutshell: Primary Years

Date: Friday 14th February / Time: 9.00am -3.00pm

Explore the new Australian Curriculum – Science and increase your confidence with implementing a teaching and learning program that covers the content using an inquiry-based approach.

Aims of the workshop

The key aims of this professional learning program are to:

- enhance engagement with the Australian Curriculum: Science in primary schools
- raise primary teachers confidence in methods of teaching science
- empower teachers to develop engaging, teaching, learning programs

This workshop will provide teachers with explicit curriculum materials, investigations, planning tools and contemporary pedagogical strategies to enable them to successfully implement the Australian Curriculum: Science.

Who should attend:

• Primary Years teachers.

2. Setting up a Science Classroom

Date: Monday 3rd March / Time: 9.00am -3.00pm

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 Hands-on investigations promote curiosity and provide opportunities for the type of discussion and questioning which develop understanding.

In this workshop teachers will be taken through simple steps that will enable them to implement the elements of scientific investigation in their classrooms.

Teachers will have access to planning tools and many exciting new science resources that can enrich their teaching and learning program.

Who should attend:

• Primary Years teachers

3. Year 7 Science Series: Content, Competence and Confidence - Chemical Sciences

Date: Friday 28th March Time: 9.00am -3.00pm

This workshop will support teachers to further develop their current understanding of the Science Understanding Strand: Chemical Sciences

The workshop aims to build teacher knowledge and conceptual understandings while participants are actively engaged in science investigations using the Science Inquiry Skills. The workshop will use an inquiry approach to the learning of science, providing teachers with the confidence and resources to implement the requirements of the Australian Curriculum in their classrooms.

Structure of Workshops

- **Big Science Ideas** mapping of the concepts explored in the sub strand, what is your part in the story?
- Building Understanding hands- on investigations that allow participants to explore the concepts and build understanding using explicit and modelled pedagogy.
- Unit Development opportunity to develop rich science programs that embed the Capabilities of Literacy and Critical and Creative Thinking, the Science Inquiry Skills and that are framed by the Science as a Human Endeavour sub strand.

Who should attend:

• Year 6/7 teachers or specialist science teachers

All workshops will be held at the education Development Centre, Hindmarsh. Cost: Personal Members/Student Members \$95, Corporate Members \$120, Non-Members \$150. Registration available online at www.sasta.asn.au

Morning Tea and lunch will be provided at each workshop.

Australian Professional Teaching Standards

All of these workshops reflect the Australian Professional Teaching Standards. Teachers will receive a certificate of attendance that details the Standards covered.

SASTA In-School Workshops NOW AVAILABLE!

SASTA offers a range of in-school professional learning sessions that can be tailored to suit the needs of your school and teachers. All sessions focus on concrete classroom applications of the skills and understandings present in the Australian Curriculum: Science. The structure and length of these sessions is determined by the school in collaboration with the SASTA Project Officer.

Schools that successfully trialled these workshops in 2013 include: St Johns Lutheran Eudunda, St Augustines Parish School, Antonio Catholic School, St Aloysius College and Valley View Secondary School.

Please see enclosed brochure for more details about this exciting new opportunity.

Book your session today!

For enquiries and bookings, please contact the SASTA office on (08) 83540006 or email the SASTA Project Officer; Kate Dilger at: projectofficer@sasta.asn.au

Call for Nominations

Closing date: 7 April 2014 at 5.00pm

Background

- Call for Nominations
 All members of SASTA are hereby notified of a call for nominations for three (3) positions on the Board.
- Composition of the Board and terms of office
 The Board consists of up to nine elected members who shall hold office for a term of three (3) years. Continuous elected membership shall not exceed nine (9) years.

In accordance with clause 24 of the Constitution adopted at the Annual General Meeting on 16 April 2013, three positions have become vacant after one year.

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 & Nomination Form

A Board Member position description and nomination form is available on the SASTA website at www.sasta.asn.au in the 'Members Area'.

*NB 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 Greg Cole, Executive Officer, on 8354 0006 if they require further information.



Oliphant Science Awards: South Australia's Largest Student Science Competition

Great Opportunities for Learning Through Science

2014 Oliphant Key Dates

Thursday 19 June - Registration Forms due.

Friday 20 June – Judges Registration Form due.

Monday 21 to Friday 25 July - Deliver Science Writing, Scientific Inquiry, Games and Multimedia entries.

Saturday 9 August – Computer Programming and Robotics judging.

Friday 22 August - Deliver Crystal Investigation, Models & Inventions, Photography and Poster entries.

Saturday 23 August – Judging Day.

Sunday 24 August – Open Day.

Monday 25 August – Collection of non-winning entries.

Friday 19 September – Presentation Ceremony.

Dates to be confirmed, check SASTA website for updates.

2014 Category Titles

Photography

- Careers in Science
- Science in the Garden
- Shelter
- Adaptations to the Seasons
- Science in Architecture
- **Light Shows**

Posters

- The Amazing Properties of Water
- Scientific Shapes
- Waste or Resource?
- Renewable Energy

- Farming in the Future
- Collisions

Science Writing

- Science Feeding the World
- Scientific Advances in Food Production
- Scientific Measurement
- Coal Seam Gas and the Environment
- **Predicting Natural Disasters**
- **Polymers**
- Year 11-12 Science Issues Investigation

BHP Billiton Awards



Congratulations to Maria Caruso South Australia's teacher finalist in the BHP Billiton Teacher Awards.

Remember winning entries from the 2014 Scientific Inquiry and Models & Inventions categories will be forwarded to the BHP Billiton national competition. If you are planning a scientific inquiry, model or invention, have a look at the BHP Billiton judging

criteria. There are great prizes for Primary and Secondary entries, including cash, a science camp and a trip to the USA to attend a science fair.

Check the list of sponsors' prizes

Valuable prizes are awarded for entries that meet both the category requirements and the criteria described by our sponsors.

Ideas for starting your entry

Scientists solve problems

Look around you – have you got a problem that needs fixing? Many discoveries and inventions have been made by scientists trying to solve a problem.

Invent a solution

Here is a good web site to help solve your problem. The 'Inventive Thinking Lesson Plan' gives you easy to follow steps to help spark your inventive abilities. Look up http://inventors. about.com/library/lessons/bl_activity_2.htm

Experiment and find out why it is happening

Scientists experiment to understand how things work and what causes the effects seen. The scientific method is fundamental to designing good experiments. Check out the CSIRO CREST Awards http://www.csiro.au/crest

Scientists communicate their knowledge

Science Writing, Multimedia, Computer Programming and Robotics, Posters and Photography are great ways to inform people. Games can teach and be fun at the same time.

National Science Week

The chemistry theme could be used in Computer Programming and Robotics, Crystal Investigation, Scientific Inquiry, Games, Models and Inventions, Multimedia, and there are topics with a chemistry focus in Science Writing, Posters and Photography.

Get involved!

Find the Oliphant Science Award information at www.sasta.asn.au









CONASTA 63

The Human Faces of Science

6-9 July 2014, University of Adelaide city campus

The Australian Science Teachers Association (ASTA) and the South Australian Science Teachers Association (SASTA) are proud to be hosting CONASTA 63, the 63rd annual Science Education Conference of ASTA.

Over 400 delegates are expected to attend CONASTA 63, drawn from across Australia and overseas. There is no other national event which brings together the depth and richness of science education expertise in such a spirit of learning, discovery and camaraderie.

Distinguished keynote speakers

CONASTA has a reputation for outstanding Keynote Speakers. In 2014 we are honoured to have confirmed as speakers:

- Chief Scientist of Australia lan Chubb ,AC, who will be presenting the annual Stanhope Oration.
- Distinguished Professor, Nobel Laureate and Australian Research Council Laureate Fellow Brian Schmidt .
- **Professor Roy Tasker** of UWS, who was the 2011 recipient of the highest accolade given by the Australian Learning and Teaching Council, the Prime Minister's Award for Australian University Teacher of the Year.
- Professor Lynne Cobiac , Director of CSIRO's Preventative Health Flagship.
- Professor Tanya Monro, ARC Federation Fellow and Director of the Institute for Photonics & Advanced Sensing.
- Professor Robert Hill, Executive Dean, Faculty of Sciences at the University of Adelaide

High-quality professional program in outstanding facilities

The C63 workshop program will will be held at the City Campus of the University of Adelaide. Among the venues generously provided by The University are the new, state of the art Braggs Building and the Hub Central areas.

Workshops will include primary, secondary and lab tech topics, off-site visits to landmark South Australian science and research facilities, computer workshops, wet-lab workshops, cutting edge science presentations hands-on workshops and seminar discussions.

Social and networking events

Two much loved CONASTA traditions are the Science Breakfast and Conference Banquet. At C63, the Breakfast will be held at Blanco Restaurant at Adelaide Botanic Gardens on Wednesday 9 July. The Banquet, at which I50+ delegates will enjoy a night of fantastic food, company, music and dancing, will be held at Adelaide Town Hall (pictured) on Monday 7 July.

Delegates also enjoy numerous Happy Hour events, informal dinners and post-conference tours.



Stage 2 Biology Practical Manual

The Stage 2 Biology Practical Manual has been thoroughly revised to meet the needs of teachers and students as they prepare for the SACE Stage 2 requirements and moderation procedures.

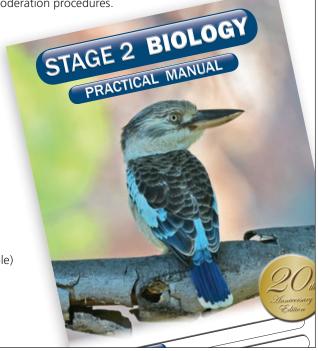
SASTA and S.T.A.R. have collaborated once again to produce this special 20th anniversary edition

- Consists of 12 familiar 'tried and true' practical activities, written specifically for the SACE Stage 2 Biology Course
- All Assessment Design Criteria are addressed
- **Intended Student Learnings** are identified for each activity
- A comprehensive **Assessment Table** for each activity
- An Assessment Record Table will allow for a collation of marks to make reliable judgment against the **Performance Standards**
- As usual, a free set of **Teaching Notes** are provided to assist staff
- Preview sample pages now on the SASTA website

The 2014 edition will be on sale as usual in November.

(Limited copies of the 2013 edition of the workbook will also be available)

It is a student workbook rather than a photocopiable teacher resource therefore there is a minimum order of 5 copies. Order now from SASTA for the price of \$18 incl. GST



Chemistry Investigations Manual

Assessment Of Stage 2 Chemistry Using Sace Performance Standards

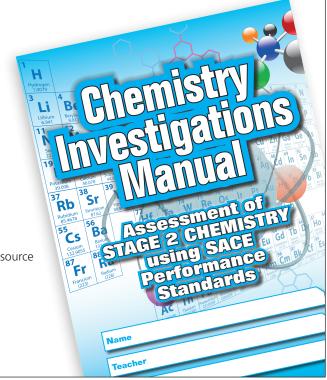
A new book for SA Chemistry Teachers.

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 Purchase online at www.sasta.asn.au or fax a school purchase order to 8354 0008.



SASTA 2014 Study Guides



Biology
Chemistry
Geology
Nutrition
Physics
Psychology

Copies of some past editions of the SASTA Study Guides, including exam answers, are available for \$15.00

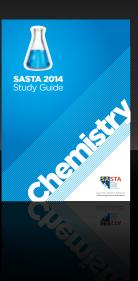
SASTA study guides (approx. 200 pages) are the complete resource for students preparing for Year 12 SACE Board of SA exams.

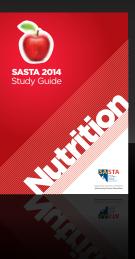
These guides include questions with worked solutions covering each topic in the Subject Outline and address all sections of the exam.

Please fax school purchase order to 8354 0008 or order online at www.sasta.asn.au

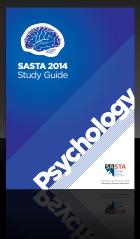
Inquiries concerning resources can be answered by the SASTA office by telephoning 8354 0006 or email office@sasta.asn.au













Supporting Teachers of Science **Advancing Science Education**

www.sasta.asn.au