## IMPORTANT INFORMATION DELIVERY, COLLECTION & JUDGING TIMETABLE

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<th>Date</th>
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<tr>
<td><strong>F1 in Schools, SA State Final - All Classes</strong></td>
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<td>Set up track</td>
<td>Friday 2 August</td>
<td>9.00 am to 3.00 pm</td>
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<td>Sea Trials (judging)</td>
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<td>Trade display set up</td>
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<td><strong>STEMSEL Team, Adult Genius and Individual Inventors competition</strong></td>
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<td><strong>Junior Wizard – Innovation, Invention and Enterprise</strong></td>
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<td><strong>Applications of Aviation and Space</strong></td>
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<td><strong>Materials and Construction Technology Secondary, Primary and Special Needs Students</strong></td>
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*The Royal Agricultural and Horticultural Society makes every attempt to ensure that all information contained within this schedule is correct at the time of printing, however the RA&HS reserves the right to change such details as may be required.*
CLOSING DATE OF ENTRIES
FRIDAY 28 JUNE 2019 at 5.00 pm

ENTRY CONDITIONS
The following conditions will apply to all entries:

- All entries must be received by the Society no later than 5.00 pm (CST) on Friday 28 June 2019 and F1 in Schools closing date is Friday 21 June 2019
- Entry forms by post, facsimile or email will not be accepted.
- A late entry option is available under the following conditions:
  - Late entries may only be submitted online and will be accepted for 7 days after the official closing date (by 5.00 pm CST)
  - An additional fee equivalent to three times the standard entry fee is paid.

HOW TO ENTER
Complete the entry form available online at www.theshow.com.au
For all entry enquiries phone (08) 8210 5211

Entries in the F1 in Schools section must be made online via the REA website at www.rea.org.au/f1-in-schools

ACKNOWLEDGEMENT OF ENTRIES
Entries submitted online will be acknowledged via email.

ENTRY FEES (GST INCLUDED)
$4.50 per entry online
No entry fee for Science Investigation Awards

PAYMENT OF FEES
When paying fees, exhibitors must ensure that enough funds are available at the time of entry. Failure to do so may result in non-acceptance of entries. Cash payments are not accepted.

REFUNDS
No refund of entry fees will be made after the closing date of entries.

MEMBERSHIP
Exhibitors need not be members of the Royal Agricultural & Horticultural Society of SA Inc, membership of other Royal Show Societies does not entitle exhibitors to a reduced rate of entry fees.
2019 Society Membership information can be found at www.rahs.com.au

CONTACT US
Email entries@adelaideshowground.com.au
Phone (08) 8210 5211, 9.00 am - 5.00 pm Monday to Friday
Secretary Annunziata Thompson
Website www.theshow.com.au
Post RA&HS – Technology Section, PO Box 108, GOODWOOD, SA 5034

YOUR PRIVACY
If you do not want your details to be made available to other parties, please tick the box on the entry form supplied by the RA&HS. Your personal information will then only be used by the RA&HS to maintain contact with you and allow us to manage your entries. The RA&HS reserves the right to inform prize sponsors of the details of recipients to enable distribution of their voucher/product prizes. Please note: by ticking the box to suppress your details, your name will appear in the Catalogue (if applicable) but your address will not.

GENERAL REGULATIONS
Exhibitors are reminded that the Society’s General Regulations apply to all sections of the Show. A copy of the General Regulations can be obtained from the Society’s website at www.theshow.com.au.
Exhibitors should note that the General Regulations contain a number of provisions relevant to competitions and this Schedule including but not limited to, offences, penalties, prohibited drugs. As those conditions apply in addition to the regulations contained within this schedule, Exhibitors should familiarise themselves with the General Regulations.

SPECIAL REGULATIONS
Exhibitors are reminded that the Special Regulations contained within this Schedule are merely supplementary to and subject to the General Regulations. The members of the Society’s Technology Committee shall have the authority to act on behalf of the Society to take any necessary action under these Special Regulations.

RESTRICTION OF ENTRIES
There is no restriction on the number of entries per exhibitor in each class. However, should the number of entries received exceed the number which can be accommodated, the Society reserves the right to reduce the number of entries in whatever manner it deems fit.

TRANSFERS
Please ensure exhibits are entered in the correct class at time of entry. No exhibit will be transferred to another class after the closing date of entries.

WITHDRAWALS
All withdrawals must be made in writing and can be sent via email to entries@adelaideshowground.com.au. Emailed withdrawals must include “Withdrawal” in the subject line and the section (eg Technology Section, exhibitor name, class number/s, exhibit number (if known) and exhibit name (if applicable). Withdrawals must be made at least 24 hours prior to judging.
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

SUBMISSION OF ENTRIES

All exhibits must be current work from July 2018 to August 2019.
The support material accompanying each exhibit should be packaged in a suitable A3 or A4 folder, displaying exhibit and class number.

Design brief with projects require:
- A design brief stated clearly
- Independent planning and research evident
- Some innovation and originality
- Communication using graphics
- Good choice of materials and systems of manufacture
- Quality of project showing attention to detail/ performance and safe design
- Attention to safety in manufacture
- Clear use of literacy standards in investigation planning and evaluation stages

Project only exhibits require:
- Attention to detail
- Quality choice of materials and processes
- Attention to safety in manufacture
- Quality of project showing attention to detail/ performance

VET type projects require:
- A drawing with the item to show specifications and tolerances achieved.
- Highly appropriate choice of materials and processes/ systems
- Attention to safety in manufacture and design
- Attention to detail, performance and finish

Team projects:
Team projects may be submitted in some Schools categories ONLY and exhibitors appropriately named. Prizes will be awarded to named individuals of the teams with prize cards if they are named at entry/ registration time.

Schools Technology Restriction of entries:
- Exhibitors can enter more than one item for judging.
- Exhibitors may not enter one project across 2 classes or categories.
- If the number of exhibits exceeds the space available, the Society reserves the right to display prize winning exhibits only.

EXHIBIT CARDS

After entries have closed; exhibit cards will be forwarded to exhibitors and must accompany each entry. These cards should be securely fastened to entries so that the card is clearly seen when the work is displayed.

Straight pins must not be used to attach exhibit cards. Every separate article of a set must bear the exhibit number and be attached to the set by mounting.

Exhibits must not have any identification markings or names, other than the exhibit cards supplied by the Society.

PRIZES & AWARDS

The following prizes will be awarded (unless otherwise specified)
First $15 and card
Second $5 and card
Third: Card

Prize Cards:
In addition to the prizes listed, cards may be awarded in accordance with the following.
10 to 15 exhibits – One Commended card,
16 to 20 exhibits – Two Commended cards,
Over 20 exhibits – Three Commended cards.
Prize cards not collected will not be forwarded by the Society.

Ribbons & Sashes:
Place Ribbons for Robotics, F1 in Schools and CO2 Dragster Classes, E Racers and STEMSEL Invention, Innovation and Enterprise.
Champion Sashes for Best Exhibit 2019

The Best Overall Exhibit in Schools Technology
The criteria for Best Design and Technology Exhibit in 2019, judges will be looking for;
- Uniqueness, sensitivity and innovation
- Independent learning and resourcefulness
- A high degree of finish and skills exhibited in the age group
- Attention to safety in manufacture and design
- A clever and marketable product/ solution/ or idea.
- High quality of back up material if needed (judges’ discretion)

Eligible entries must receive a first prize, then a special prize for that section to be selected for the Best Design and Technology Exhibit Overall Winner.

PAYMENT OF PRIZE MONEY

- All prize money won during the Royal Adelaide Show will be paid by Electronic Funds Transfer (EFT) only.
- Prize money will be paid at the end of October.
- Any trophy, prize or prize money not claimed by 11 December of the current year, shall be deemed forfeited by the exhibitor and the RA&HS shall no longer be liable to pay or provide the prize.

The Society makes every endeavour to ensure all prizes listed are accurate at the time of printing. Should a prize (cash, voucher, product, trophy) be withdrawn by a sponsor subsequent to printing, the Society will pay prize money as stated above. It is the responsibility of the prize winner to follow-up with the Society any sponsored prize (cash, voucher, product, trophy) they believe they are entitled to prior to 11 December in the year of the prize being awarded. The Society will not follow-up prize sponsors after this date or review any prizes that may have been incorrectly awarded.
PRIZE MONEY AND GST

- Prize money as stated in the Prize Schedule does not include GST.
- The prize money which we pay to successful exhibitors depends on information provided to us. If you confirm that you are GST registered and provide your Australian Business Number (ABN), we will pay the appropriate prize money plus 10% GST. We will provide you with a Recipient Created Tax Invoice which you will need to submit to the Australian Taxation Office.
- If you confirm you are registered for GST, in entering the competition, you acknowledge your agreement to the following:
  o You will not issue a tax invoice to the RA&HS in respect to prize money received;
  o You will notify the RA&HS if you cease to be registered for GST.
  o If you provide your Australian Business Number but are not registered for GST, we will pay the prize money as detailed in the Prize Schedule without reference to the GST.
  o If you confirm you are entering as part of a private recreational pursuit or hobby, we will pay the prize money as detailed in the Prize Schedule without reference to GST.

IMPORTANT
It is important that you either:
  • Confirm you are entering as part of a private recreational pursuit or hobby, or
  • Confirm you are entering as a GST registered business and supply your ABN

Failure to do either of the above will cause the RA&HS to withhold a portion of your prize money in accordance with Australian tax legislation.

The RA&HS is not a tax consultant and therefore assumes no liability for actions taken as a result of these guidelines. In any instances where an entrant or sponsor is uncertain of the tax implications of their involvement, they should consult their own accountant or tax advisor.

The Society makes every endeavour to ensure all prizes listed are accurate at the time of printing. Should a prize (cash, voucher, product, trophy) be withdrawn by a sponsor subsequent to printing, the Society will pay prize money as stated above. It is the responsibility of the prize winner to follow-up with the Society any sponsored prize (cash, voucher, product, trophy) they believe they are entitled to prior to 11 December in the year of the prize being awarded. The Society will not follow-up prize sponsors after this date or review any prizes that may have been incorrectly awarded.

Judge’s Discretion and Removal of Entries
Any exhibit may be removed from the display by the judges on behalf of the RA&HS if the exhibit contains:
1. Weapons or weapons inferred, intentionally or otherwise.
2. Images that are offensive in a sexual or discriminatory manner, intentionally or otherwise.
3. Information that is offensive, indiscrete or defamatory, intentionally or otherwise.

The exhibit may be returned to the owner after the Show.

COMPETITION FOCUSES

STEM Focus - Manufacturing
Investigation focus on a hobby, career, or a lifestyle.
  • 3D Printing Competition
  • Alternative Energies, CO2 Dragsters, E Racers

STEM Focus – Robotics, Programming, Coding and Gaming
Non STEMSEL Robotics/Control Technologies Platforms (including Artificial Intelligence)
  • Individual Entries (Including Education Foundation Prize)
  • Team Entries

STEMSEL FOCUS – Individual Entries
Development classes STEMSEL Robotics/Control Technologies Platforms (including Artificial Intelligence)
  • Individual Entries
  • Team Entries

STEMSEL FOCUS – Professional Classes
“Invention for Social Good”
  • Individual Entries Junior (Wizard) Education Foundation
  • Team Entries Junior (Wizard teams)
  • Individual Adult (Genius)
  • Overseas Exchange (Skype Innovators)

Science and Maths Focus - Science Investigation Awards
(Agriculture and Horticulture Applications)
Investigation focus on a hobby, career, or a lifestyle
  • Crop Science Investigation
  • Experimental Research Techniques

Design & Technology - Individual Entry Focus
  • Materials & Construction
  • Commercial Modelling Systems
  • Graphics & Information Technology
  • Schools Photography and Multimedia
  • Combinations of Materials & Technologies
Further Information Links
The following links are provided to give a starting point for interested exhibitors looking for further information. As these links are to third party sites the RA&HS do not specifically endorse the information but provide them as a point of reference that can be used in conjunction with other information sources to prepare an entry. Entrants are reminded to correctly reference all websites used in their inventions and innovations.

3D Printing Competition
• Advanced Technology Project Website

Alternative Energies
• CO2 Dragsters Research Folio ME Program

STEM Focus
Robotics, Programming, Robotics/Control Technologies Platforms (including Artificial Intelligence)
• LEGO
• FIRST Robots
• Arduino

STEM Focus
Investigation focus on a hobby, career, or a lifestyle

Applications of Aviation and Space
• Civil Aviation Safety Authority (CASA)
• FLEET Space Technologies
• Amateur Radio Experimenters Group (AREG)
• Launchbox

STEME Focus
Advanced Manufacturing team entries

F1 in Schools Competition, Subs in schools, Landrover 4 x 4 Competition
• Re-Engineering Australia Foundation

STEMSEL FOCUS
Development classes STEMSEL
Robotics/Control Technologies Platforms (including Artificial Intelligence)
• STEMSEL Foundation
  http://foundation.stemsel.com/
eLabtronics

Science and Maths Focus
Investigation focus on a hobby, career, or a lifestyle

Science Investigation Awards
• AgCommunicators

Design & Technology
• Design and Technology Teachers Association of SA Inc.

SPECIAL AWARDS

THE DATTA PRIZE
BEST OVERALL EXHIBIT IN DESIGN AND TECHNOLOGY
Voucher ($50.00) sponsored by Design & Technology Teachers’ Association of SA

MOST SUCCESSFUL SCHOOL IN TECHNOLOGY
Open to schools and colleges.
Points will be awarded on the following basis:
1st - 3 points
2nd - 2 points
3rd - 1 point

DIGITAL TECHNOLOGY
ADVANCED MANUFACTURING, TEAM ENTRIES

F1 IN SCHOOLS SOUTH AUSTRALIA STATE FINAL

Set up of team Trade Displays will take place on Friday 23 August 2019 between 12.00 noon and 3.00 pm. All displays must be to a Royal Show standard. All exhibits will be displayed and secured before Show week.

Competition and Judging during Show
The competition is promoting engineering including the use of advanced technology systems, culminating in a range of judging including racing of model vehicles.

The competition will comprise of judging across four key areas as follows:

2. Portfolio & Trade Display: Covering project management, financial and resource management, marketing and team identity. The final design including research, initial design concepts and development of these through testing and evaluation.
3. Verbal Presentations: Outlining project innovation, collaboration with industry and learning experience.
4. Racing: Including time trials, reaction racing as well as knockout racing.

Competition Days
Monday 2 and Tuesday 3 September

Registration
Registration is $4.50 per exhibit (single or team) and registrations must be submitted online via the REA website at http://rea.org.au/f1-in-schools by Friday 21 June 2019.
Classes of Competition

1. Cadet Class - 1 race vehicle made with CNC Machine and an A2 (or 2 x A3) poster/s of the F1 Design Process. Cars will be scrutineered and raced. This class is open to students in Year 5 to Year 12.

2. Development Class - 2 race vehicles, 1 x 7page Enterprise Portfolio and 1 x 7page Engineering Portfolio, trade display, verbal presentation, engineering assessment and racing. This class is open to first time competing students in Years 5 to 9 and has special machining, portfolio and trade display restrictions imposed.

3. Junior Professional Class - 2 race vehicles, 1 x 11page Enterprise Portfolio and 1 x 11page Engineering Portfolio, trade display, verbal presentation, engineering assessment and racing and folio. This class is open to teams in Years 5 to 9 who have competed previously or do not wish to be imposed with the restrictions placed upon the Development Class.

4. Senior Professional Class - 2 race vehicles, 1 x 11page Enterprise Portfolio and 1 x 11page Engineering Portfolio, trade display, verbal presentation, engineering assessment and racing. This class is open to teams in Years 10 to 12, regardless of whether they have competed previously. There are no restrictions imposed.

Submission of Project Elements
Competitors will need to submit the following project elements to REA staff by 12 noon Saturday 31 August at an agreed drop off point.

- 2 x identical race cars
- 2 x Hi Res A3 Enterprise Portfolios
- 2 x Hi Res A3 Engineering Portfolios
- 1 x Engineering Compliance Booklet and USB containing final Portfolio files in PDF format. All portfolios will NOT be returned to teams until the end of the competition. Students wishing to display-portfolios on their trade display or take copies to verbal presentation judging, will need to provide additional copies.

All information on F1 in Schools, including current rules and regulations, on the REA website www.rea.org.au/f1-in-schools

Trade Displays
Trade Displays must look professional and be secured for the duration of the Show. The public will be screened off from the display. The public need to see a quality display throughout the Show.

Cadet Teams posters will be mounted on display panels provided for this purpose. All Development, Junior Professional and Senior Professional classes will require booth displays of 2 metres long x 1 metre deep x 2.4 metres high with 2 x 240-volt power outlets. See current Competition Regulations for building to maximum internal dimensions.

If numbers are excessive and space is limited, teams will rotate days of display. Teams will be advised through the RA&HS and REA.

Awards presented at a closing ceremony will be Royal Show sashes and displayed in the booths.

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CADET JUNIOR CLASS

Class 1 Cadet Junior Class - Years 5/6/7/8/9

THE 4WD & ADVENTURE SHOW PRIZE

STATE CHAMPIONS

$100.00 sponsored by Automotive Exhibitors Association

BEST DESIGNED CAR
FASTEST LAP
BEST POSTER

CADET SENIOR CLASS

Class 2 Cadet Senior Class - Years 10/11/12

STATE CHAMPIONS
BEST DESIGNED CAR
FASTEST LAP
BEST POSTER

DEVELOPMENT CLASS

Class 3 Development Class - Years 5/6/7/8/9

THE 4WD & ADVENTURE SHOW PRIZE

STATE CHAMPIONS

$200.00 sponsored by Automotive Exhibitors Association

THE 4WD & ADVENTURE SHOW PRIZE

2ND PLACE

$100.00 sponsored by Automotive Exhibitors Association

GRAND PRIX RACE

FASTEST LAP

KNOCKOUT CHAMPIONS
BEST REACTION TIME
BEST ENGINEERED DESIGN
BEST ENGINEERED CAD
BEST MANUFACTURED CAR
BEST TEAM MARKETING
BEST TEAM GRAPHIC DESIGN
BEST TEAM PORTFOLIO
BEST MANAGED ENTERPRISE
OUTSTANDING INDUSTRY COLLABORATION
BEST INNOVATION
BEST TEAM VERBAL PRESENTATION
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

JUNIOR PROFESSIONAL
Class 4  Junior Professional - Years 5/6/7/8/9
STATE CHAMPIONS
GRAND PRIX RACE
FASTEST LAP
KNOCKOUT CHAMPIONS
BEST REACTION TIME
BEST ENGINEERED DESIGN
BEST ENGINEERED CAD
BEST MANUFACTURED CAR
BEST TEAM MARKETING
BEST TEAM GRAPHIC DESIGN
BEST TEAM PORTFOLIO
BEST MANAGED ENTERPRISE
OUTSTANDING INDUSTRY COLLABORATION
BEST INNOVATION
BEST TEAM VERBAL PRESENTATION

SENIOR PROFESSIONAL
Class 5  Senior Professional - Years 10/11/12
THE 4WD & ADVENTURE SHOW PRIZE
STATE CHAMPIONS
$200.00 sponsored by Automotive Exhibitors Association

THE 4WD & ADVENTURE SHOW PRIZE
2ND PLACE
$100.00 sponsored by Automotive Exhibitors Association

GRAND PRIX RACE
FASTEST LAP
KNOCKOUT CHAMPIONS
BEST REACTION TIME
BEST ENGINEERED DESIGN
BEST ENGINEERED CAD
BEST MANUFACTURED CAR
BEST TEAM MARKETING
BEST TEAM GRAPHIC DESIGN
BEST TEAM PORTFOLIO
BEST MANAGED ENTERPRISE
OUTSTANDING INDUSTRY COLLABORATION
BEST INNOVATION
BEST TEAM VERBAL PRESENTATION

SUBS IN SCHOOLS SOUTH AUSTRALIA STATE FINAL

Set up of team Trade Displays will take place on Wednesday night from 7pm All displays must be to a Royal Show standard. All exhibits will be displayed and secured during Show week.

COMPETITION AND JUDGING DURING SHOW WEEK
The competition is promoting engineering including the use of advanced technology systems, culminating in a range of judging including the Submarines and ROV’s undertaking ‘Sea Trials’ in a swimming pool located externally to the Showground.

The competition will comprise of judging across four key areas as follows:

1. Engineering/Scrutineering: Including use of CAD/CAM, CNC manufacturing and compliance with the technical rules
2. Portfolio & Trade Display: Covering project management, financial and resource management, marketing and team identity, the final design including research, initial design concepts and development of these through testing and evaluation,
3. Verbal Presentations: Outlining project innovation, collaboration with industry and learning experience
4. Sea Trials: Involving models manoeuvring through an obstacle course underwater within a set timeframe.

COMPETITION DAYS
Wednesday 4 September - Sea Trials & Trade Display Set-up
Thursday 5 September and Friday 6 September judging.

Sea Trials will be conducted on Wednesday 4 September 2019 a pool venue to be confirmed. Team Trade Displays will be set-up from 8pm – 10pm on this day.

All other judging will take place at the Royal Adelaide Show on Thursday 5 and Friday 6 September 2019, concluding with an Awards Presentation.

SUBS in Schools competition operates at 4 levels. However, Level 1 does not culminate in a competition.

LEVEL 2 – DESIGN AND BUILD AN OPERATING ROV
Students are required to build a large scale ROV which can support ancillary items such as cameras, robot arms and the like and can undertake specific tasks. We have sourced teacher material and texts that will allow students to complete this task. The competition will be based around diving down and recovering items on the floor of a pool along the way filming the activity.
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

**Project Definition**
You are a new design company making a bid for the design of a new remotely controlled submersible vehicle. There are special design specifications for this vehicle and parameters you must work within.

To succeed in the challenge, you will need to work with modern design, manufacturing and virtual reality technologies. You will be required to collaborate with industry and these links are a very important part of the challenge marking criteria. The complete design for manufacture process will need to be documented, along with team marketing and promotion. You will also need to form one or more specific industry partnerships to obtain advice or even assistance with manufacturing components not possible within your school.

As in Industry, to design and manufacture your project, you will need to work as part of a team of 3–5 students. Ideally team roles should be allocated to each person. However, you may have to double up on some roles and responsibilities, depending on the team size.

**Project Deliverables**
The project has five main program deliverables:

**Project Portfolio**: Create a 7 page Enterprise Portfolio and 7 page Engineering Portfolio (Development Class) or 11 page Enterprise Portfolio and 11 page Engineering Portfolio (Professional Class) covering each of the main elements of the project and examining associated design influences such as: Team roles and duties, the science behind underwater operation, a detailed study of hydrodynamics, the impact of buoyancy, pressure and stability of their design, industry collaboration, the design cycle and Innovation, company Marketing Strategy

**Scale Model**: Design and manufacture a working scale model of a submersible ROV no longer than 500mm. This vehicle will have to be able to dive, manoeuvre and carry out a number of tasks within a set of time constraints and will have to meet a number of design limitations set by the rules. It will also have to be remotely operated and be able to communicate with the driver (captain) who will be located on land.

**Trade Display**: Produce a Trade Display – usually a 2m (w) x 1m (D) x 2.4m (H) expo type booth aimed at selling your virtual company’s products to the Department of Defence. This will include the development of team uniforms. Note: Restrictions apply to Development Class Booths. Check the Competition Regulations for more information.

**Verbal Presentation**: Prepare a 10 minute verbal presentation covering the team’s design(s) for presentation to a group of Department of Defence and industry people.


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**LEVEL 3 - DESIGN AN INTERNAL ACCOMMODATION/KITCHEN GALLEY SPACE**

**Project Definition**: The goal is to form a virtual a design company which will make a bid for the design of the accommodation space on-board the Future Submarine Project. To succeed in the challenge, you will need to work with modern design, manufacturing and virtual reality technologies. Just like in Industry, to design and manufacture your project, you will need to work as part of a team of 3–5 students. Ideally, a main team role should be allocated to each person. However, you may have to double up on some roles and responsibilities, depending on the team size.

**Project Deliverables**: The project has five main program deliverables:

**Project Portfolios**: Create an 11 page Enterprise Portfolio and 11 page Engineering Portfolio covering each of the main elements of the project and examining associated design influences such as: Human environment design, The impact of buoyancy, pressure, stability and the acoustic signature of their design, Energy generation, usage and storage on board the submarine and propose alternative and innovative energy solutions which could address areas such as, lighting, cooking, food storage etc, Examine key issues associated with sustainability, recycling and handling of human and food waste.

**Scale Model**: Produce an optional physical 3D model of the design solution at 1/10 scale for their team Trade Display.

**Trade Display**: Produce a Trade display – usually a 2m (w) x 1m (D) x 2.4m (H) expo type booth aimed at selling your virtual companies products to the Department of Defence. This will include the development of team uniforms.

**Virtual Model**: Produce a Virtual 3D model of this operational space using gaming technology which could be used for training submariners.

**Verbal Presentation**: Prepare a 10 minute verbal presentation covering the team’s design(s) for presentation to a body of suitable qualified Managers, Engineers and Scientists from the DMO and Future Submarine Integrated Product Team.

See REA Website for details and current Rules and Regulations - [http://www.rea.org.au](http://www.rea.org.au)
LEVEL 4 – DESIGN AND BUILD A WORKING MODEL SUBMARINE

PROJECT DEFINITION
You are a new design company making a bid for the design of a new remotely controlled submersible vehicle. There are special design specifications for this vehicle and parameters you must work within. To succeed in the challenge, you will need to work with modern design, manufacturing and virtual reality technologies. You will be required to collaborate with industry and these links are a very important part of the challenge marking criteria. The complete design for manufacture process will need to be documented, along with team marketing and promotion. You will also need to form one or more specific industry partnerships to obtain advice or even assistance with manufacturing components not possible within your school. As in Industry, to design and manufacture your project, you will need to work as part of a team of 3–5 students. Ideally team roles should be allocated to each person. However, you may have to double up on some roles and responsibilities, depending on the team size.

PROJECT DELIVERABLES
The project has five main program deliverables:

Project Portfolio: Create an 11 page Enterprise Portfolio and 11 page Engineering Portfolio covering each of the main elements of the project and examining associated design influences such as: Team roles and duties, The science behind underwater operation, A detailed study of hydrodynamics, The impact of buoyancy, pressure and stability of their design, Industry collaboration, The design cycle and Innovation, Company Marketing Strategy

Scale Model: Design and manufacture a working scale model of a submarine/submersible no longer than 1 metre. This vehicle will have to be able to dive, manoeuvre and carry out a number of tasks within a set of time constraints and will have to meet a number of design limitations set by the rules. It will also have to be remotely operated and be able to communicate with the driver (captain) who will be located on land.

Trade Display: Produce a Trade display – usually a 2m (w) x 1m (D) x 2.4m (H) expo type booth aimed at selling your virtual company’s products to the Department of Defence. This will include the development of team uniforms.

Verbal Presentation: Prepare a 10 minute verbal presentation covering the team’s design(s) for presentation to a group of Department of Defence and industry people.


DISPLAYS and AWARDS
Displays must look professional and be secured for the duration of the show. The public will be screened off from the display. The public need to see a quality display throughout show week.

Awards presented at a closing ceremony will be Royal Show sashes and displayed in the booths.

ROV DEVELOPMENT
Class 6 ROV Development - Years 5/6/7/8/9

THE 4WD & ADVENTURE SHOW PRIZE
STATE CHAMPIONS
$100.00 sponsored by Automotive Exhibitors Association

BEST ENGINEERED DESIGN
BEST FINISHED ROV
BEST TEAM PORTFOLIO
BEST TEAM MARKETING
MOST OUTSTANDING INDUSTRY COLLABORATION
BEST INNOVATION
BEST TEAM VERBAL PRESENTATION
ENCOURAGEMENT AWARD

ROV PROFESSIONAL
Class 7 ROV Professional Class - Years 10/11/12

STATE CHAMPIONS
BEST ENGINEERED DESIGN
BEST FINISHED ROV
BEST TEAM PORTFOLIO
BEST TEAM MARKETING
MOST OUTSTANDING INDUSTRY COLLABORATION
BEST INNOVATION
BEST TEAM VERBAL PRESENTATION
ENCOURAGEMENT AWARD

SPATIAL DESIGN
Class 8 SPATIAL DESIGN - Years 7/8/9/10/11/12

THE 4WD & ADVENTURE SHOW PRIZE
STATE CHAMPIONS
$100.00 sponsored by Automotive Exhibitors Association

2ND PLACE
3RD PLACE
BEST ENGINEERED SPACE
BEST VIRTUAL MODELLING
BEST TEAM MARKETING
The competition is promoting engineering including the use of advanced technology systems, culminating in a range of judging including the Model 4x4 vehicles undertaking a Track Assessment on a specially designed off-road track.

The competition will comprise of judging across four key areas as follows:

1. **Engineering/Scrutineering**: Including use of CAD/CAM, CNC manufacturing and compliance with the technical rules. Teams will be interviewed by a panel of judges about how their vehicle was manufactured and why/how they made the design choices on the vehicle. At the same time the judges will scrutinise each vehicle checking various elements of the vehicles such as the vehicle size (length, width and height), tilt sensors, automatic lights, weight, etc. Vehicles failing on any dimensions/feature will be penalised but not excluded from the challenge.

2. **Portfolio & Trade Display**: Each team is required to produce a portfolio describing in a brief and concise manner the experience, design and decision making process that the team has gone through in the design and build of their vehicle. The display should provide evidence of your research, planning and build. Sketches, working drawings and photographs should be included, as well as the team colours, identity, logo, sponsors as well as examples of any models or photographs that the team have developed.

3. **Verbal Presentations**: Each team is required to produce a verbal presentation to a panel of judges by the whole team detailing all aspects of the project including research, generation of ideas, testing, building, finance and evaluation.

4. **Track Assessment**: this is a timed assessment of each vehicle to successfully navigate around obstacles on a specially made off-road track to test a team vehicle’s 4x4 capability.

**COMPETITION CLASSES**

The challenge is split into two classes for entry into the competition, Development and Professional. Each team must decide which class they would like to enter before registering to compete at their first competition event. The two classes will be judged separately to each other and separate awards will be presented. Certain restrictions are applied to some classes of competition.

**Development Class – Years 5 – 9 only**

For first time entering students only. Students can only participate in this class once.
Professional Class - Years 7 – 12 only
Open to all students but usually only entered by students in Years 7 – 9 who have competed in a previous year.
A student’s school year group is determined from the year group the student is in during the year of Regional and State Finals.
This competition is open to all Australian Schools students. Interschool collaboration teams are eligible but must consist of a minimum 4 and maximum 6 students with balanced representation from each school. Maximum 2 schools permitted.

Development Class Entry Conditions
Year Level: This class of competition is strictly open to first time students enrolled in Years 5 – 9.
First Time Students: Students entering the challenge can only compete in the Development Class for one year and then must enter the Professional Class for following years

Land Rover 4x4 in Schools Starter Kit: Teams entering the challenge in this competition class must purchase the REA approved Land Rover 4x4 in Schools Technology Challenge starter kit which is available via http://www.envizage.com.au/land-rover-4x4-in-schools-starter-kit/. The Starter Kit contains a remote controlled vehicle, a vehicle battery and battery charger.

Team Manufactured Components: This vehicle will be allowed to be entered into the challenge however Development Class team’s must as a minimum manufacture their own vehicle body, the vehicle electrics (light and tilt sensor) and have an in-depth knowledge and understanding of the vehicle’s suspension, drive train, chassis and wheels.

Professional Class Entry Conditions
Year Level: This class of competition is open to first time or previous competing students from Years 7 – 12 only.

Team Manufactured/Modified Components: Teams entering the Professional Class must design and manufacture their vehicle to the rules and regulations, manufacturing as a minimum the vehicle body, vehicle chassis and all vehicle electrics (light and tilt sensor) themselves. In addition, teams must have either manufactured or purchased and modified other elements of the vehicle such as the drive train, suspension, steering and wheels. Any off the shelf items used must be declared in the team’s portfolio and Bill of Material (B.O.M).

LAND ROVER 4X4 IN SCHOOLS TECHNOLOGY CHALLENGE - DEVELOPMENT
Class 10  Development – Years 5/6/7/8/9
STATE CHAMPIONS
2ND PLACE
3RD PLACE
BEST TRACK PERFORMANCE
BEST ENGINEERED DESIGN
BEST TEAM MARKETING
BEST TEAM PORTFOLIO
MOST OUTSTANDING INDUSTRY COLLABORATION
BEST INNOVATION
BEST TEAM VERBAL PRESENTATION
ENCOURAGEMENT AWARD

LAND ROVER 4X4 IN SCHOOLS TECHNOLOGY CHALLENGE - PROFESSIONAL
Class 11  Professional Class – Years 7/8/9/10/11/12
STATE CHAMPIONS
2ND PLACE
3RD PLACE
BEST TRACK PERFORMANCE
BEST ENGINEERED DESIGN
BEST TEAM MARKETING
BEST TEAM PORTFOLIO
BEST INNOVATION
BEST TEAM VERBAL PRESENTATION
ENCOURAGEMENT AWARD
MOST OUTSTANDING INDUSTRY COLLABORATION
This area is devoted to a broad range of Technologies that satisfies the need to improve the quality of life in areas such as:

a. Manufacture eg lifting, sorting and moving
b. Quality assurance techniques and Work Health and Safety (WHS)
c. Detecting and Working in danger
d. Domestic applications
e. Agricultural Applications (eg seed sowing,)
f. Games and Information retrieval systems

ROBOTICS & CONTROL TECHNOLOGIES

Description and details are available through elabtronics website - [http://www.elabtronics.com](http://www.elabtronics.com)

Judges will be looking for quality and originality with the:

- Design of circuit
- Design of the hardware
- Efficiency of control
- Manufacture of the “components of the circuit and finish of the product”
- Performance
- Sensitivity to STEMSEL and UNESCO priorities in the community

These entries show the STEMSEL Principles of Science, Technology, Engineering, Mathematics, Social Enterprise and Learning to give life to communities. The aim of this competition in its many forms is to work to UNESCO priorities to improve the quality of life and human condition.

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be displayed and secured in the Technology Pavilion before Show week.

Special Conditions

- All competitions and judging for this category are performed pre-Show and during Show Week. Competitors will be notified of times and dates. Failure to attend at the notified time may eliminate your entry from being judged or displayed.
- Final projects will be displayed at the end of the competition days in cabinets with prize certificates in the Advanced Technology Pavilion, located on the western side of the Showground.
- Some exhibitors may need to compete as a team, if otherwise stated.
- Students will be required to go to the Advanced Technology Pavilion at the allocated times to complete and display their work.
- All exhibits will be displayed and secured in the Technology Pavilion before Show week.

STEMSEL Microcontrollers and Robotics

Competition days and dates for 2019. Competitors will be advised of any changes to times.

Pre-Show Competition dates for 2019
Science Alive week competitions

- Incubator, Soccer, Line Following and UAV Quadcopter Competitions
- City and Farms

Finalists will be chosen and nominated by the judges to appear in “Science Alive Week” and then a chosen percentage would be invited by the judges to display and compete during Show week as finalists.

The invited teams to display and compete in Show week are comprised of 4 to 6 team members who can individually respond to questions from the judges around the design cycle in the ACARA Digital and Design and Technology.

5 Representatives of a team will be required to show their work to judges in Science alive then at the Royal Adelaide Show using these titles as roles – (The Design Cycle Approach in Digital and Design and Technology)

- The Design Brief and Investigation Stage.
- The Devising/ Generating Stage.
- The Implementing/ Production Stage.
- The Evaluation Stages.

The exhibitors will be required to demonstrate their programming skills to the judges and public to obtain their ranking of prizes.

Finalists days for individuals and groups in Show week
Monday 2 - Friday 6 September, with the prize award ceremony held on Friday 6 September.

Line following, and Soccer robots will appear on the first weekend of the Show week

STEMSEL Inventors Competition and Exhibits

Assembly of the finalists for team and individual exhibits will occur on Thursday 1 August for

- Group Competitions Innovation Invention and Enterprise
- Innovation Invention and Enterprise
- and exhibitors

Demonstrations and interactive exhibits including Innovation Invention and Enterprise exhibits will occur throughout the Show week.

Materials, programs hardware and software

You will need to provide your project with software packages from eLabtronics, Adelaide. You will need to bring a laptop computer (240V, AC Supplied) a program prepared and the performing, working model. Description and details will be supplied through – eLabtronics [http://www.elabtronics.com](http://www.elabtronics.com)
GAMING & CODING

This section is devoted to the people who invent games and software to tell a story or produce a game for others to learn about information. The information may be of use, as entertainment and educational, to others, for learning such as:

- Historical.
- Geographical.
- Agricultural.
- Science and Mathematics.
- General knowledge and language applications.

The judges will be looking for some reasons for your clever invention of the game and the use of software applications. Some applications could be web based such as “Scratch”. This exhibit may be done and shown with a computer on the day of judging, with some background information in a folio to the judges. Information to include in your folio includes:

- A design brief or reasons why this was done.
- Investigation of the gaming systems used.
- A Graphical outline of the package with screen shots describing the data used.
- The production of the game as the key feature of the entry.
- An evaluation of the Gaming package and what could be improved.

The entry must deliver an easy package for the judges to see on screen, the use of the software and also the entertainment value with clear graphics.

Class 12 Years 4/5
Class 13 Years 6/7
Class 14 Years 8/9
Class 15 Years 10/11/12

BEST EXHIBIT IN CLASS - GAMING & ENTERTAINMENT

CONTROL TECHNOLOGIES & PROGRAMMING

This section may use Control technologies other than STEMSEL such as Arduino, LEGO Mindstorms and others.

The STEM Robotics/Control Technologies Platforms (including Artificial Intelligence) may be

- Individual Entries
- Team Entries

Judges will be looking for quality and originality with the:

- Design of circuit.
- Design of the hardware.
- Efficiency of control.
- Manufacture of the "components of the circuit and finish of the product”.
- Performance.
- Sensitivity to the well-being of the community.

With judging consideration given to:

- Design efficiency of chassis and programming efficiency of the system.
- Circuit design and construction and manufacture of the structure supporting the control centre.
- Neatness and finish of the product.
- Weight (lightness) if required and stability of structure that is performing the task.
- Efficiency of control system when tested and under a load.
- NB - A small item may need to be provided to show the Control Technology or Robot working under load conditions

The Folio of Work must incorporate:

- Details on the design process with design brief, investigation planning and evaluation.
- Back up work with calculations and specific principles used.
- Sustainability of control system or production system.
- Chassis and circuit designs.
- Method of manufacture with pictures of stages

Class 16 Years 6/7
Class 17 Year 8
Class 18 Years 9/10
Class 19 Years 11/12

CONTROL CIRCUITS AND PROGRAMMING - THE EGG INCUBATOR

Participants are required to design and construct with eLabtronics, ezSystem kits and microcontrollers an egg incubator for use as an agricultural application. The incubators will be actively running through the show week and require testing of performance before the judging.

Class 20 Up to and including Year 5
Class 21 Years 6/7
Class 22 Years 8/9/10
Class 23 Years 11/12/13/VET

THE ELABTRONICS PRIZE

BEST EXHIBIT IN CONTROL TECHNOLOGIES (EGG INCUBATOR)

Product ($450.00) sponsored by eLabtronics
UAV (UNMANNED, AERIAL VEHICLE)

Using Control circuits and Programming.

Special Conditions
This competition will be held before show week in Science Alive week and those chosen to be of a suitable standard will perform their exhibits also during show week.

For information for further specifications and judging requirements email Miro miro@elabtronics.com or the website www.elabtronics.com

Class 24  Up to and including Year 7
Class 25  Year 8/9
Class 26  Year 10
Class 27  Year 11/12/13/VET

THE ELABTRONICS PRIZE
BEST EXHIBIT IN CONTROL TECHNOLOGIES
(UNMANNED AERIAL VEHICLE)
Product ($450.00) sponsored by eLabtronics

ROBOTICS (Line Following)

Robots designed with software and hardware from eLabtronics, are to compete with each other to follow a line on a field. The race track is a black paper sheet mat with a white line twisting and turning from start to finish. The track has simple and more complex turns. The robots should sense the line and the program be adjusted by the competitor in the Show week. Times are taken for efficiency of the program.

Judges will be looking for originality of design of hardware and efficiency of system of control.

Class 28  Up to and including Year 5
Class 29  Year 6
Class 30  Year 7
Class 31  Years 8/9/10
Class 32  Years 11/12/13/VET

THE ELABTRONICS PRIZE
BEST EXHIBIT IN CONTROL TECHNOLOGIES
(ROBOTICS FOCUS LINE FOLLOWING)
Product ($450.00) sponsored by eLabtronics

ROBOTICS (Soccer via Remote Control)

Robots designed with software and hardware to compete with each other and to place a ball in a goal, using a remote control such as a Playstation 2 (PS2) controller device. Another competitor may be on the field (if time permits) to be a defender and the other an attacking robot. The robots may sense the other robot, sense the position in the field and be able to be controlled with a program, such as eLabtronics (ezSystem).

Class 33  Up to and including Year 5
Class 34  Year 6
Class 35  Year 7
Class 36  Years 8/9/10
Class 37  Years 11/12/13/VET

THE ELABTRONICS PRIZE
BEST EXHIBIT IN CONTROL TECHNOLOGIES
(ROBOTICS FOCUS SOCCER)
Product ($450.00) sponsored by eLabtronics
STEMSEL TEAM, ADULT GENIUS & INDIVIDUAL INVENTORS COMPETITION

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times. All exhibits will be displayed and secured in the Advanced Technology Centre before Show week.

Australian Entries (Local and Interstate Entries) and Guest overseas Entries
Both competitions require design brief and problem-based learning (PBL) that shows back up work and the competitor attending or communicating through SKYPE on the competition day(s).

There are 2 competitions within this category:

- Individual prize winner – a choice of 4 topics
- Group or team prize winner – a choice of 2 topics

The Design Brief Requirements for the 2 STEMSEL Competitions

- Competitors are required to use control circuits and programming for an invention displaying innovation.
- Competitors are required to be creative in this section to demonstrate an idea or model that is marketable as a commercially viable and sensitive product to STEMSEL and UNESCO/ Dr Yunus Vision of 3 zeros (Zero net carbon, zero poverty and zero unemployment).

Performance of Exhibits
The invention and innovation uses the programming of microcontrollers to perform tasks with ezSystem programs. The invention must have a strong ethics component to improve the human condition or quality of life, with a theme that may be applicable in the local, state or global context. The competitor(s) must demonstrate and present an exhibit that includes a:

- Enterprise and a marketing strategy
- A folio in the investigation, planning and evaluation stages of the invention
- A working invention with a verbal discussion.

Judging requirements for both individual and team competitions:

- Competitors will be invited by the Royal Show to attend on judging days to demonstrate and discuss with the judges, their innovative control system.
- The individual or a small group (about 6 people representing a team) will be invited by the Royal Show to display the work, during Show week.
- The invention must be working and have a good standard of display and finish to the public.
- Both types of competitors must display the invention with a folio as a marketing tool of back up work that shows –

- title page with the exhibit number, class number and title of the invention
- design brief
- description of the technology systems used
- investigation and analysis of materials (traditional and advanced)
- investigation and analysis of systems used to manufacture and control the invention
- showing ideas and final stages of concepts realisation of the innovation
- print of the control program with some photos of construction and final working stages.
- evaluation describing a vision statement and marketing strategy for your invention and sensitivity to STEMSEL and UNESCO priorities and Dr Yunus Vision of 3 Zeros, with accounting/ enterprise and innovation strategies.

NB - The folio needs to be up to 15 A4 pages long and be presented on the day with the invention.

The programs need to be in a PC windows format, readable and based on ezSystem from eLabtronics, Adelaide.

INDIVIDUAL PRIZE CATEGORIES
The themes for an individual prize (applicable in the local, state, interstate or global/ overseas context are)

- Entertainment and Recreation
- Environment and Energy Applications
- Agriculture and Horticulture Issues
- Industry and Transport Applications

Some topics could include – animatronics, systems reducing CO₂ emissions, waste disposal, water, soil and air conservation, improving productivity from the land, improve quality and quantity control of manufacturing processes, an alarm system, a smart street light, a white goods control system, a model of low energy housing construction, heating, cooling, lighting and water saving system, a light house, a seed sower, etc

FURTHER INFORMATION
For information for further specifications and judging requirements email Miro miro@elabtronics.com or visit the eLabtronics website www.elabtronics.com

ENTERTAINMENT & RECREATION

Class 38  Up to and including Year 6
Class 39  Years 7/8/9
Class 40  Years 10/11/12/13

BEST EXHIBIT IN SCHOOLS STEMSEL - INNOVATION, ENTERTAINMENT & RECREATION
ENVIRONMENTAL & ENERGY ISSUES

Class 41 Up to and including Year 6
Class 42 Years 7/8/9
Class 43 Years 10/11/12/13

BEST EXHIBIT IN SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE: ENVIRONMENT ISSUES & AGRICULTURAL APPLICATIONS

AGRICULTURAL AND HORTICULTURAL APPLICATIONS

Class 44 Up to and including Year 5
Class 45 Years 6/7
Class 46 Years 8/9
Class 47 Years 10/11/12/13

THE SHOW SOCIETY FOUNDATION PRIZE
BEST EXHIBIT IN SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE - ENVIRONMENT ISSUES & AGRICULTURAL APPLICATIONS

All exhibits will be displayed and secure before Show week.

The individual winner will receive 2 return economy tickets for the winner and an adult to travel to an overseas destination (TBA) to compete in a STEM Competition.

Voucher ($3,000.00) sponsored by Show Society Foundation

INDUSTRY & TRANSPORT APPLICATIONS

Class 48 Up to and including Year 6
Class 49 Years 7/8/9
Class 50 Years 10/11/12/13

BEST EXHIBIT IN THE INDIVIDUAL INNOVATION, INVENTION AND ENTERPRISE AWARD IN ROBOTICS COMPETITION - INDUSTRY AND TRANSPORT FOCUS

GENIUS - INVENTION, INNOVATION & ENTERPRISE

All exhibits will be displayed and secure before Show week.

This competition is design brief and problem-based learning (PBL) requiring back up work and the competitor attending the competition day/s.

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

Competition days and dates for 2019

Finalists days - Wednesday 4 – Friday 6 September, with the prize award ceremony held on Friday 6 September.

There is one competition to select an overall individual prize winner from a choice of 4 topics

1. ENTERTAINMENT AND RECREATION
2. AGRICULTURAL AND HORTICULTURAL APPLICATIONS
3. INDUSTRIAL AND TRANSPORT APPLICATIONS
4. ENVIRONMENT AND ENERGY

The Design Brief and Folio required

Competitors are required to use control circuits and programming for an invention displaying innovation.

Competitors are required to be creative in this section to demonstrate an idea or model that is marketable as a commercially viable product.

The invention and innovation uses the programming of microcontrollers to perform tasks with ezSystem programs.

The invention must have a strong ethics component to improve the human condition or quality of life.

The competitor(s) must demonstrate and present an exhibit that demonstrates enterprise and a marketing strategy with a social and ethical emphasis

contains a folio in the investigation, planning and evaluation stages of the invention

can demonstrate the working invention to judges with a verbal discussion.

The themes may be applicable in the local, state or global context.

Judging requirements for individual adult competitions.

Competitors will be invited by the Royal Show to attend on judging days to demonstrate and discuss with the judges, their innovative control system.
The individual or a small group (about 6 people representing a team) will be invited by the Royal Show to display the work.

The invention must be working and have a good standard of display and finish to the public.

Both types of competitors must display the invention with a folio as a marketing tool of back up work that shows –

(a) A title page with the exhibit number, class number and title of the invention
(b) The design brief
(c) A description of the technology systems used
(d) The investigation and analysis of materials (traditional and advanced)
(e) The investigation and analysis of systems used to manufacture and control the invention
(f) Graphics showing ideas and final stages of concepts realisation of the innovation
(g) A Print of the control program with some photos of construction and final working stages.
(h) An evaluation describing a vision statement and marketing strategy for your invention, with a social and ethical emphasis.

NB - The folio needs to about 15 A4 pages long and be presented on the day with the invention. The programs need to be in a PC windows format, readable and based on ezSystems from eLabtronics, Adelaide.

INDIVIDUAL PRIZE CATEGORIES

The themes for an individual prize (applicable in the local, state or global context are) -

Entertainment and Recreation
Agricultural and Horticultural Applications
Industrial and Transport Applications
Environment Issues and Energy

Some topics could include – animatronics, systems reducing CO₂ emissions, waste disposal, water, soil and air conservation, improving productivity from the land, improve quality and quantity control of manufacturing processes, an alarm system, a smart street light, a white goods control system, a model of low energy housing construction, heating, cooling, lighting and water saving system, a light house, a seed sower, etc.

Class 51 Entertainment and Recreation
Class 52 Agricultural and Horticultural Applications
Class 53 Industrial and Transport Applications
Class 54 Environment Issues and Energy

BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE ROBOTICS COMPETITION MADE BY AN ADULT

JUNIOR WIZARD - INNOVATION, INVENTION & ENTERPRISE

These entries show the STEMSEL Principles of Science, Technology, Engineering, Mathematics, Social Enterprise and Learning to give life to communities. The aim of this competition in its many forms is to work to UNESCO priorities to improve the quality of life and human condition. It also encourages the “Invention for Social good” to use the Professor Yunus 3 Zeros policy to create No Unemployment, No Poverty and No nett carbon (Pollution)

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be displayed and secured in the Technology Pavilion before Show week.

Special Conditions
All competitions and judging in Category 4 are performed during pre-Show and during Show Week. Competitors will be notified of times and dates. Failure to do so may eliminate your entry from being judged or displayed.

Students will be required to go to the Advanced Technology Pavilion at the allocated times to complete and display their work.

Final projects will be displayed at the end of the competition days in cabinets with prize certificates in the Advanced Technology Pavilion.

Some exhibitors may need to compete as a team, if otherwise stated.

All exhibits will be displayed and secure before Show week.

This competition is design brief and problem-based learning (PBL) requiring back up work and the competitor attending the competition day(s).

Competition days and dates:
Finalists days:
Thursday 5 September
Friday 6 September

Prize Award Ceremony - Friday 6 September

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be displayed and secured before Show week.

This competition is design brief and problem-based learning (PBL) requiring back up work and the competitor attending the competition day(s).

There is one competition to select an overall individual prize winner from a choice of 5 topics.
The Design Brief and Folio required

Competitors are required to use control circuits and programming for an invention displaying innovation.

Competitors are required to be creative in this section to demonstrate an idea or model that is marketable as a commercially viable product.

The invention and innovation uses the programming of microcontrollers to perform tasks with ezSystem programs.

The invention must have a strong ethics component to improve the human condition or quality of life.

The competitor(s) must demonstrate and present an exhibit that-

(a) demonstrates enterprise and a marketing strategy with a social and ethical emphasis

(b) contains a folio in the investigation, planning and evaluation stages of the invention

(c) can demonstrate the working invention to judges with a verbal discussion.

The themes may be applicable in the local, state or global context.

Judging requirements for individual adult competitions -

Competitors will be invited by the Royal Show to attend on judging days to demonstrate and discuss with the judges, their innovative control system.

The individual or a small group (about 5 people representing a team) will be invited by the Royal Show to display the work.

The invention must be working and have a good standard of display and finish to the public.

Both types of competitors must display the invention with a folio as a marketing tool of back up work that shows –

(a) A title page with the exhibit number, class number and title of the invention

(b) The design brief incorporating the 3 Zeros Policy

(c) A description of the technology systems used

(d) The investigation and analysis of materials (traditional and advanced)

(e) The investigation and analysis of systems used to manufacture and control the invention

(f) Graphics showing ideas and final stages of concepts realisation of the innovation

(g) A Print of the control program with some photos of construction and final working stages.

(h) An evaluation describing a vision statement and marketing strategy for your invention, with a social and ethical emphasis (3 Zeros Policy).

NB - The folio needs to be about 15 A4 pages long and be presented on the day with the invention.

The programs need to be in a PC windows format, readable and based on ezSystems from eLabtronics, Adelaide.

INDIVIDUAL PRIZE CATEGORIES

The themes for an individual prize (applicable in the local, state or global context are) -

Entertainment and Recreation

Environmental Issues

Agricultural Applications

Manufacturing and Industrial Applications

Energy and Transport Applications

Some topics could include – animatronics, systems reducing CO2 emissions, waste disposal, water, soil and air conservation, improving productivity from the land, improve quality and quantity control of manufacturing processes, an alarm system, a smart street light, a white goods control system, a model of low energy housing construction, heating, cooling, lighting and water saving system, a light house, a seed sower, etc.

Class 55 Entertainment and Recreation

Class 56 Environmental Issues and Agricultural Applications

Class 57 Manufacturing and Industrial Applications

Class 58 Energy and Transport

BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE ROBOTICS COMPETITION MADE BY either A STEMSEL Junior Wizard or Non STEMSEL Robotics Entry, Solving Humanitarian needs and providing well-being to other
STEMSEL TEAM COMPETITION

The Design Brief for Australian and Overseas Competition teams
Competitors are required to use control circuits and programming for an invention displaying innovation.

- Smart City or a
- Smart Farm

The innovation, invention and enterprise competition models use the programming of microcontrollers to perform tasks with ezSystem programs.

The invention must be active and can be used by the public as an interactive, eye catching display. The team will be required at times to discuss their invention with the public and may be observed by the judges.

The display can be no larger than 1800mm x 1200mm. The Team Competition entries may be selected and displayed at the Royal Show at different times due to limited space. Teams will be advised by The Royal Show and eLabtronics, Adelaide.

The invention may have a solution to some of these problems: traffic control, waste disposal and sanitation, improving productivity, transport and energy, lighting, cooling and heating, power generation, communication systems, fresh water and storage, soil erosion.

Judges will be looking for:
An innovative approach with strong ethics and “green approach” to the problem to be solved.

AUSTRALIAN TEAMS: SMART FARM

- Class 59  Up to an including Year 6
- Class 60  Years 7/8/9
- Class 61  Years 10/11/12/13

AUSTRALIAN TEAMS: SMART CITY

- Class 62  Up to and including Year 6
- Class 63  Years 7/8/9
- Class 64  Years 10/11/12/13

OVERSEAS TEAMS: SMART FARM

- Class 65  Up to and including Year 6
- Class 66  Years 7/8/9
- Class 67  Years 10/11/12/13

OVERSEAS TEAMS: SMART CITY

- Class 68  Up to and including Year 6
- Class 69  Years 7/8/9
- Class 70  Years 10/11/12/13

THE ELABTRONICS PRIZE
BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE ROBOTICS COMPETITION MADE BY A SCHOOL GROUP
Voucher ($3,000.00) sponsored by eLabtronics
APPLICATIONS of AVIATION and SPACE

The following categories are conducted environment that the modelling, data gathering, and testing, may include, with safety of the competitors in mind could be -

a. At Ground level  
b. Below ground/ sea level or  
c. At Altitude

Special Instructions

For Space Mission
Those categories that require altitude data, need to have CASA Approval for flight schedules and limits of time and height of flight. Please contact the relevant schools for their approval process for CASA, local District Councils and safety requirements. This will be done through Project Horus, AREG and Launchbox. These specialised flights or missions require special sanction, high technical detail of flight paths, launching procedures and tracking equipment. Please see page on Web references, especially for flight testing for Laws and legal rights.

UAV’s/ Drones
Some of these activities lead onto flight studies at University and also to have a Remote Controllers Licence requirement in schools to be satisfied. This may enable students to undertake further studies to become involved with the flight industry. Please ask your local school for further information about the future pathways of these studies. The data will need to be presented in digital form so that is can be broadcast on a TV screen for judging and demonstration at the Royal Adelaide Show.

Again data collected requires special permission from Councils or land holders. Privacy terms and agreements need to be undertaken. See weblinks for this.

Section 5 Applications of Aviation and Space

The UAV Competition
This competition involves students building and designing their own UAV’s (drones) and fixed wing craft. Student study airflow and aerodynamics. Students must obtain a license to fly these craft and can progress to gaining qualifications and training in aviation. Students can capture and evaluate data, presenting their findings. The altitude for this research and investigation is at 30 metres.

Future Developments

UAV’S
The UAVs may be invited to apply for a Remote-Control License and join with other social groups of interest. They may also partake in courses with Universities to obtain a Pilot’s License, depending on the connections to school-based programs.

The Space Competition:
Students work in a team to design an experiment which could be conducted in the stratosphere and eventually space. The program looks at the conditions of space and on other worlds and the effects upon the experiment. The experiment goes into the stratosphere, 20 km above the earth’s surface or on the surface conditions of a model of a planet. The balloons with student's experiments are launched using AREG technologies. They collect and digitally present their findings. When the investigation is conducted on a model of a planet's surface, data is collected and analysed to show the conditions of this environment in space. There may be some communications with NASA or an associated Space Agency. This could lead to more interest and a career in the Space Industry.

UAV MISSION
Class 71 Year 7/8  
Class 72 Year 9  
Class 73 Year 10/11/12  
BEST PRESENTED UAV MISSION

SPACE MISSION
Class 74 Year 6/7  
Class 75 Year 8  
Class 76 Year 9  
Class 77 Year 10  
Class 78 Year 11/12  
BEST PRESENTED SPACE MISSION
ENRTRIES MUST BE COMPLETE VIA THE SHOW ONLINE REGISTRATION PLATFORM BY FRIDAY 16 August. Please liaise with Belinda Cay (Belinda.cay@agcommunicators.com.au) regarding the judging / selection of your finalists.

Please refer to the front of this schedule for delivery & removal dates and times, payment of prize money etc.

This competition focuses on experimental design and research methodology and incorporates the use of STEM to describe and solve problems. It requires students to use logical scientific investigation techniques. Entrants can select any topic of interest to them, however, there is a specific award for projects with a Food and Fibre (agricultural) theme.

Judges will be looking for –

- Unique research topic
- Clear, concise hypothesis and the establishment of a robust experimental design
- Defined dependent and independent variables, controls, replications
- Defined methodology and results, with a discussion providing ideas and recommendations
- Unique and exceptional high quality of work
- Strong ethical approach to improve the quality of human life or condition
- Consideration of appropriate work health and safety and personal protective equipment
- Understanding of rural problems and solving these in a unique manner
- Positive interaction with the judges and public

What is it?
The Science Investigation Awards is an investigation-based school science competition.

Why should you enter?
The Science Investigation Award is a great way to do some real-life science. You'll gain valuable skills, solve problems, work with other students, meet new people, learn a lot and maybe even win some cash prizes!

What do you have to do?
Each entry (individual or team of no more than TWO) has to pose a question as a hypothesis and then plan and complete a scientific investigation to help answer that question. The project then has to be written up as a scientific report and displayed as a poster. The posters will be judged by industry scientists at the Awards Day.

Help
We can come to your school and help with the investigations, please contact the Convenor (see below).
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

SASHES
Will be awarded for the following:
Best Food & Fibre Based Project Primary
Best Food & Fibre Based Project Middle
Best Food & Fibre Based Project Senior

DELIVERY & REMOVAL OF EXHIBITS
All finalist exhibits to be brought to the Show on the day of judging.

FINAL JUDGING DAY PROGRAM HELD AT THE ADELAIDE SHOWGROUND

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-10:00am</td>
<td>Delivery &amp; set-up of entries.</td>
</tr>
<tr>
<td>10.30 am</td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td>11.00 am</td>
<td>Judging Commences</td>
</tr>
<tr>
<td>1.00 pm</td>
<td>Students leave</td>
</tr>
</tbody>
</table>

Successful students will be notified and invited to attend finals judging at the Royal Adelaide Show.

RESTRICTION OF ENTRIES

- This competition is restricted to any student in year 5 - 12 from any school in South Australia.
- Entries are restricted to a maximum of 15 entries per school.
- Primary, Middle and Senior students may complete their projects individually or in pairs.
- Exhibitors may not submit more than one entry in any one class.
- Due to limited space available for this competition only a selection of award winners will be displayed during the Royal Adelaide Show following finals day.

SCIENCE INVESTIGATION AWARDS

Class 79  THE AG COMMUNICATORS PRIZE
Primary (Year 5 & 6)
Prizes sponsored by Ag Communicators
First: $250; Second: $150; Third: $100

Class 80  Primary (Year 7)
Class 81  Year 8
Class 82  Year 9
Class 83  Year 10/11/12

BEST FOOD & FIBRE PROJECT - PRIMARY
BEST FOOD & FIBRE PROJECT - MIDDLE
BEST FOOD & FIBRE PROJECT - SENIOR
3D PRINTING COMPETITION

PLEASE REFER TO THE FRONT OF THIS SCHEDULE FOR CLOSING DATE OF ENTRIES, DELIVERY & REMOVAL DATES AND TIMES, PAYMENT OF PRIZE MONEY ETC.

PRIZES
Prizes will be awarded to the winners of each category.

1st Prize will receive $100, 2nd Prize $50 and 3rd Prize $25. Certificates of Merit will be presented at the discretion of the judges. Each exhibitor will receive a Certificate of Participation.

SASHES
Will be presented to the 1st, 2nd and 3rd prize winners in each category.

ENTRY FORMS
All entries are due by Friday 28 June 2019 and are available on the website - www.theshow.com.au

SHOW CONVENOR
Sandra Moran, sandra.moran@sa.gov.au

DELIVERY
3D objects and printed documentation must be delivered to the Showground on Wednesday 21 August 2019 between 9.00 am and 4.00 pm unless otherwise arranged with the Convenor. Please note that all exhibits must have their exhibit card attached and be delivered with the List of Entries slip that will be provided prior to delivery day.

RESTRICTION ON ENTRIES
- This competition is restricted to students in Years 8 to 12 from all sectors in South Australia (Department for Education, Independent and Catholic Schools)
- Entry is $4.50 per entry.
- Exhibitors may not submit more than one entry per category.

DISPLAY of PROJECTS
Projects will be displayed during the Show in the Advanced Technology Centre. They may also be displayed after the Show in the Department for Education foyer, 31 Flinders Street, Adelaide

COMPETITION CLASSES
Are classified under the following categories:

Category 1 - Sculpture
Junior - Years 8 & 9
Senior - Year 10, 11 & 12

Category 2 - Functional Object
Junior - Years 8 & 9
Senior - Years 10, 11 & 12

Category 3 - Object with Moving Parts
Junior - Years 8 & 9
Senior - Years 10, 11 & 12

REGULATIONS
- Use a 3D printer and relevant computer aided design program, plus other technologies. Please note: All entries must have a 3D printed component.
- Design an object of your choice or modify an existing design (this must be clearly stated in the written description of your submission)
- Provide in hard copy, a portfolio which includes a cover sheet with your name, school you attend and an image of your submission.
- Include a 100 to 200word description of your design.
- Applicants may submit only one entry per category.
- Objects such as guns and slingshots will not be accepted.

GUIDELINES
Participation is open to all South Australian secondary school students.

A panel of independent judges from the Department for Education, tertiary and industry will be the final judges.

The competition is an individual competition - group entries will not be accepted.

Participants need to supply a 3D Model which may be retained by the Department for Education.

Entries will be judged based on 50% portfolio and 50% model.

PUBLICITY
The winners shall consent and obtain written permission from their parents for those under 18 years of age, for use of winner’s name, photographs and opinions regarding the competition and any other relevant information for purpose of media.
CATEGORY 1 - SCULPTURE

Design criteria for 3D Sculpture.

Design a three-dimensional object that is free standing and no larger than a 200 mm cube. For example, chess piece, figurines etc.

Your entry will be judged on:

- Originality
- Degree of Innovation
- 3D printability
- Aesthetic quality
- Quality and clarity of presentation materials

Each participant will supply a portfolio of work (in hard copy, not USB) as per the guidelines above to support the design process of their final 3D sculpture:

- Provide a cover sheet with your name, school you attend and an image of your entry.
- Research detailing ideas, sketches and images of at least three possible solutions with notation.
- Final sketched solution with notation.
- At least six screen grabs of the CAD Design process with detailed notes.
- Final rendered image prior to 3D printing.
- Evaluation and reflection of the final 3D project.
- 3D printed object.

Class 84 Sculpture - Years 8 & 9
Prizes sponsored by Advanced Technology
Project: First: $100.00; Second: $50.00; Third: $25.00

Class 85 Sculpture - Years 10, 11 & 12
Prizes sponsored by Advanced Technology
Project: First: $100.00; Second: $50.00; Third: $25.00

CATEGORY 2 - FUNCTIONAL OBJECT

Design Criteria for Functional Object

Design a functional object that has at least two parts and is no larger than a 200 mm cube. For example, box with lid, hinge, jigsaw, compass etc.

Your entry will be judged on:

- Originality: degree of innovation, complexity of the assembled product (if applicable) and how the components/sub-parts connect and/or interact
- 3D printability
- Aesthetic quality
- Quality and clarity of presentation materials

CATEGORY 3 - OBJECT WITH MOVING PARTS

Design Criteria for Object with Moving Parts

Design an object that has at least two moving parts that transfers motion. For example, windmill, gears etc.

Your entry will be judged on:

- Originality
- Degree of innovation 'complexity of the moving parts and how the moving parts interact to transfer motion'
- 3D printability
- Aesthetic quality
- Quality and clarity of presentation materials

Object: Each participant to supply a portfolio of work (in hard copy, not USB) as per the guidelines above to support the design process of their final 3D object:

- Provide a cover sheet with your name, school you attend and an image of your entry.
- Research detailing ideas, sketches and images of at least three possible solutions with notation.
- Final sketched solution with notation.
- At least six screen grabs of the CAD design process with detailed notes.
- Final rendered image prior to 3D printing.
- Evaluation and reflection of the final 3D object.
- 3D printed object.

Class 86 Functional Object - Years 8 & 9
Prizes sponsored by Advanced Technology
Project: First: $100.00; Second: $50.00; Third: $25.00

Class 87 Functional Object - Years 10, 11 & 12
Prizes sponsored by Advanced Technology
Project: First: $100.00; Second: $50.00; Third: $25.00
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

Class 89  Object with Moving Parts - Years 10, 11 & 12
Prizes sponsored by Advanced Technology
Project: First: $100.00; Second: $50.00; Third: $25.00

THE PORTSIDE NEWSAGENCY PRIZE
BEST OVERALL EXHIBIT IN 3D PRINTING
Prizes sponsored by Portside Newsagency: $75.00 and Trophy

DESIGN and TECHNOLOGY

This area is devoted to students who use the part of the Design process which is producing and uses STEM in some form, concentrating their energies on quality and refined Technology and Engineering Practices to show an excellent product.

Design brief projects require:

• A design brief stated clearly
• Independent planning and research evident
• Some innovation and originality
• Communication using graphics
• Good choice of materials and systems of manufacture
• Quality of project showing attention to detail/performance
• Attention to safety in manufacture
• Clear use of literacy standards in investigation planning and evaluation stages

Project only exhibits require:

• Attention to detail
• Quality choice of materials and processes
• Attention to safety in manufacture
• Quality of project showing attention to detail/performance
• A solution of worth

VET type projects require:

• A drawing with the item to show specifications and tolerances achieved.
• Highly appropriate choice of materials and processes/systems
• Attention to safety in manufacture
• Attention to detail, performance and finish

The criteria for Best Design and Technology Exhibit in 2019, judges will be looking for:

• Uniqueness, sensitivity and innovation
• Independent learning and resourcefulness
• A high degree of finish and skills exhibited in the age group
• Attention to safety in manufacture
• A clever and marketable product / solution/ or idea.
• High quality of back up material if needed (judges’ discretion)

Eligible entries must receive a first prize, then a special prize for that section to be selected for the Best Design and Technology Exhibit Overall Winner.

Schools Technology Restriction of entries

• Exhibitors can enter more than one item for judging.
• Exhibitors may not enter one project across 2 classes or categories.
• If the number of exhibits exceeds the space available, the Society reserves the right to display prize winning exhibits only.

CO2 DRAGSTERS

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be displayed and secured before Show week.

This competition will comprise of handmade CO2 Dragsters Competition (Racing Car and novelty themes)

Special Note
The novelty section themes for the handmade CO2 Dragsters may be Warner Bros. or comic strip themes such as the Road runner and Coyote, Tweetie and Sylvester etc.

Public and Racing and demonstrations
ALL Show week
Registration with $4.50 per exhibit (single or team) for these events is by the closing date of entries (refer to the front of the Prize Schedule).
These competitions are for students who are going to exhibit at the Show, during Show week.

Students will be required to go to the Advanced Technology Pavilion at the allocated times to complete and display their work.

Safety requirements and exhibition
All entries in the CO2 Dragster competition will be scrutineered for safety before racing.

Description and details will be supplied through – web address for all competitions in this section
Design specifications for hand-made Dragsters Teachers in schools
CO2 Cartridges will be supplied for demonstration events and CO2 Dragster Competitions.
CO2 DRAGSTERS
COMPETITION

This competition will comprise of handmade CO2 Dragsters
Competition (Racing Car and Novelty Themes)

Special Note
The novelty section themes for the handmade CO2 Dragsters
may be Warner Bros. or comic strip themes such as the Road
Runner and Coyote, Tweetie and Sylvester etc.

Public and Racing Demonstrations
ALL Show week.

These competitions are for students who are going to exhibit
at the Show, during Show week. Students will be required to
go to the Advanced Technology Pavilion at the allocated
times to complete and display their work.

Safety Requirements and Exhibition

All entries in the CO2 Dragster Competition will be
scrutinised for safety before racing.

Description and details will be supplied for all
competitions in this section.

Design specifications for handmade Dragsters Teachers in
schools. CO2 cartridges will be supplied for demonstration
events and CO2 Dragster Competitions.

Class 90  Years 8/9/10
Class 91  Years 11/12/13
BEST PRESENTED & DECORATED HANDMADE CO2
DRAGSTERS
FASTEST TIMED HANDMADE CO2 DRAGSTER

HANDMADE CO2 DRAGSTERS
NOVELTY SECTION -
VEHICLE/S ONLY
eg Warner Bros theme

Class 92  Years 8/9/10
Class 93  Years 11/12/13
BEST PRESENTED & DECORATED HANDMADE CO2
DRAGSTERS (NOVELTY SECTION)
FASTEST TIMED HANDMADE CO2 DRAGSTERS
(NOVELTY SECTION)

"E"-RACERS

This category allows competitors to explore an alternative
source of power for cars such as electricity that can compete
on a 20 metre track during Royal Adelaide Show week. The
cars (chassis) are built to be made from an existing
commercial kit found in any workshop environment such as
light weight plywood, 3D print plastics etc.

This form as racing translates into Formula E Racing
especially exploring the alternative forms of energy other than
fossil fuels as in the real world of Formula 1. This is a form of
a STEM Project where analysis of data can be used to study
the science and maths electric cars as a theme. Topics could
include friction, acceleration, aerodynamics, power generation
and circuit design.

Students may present their work with either
a. a folio showing the design specifications, drawings
background information and STEM
research into the
design, power efficiency and circuit design of the vehicle
with the vehicle or
b. a vehicle ONLY

The design of the cars may be functional or based on themes
such as Racing Car types OR novelty themes such as comic
strips or Warner Bros characters.

Competition Safety
All cars will be tethered to a fishing line for safety with
1 eyelet under or at the front of the chassis

Competition day and date –Thursday 6 September 2018

All exhibits will be displayed and secured before Show
week.

Public and Racing and demonstrations ALL Show week

Registration with $4.50 per exhibit (single or team) for these
events is by the closing date of entries (refer to the front of the
Prize Schedule).

These competitions are for students who are going to exhibit
at the Show, during Show week.

Students will be required to go to the Advanced Technology
Pavilion at the allocated times to complete and display their
work.

Safety AND Judging requirements
All entries in the E Racers competition will be scrutinised for
safety and compliance with the general specifications before
racing.

E Racer and Folio work
Folio (The design process with design brief, investigation
planning and evaluation)

Designs of chassis
Method of manufacture with pictures of stages
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

PLUS

E Racer

Design efficiency of chassis
Chassis manufacture
Neatness and finish of the vehicle
Weight (lightness)
Efficiency of power source (speed) when tested and raced

E Racer ONLY

Design efficiency of chassis
Chassis manufacture
Neatness and finish of the vehicle
Weight (lightness)
Efficiency of power source (speed) when tested and raced

Design specifications for E Racers

<table>
<thead>
<tr>
<th>Chassis Type</th>
<th>Non Commercial kit</th>
<th>Comments/ Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Length Overall</td>
<td>200 mm</td>
<td></td>
</tr>
<tr>
<td>Max Width Overall</td>
<td>100 mm</td>
<td></td>
</tr>
<tr>
<td>Max Height Overall</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>Maximum power source</td>
<td>9 Volts DC</td>
<td></td>
</tr>
<tr>
<td>Electric Engines/Motors</td>
<td>Up to 2</td>
<td></td>
</tr>
<tr>
<td>No. of wheels</td>
<td>Min 3 and max 4 Optional gearing</td>
<td>Rubber type of plastic as in CO2 competition Nylon or metal gears, rubber band and pulleys</td>
</tr>
<tr>
<td>Wheel type gearing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>No specified</td>
<td></td>
</tr>
<tr>
<td>Safety - tether line</td>
<td>Eyelets attached</td>
<td></td>
</tr>
</tbody>
</table>

COMMERCIAL CHASSIS KIT & FOLIO

Class 98 Year 6/7
Class 99 Year 8
Class 100 Year 9
Class 101 Years 10/11/12
BEST PRESENTED & DECORATED E RACERS
FASTEST TIMED E RACERS
BEST DESIGNED & CONSTRUCTED CIRCUIT E RACERS

NON-COMMERCIAL CHASSIS KIT & FOLIO

Class 102 Years 6/7
Class 103 Year 8
Class 104 Year 9
Class 105 Years 10/11/12

NON-COMMERCIAL CHASSIS KIT CAR ONLY

Class 106 Years 6/7
Class 107 Year 8
Class 108 Year 9
Class 109 Years 10/11/12
BEST PRESENTED & DECORATED E RACERS
FASTEST TIMED E RACERS
BEST DESIGNED & CONSTRUCTED CIRCUIT E RACERS
ALTERNATIVE ENERGY SOURCES

This category is looking at using traditional and emerging materials and systems technologies to reduce the amount of CO2 emissions in the atmosphere but more importantly to prevent the further use of fossil fuels being used. The applications of the inventions and innovation demonstrated in this competition may be used in domestic, industrial or agricultural uses where access to fossil fuels is overpriced and is not sustainable for the future.

Topics could include fixed apparatus such as:

- Photovoltaics
- Bio Chemical cells
- Thermal energy sources
- Wind energy sources

The Folio of Work must incorporate

- Folio (the design process with design brief, investigation planning and evaluation)
- Back up work with calculations and specific principles used.
- Sustainability of energy production system
- Designs of chassis/structure and circuit designs required
- Method of manufacture with pictures of stages
- PLUS the Alternative energy product on show which works in front of the judges

Other considerations will be

- Design efficiency of chassis/structure and energy production system
- Circuit design and construction and manufacture of the structure supporting the apparatus
- Neatness and finish of the product
- Weight (lightness) if required and stability of structure
- Efficiency of power source when tested and under a load.

NB - A small item may need to be provided to show the power source working under load conditions

MATERIALS and CONSTRUCTION TECHNOLOGY

PRIMARY MATERIALS TECHNOLOGY

TRADITIONAL MATERIALS

Students are to produce a structure that can withstand a force or load, from wood, metal, straws, pop sticks, cardboard etc.

Here are some examples -

- Bridge
- Crane
- A Tall Building
- A House, general building structures, etc.
- Agricultural and Horticultural Applications

Class 114 Years up to Year 5

Class 115 Years 6/7

COMMERCIAL MODELING & LEGO SYSTEMS

Students are to explore the use of technology through the ages. Models could be using commercial kits such as LEGO, Knex, Meccano, Fischer Technic etc.

The item(s) on display for this competition must fit into an imaginary box of maximum sizes 400 mm x 300 mm x 300 mm. (Otherwise these exhibits may not be displayed.)

Topic ideas include:

- House
- Building
- Transport
- Games, Entertainment
- Models
- Animals
- Agricultural and Horticultural Applications

Class 116 Years up to Year 5

Class 117 Years 6/7
ANY MATERIALS TECHNOLOGY NOT INCLUDED ELSEWHERE

Class 118 Years up to Year 5/6/7

THE DATTA PRIZE
BEST EXHIBIT IN MATERIALS TECHNOLOGY
$50.00 sponsored by Design & Technology Teachers’ Association of SA

INFORMATION TECHNOLOGY - PRIMARY

GRAPHICS AND COMMUNICATION

Students are to design on A3 paper, an important article of technology that is used today.

Topics could include;

- Transport themes (ships, planes, cars, boats)
- Agricultural and Horticultural Applications
- Musical Instruments
- Board Game, etc

Class 119 Years up to Year 5

Class 120 Years 6/7

EXPERIMENTAL AND INVESTIGATIONS

Students are to visually express and discuss with some neat writing or word processing, their scientific concepts learnt, investigations and experiments.

Models and writing could include topics such as;

- Cells
- Sound
- Light
- Water
- Animals
- Agricultural and Horticultural Applications
- Space
- A Space Ship
- Solar Heating

Class 121 Years up to Year 5

Class 122 Years 6/7

ANY MULTIMEDIA FOCUS NOT INCLUDED ELSEWHERE

Class 123 Years up to Year 5/6/7

THE BIG MAN ON CAMPUS PRIZE
BEST EXHIBIT IN INFORMATION TECHNOLOGY
Prizes sponsored by John Grygus: $50.00 and Trophy

SYSTEMS AND ENERGY TECHNOLOGY - PRIMARY

SYSTEMS AND MECHANISMS

Students are to produce a machine or model of a machine that can be powered by a clever means.

Examples include:

- Rubber Band
- A Falling Weight
- Electrical Supply (Battery or Solar Power)
- Spring (Mouse Trap or Similar)
- Agricultural and Horticultural Applications

Class 124 Years up to Year 5

Class 125 Years 6/7

ENERGY SOURCES

Students are to produce an energy source or model of an energy source that is environmentally friendly and a clever solution to energy production.

Examples include:

- Windmill
- Agricultural and Horticultural Applications
- Solar Heating
- A Water Saving Project etc

Class 126 Years up to Year 5

Class 127 Years 6/7

THE DATTA PRIZE
BEST EXHIBIT IN SYSTEMS AND ENERGY TECHNOLOGY
$50.00 sponsored by Design & Technology Teachers’ Association of SA
MATERIALS and CONSTRUCTION TECHNOLOGY - SENIOR

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be judged, displayed and secured before Show week.

This area encourages the safe use of a variety of materials to increase comfort, lifestyle and needs in life.

Topics could include:

- Furniture
- Toys
- Containers
- Clamping Devices
- Aesthetic Pieces of Work
- Models for Transport
- Tool Marking and Jigs
- Machines or Parts Thereof
- Boxes CD Racks
- Creative Wood and Metal Turning
- Balancing Toys
- Candle Holders
- Kitchen Utensils
- Photo Holders, Etc

Materials to be used could include:

- Wood
- Metal
- Plastics and Other Materials
- Combination of 2 or more Materials
- Commercial Modelling and LEGO Systems

WOOD CONSTRUCTION

(Design process or project only)

Class 128 Year 8/9
Class 129 Year 10
Class 130 Year 11
Class 131 Years 12/13/VET

THE BUNNINGS WAREHOUSE PRIZE
BEST EXHIBIT IN WOOD MATERIALS TECHNOLOGY
Voucher ($50.00) sponsored by Bunnings Warehouse

METAL CONSTRUCTION

(Design process or project only)

Class 132 Year 8/9
Class 133 Years 10/11
Class 134 Years 12/13/VET

THE MCKECHNIE PRIZE
BEST EXHIBIT IN METALS MATERIALS TECHNOLOGY
$70.00 sponsored by McKechnie Iron Foundry Pty Ltd

COMBINATION OF MATERIALS CONSTRUCTION

Design process or project only

Class 135 Years 8/9
Class 136 Years 10/11
Class 137 Years 12/13/VET

THE DATTA PRIZE
BEST EXHIBIT IN COMBINATION OF MATERIALS TECHNOLOGY
$50.00 sponsored by Design & Technology Teachers’ Association of SA

COMMERCIAL MODELLING and LEGO SYSTEMS - SENIOR

Class 138 Years 8/9
Class 139 Year 10
Class 140 Years 11/12/13/VET

BEST EXHIBIT IN COMMERCIAL MODELLING SYSTEMS TECHNOLOGY

INFORMATION TECHNOLOGY - SENIOR

Class 141 THE SCHOOL OF MECHANICAL ENGINEERING - UNIVERSITY OF ADELAIDE PRIZE

Years 8/9/10
First: $50.00 sponsored by The School of Mechanical Engineering - University of Adelaide
SPECIAL NEEDS STUDENTS
For Primary and Secondary Students using Construction & Materials Technology. The exhibit/s may be accompanied with some writing or a title of the theme. A combination of materials may be used in a safe manner.

A STRUCTURE
Students are to produce an item of construction technology that is a model of a structure eg a bridge, a house, a scarecrow etc.

Class 145 Years up to Year 5/6/7
Class 146 Year 8/9/10
Class 147 Year 11/12/13

FURNITURE AND TOOLS
Students are to produce a timber or metal item of construction technology. This needs to be a useful article.

It may be used to store articles, it may be a tool or an item of furniture.

Class 148 Year 8/9
Class 149 Year 10/11/12/13

A METHOD OF TRANSPORT
Students are to produce a model of a method of transport technology to be used as a toy.

Class 150 Year 8/9
Class 151 Year 10/11/12/13
MULTIMEDIA

This area encourages students to show a presentation of computer assisted graphics, using digital photography, imaging, with power point presentation, web page design, etc. This area should reflect the use of emerging technologies in media presentation. There is a need to provide to the public, a description of issues or themes with a possible solution, with higher visual impact.

Special conditions

- Multimedia applications will need to submit a DVD read only PC format.
- Individual and group work is encouraged. The item must be titled.

Possible themes include:

- Confronting global and local issues, Life at school, At the beach, Life in the city, or the country.
- Entertainment such as - A Musical Presentation, A Comedy Routine, A Drama, A Melodrama
- Community services and advertising, Ceremonies and celebrations etc.

Class 152 Years 8/9/10

Class 153 Years 11/12/13/VET

BEST EXHIBIT FOR MULTIMEDIA PRESENTATION First

BEST OVERALL EXHIBIT IN DESIGN & TECHNOLOGY First

JUNIOR PHOTOGRAPHY

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be judged, displayed and secured before Show week.

Wet chemical and Digital Camera Imaging; Digital Studio Manipulation; Colour and Black and White

This area reflects the knowledge and skills learnt, conveying a theme or story without necessarily using the written or spoken word. The technology used in this field may be wet chemical or digital technologies, to finally exhibit this information on film/ paper. All images must comply with respect to the audience, social etiquette and be obtained in a safe and reasonable manner. See more details below in “Technology Compliance”.

Exhibits in this area are chiefly mounted print(s) only

Special note:

1. All photography exhibits must have 4 patches of “Velcro hooks” attached at back, one in each corner for displaying the print(s).
2. The exhibitors in classes using the Full Design Process Approach (Investigate, devise, produce, evaluate) will need to document and neatly present their work using the design process in an A3 OR A4 folio.
3. All photographs must be originals by the exhibitor and mounted on board or card, preferably black, and have the school stamp on the back only, or name of private entrant, to facilitate sorting.
4. Exhibit cards should be affixed to the FRONT lower right-hand corner of the mount.
5. The prints may be postcard size or larger (preferably 250mm x 200mm)
6. Where themes are involved, there is the possibility of incorporating more than one photograph, it is considered as ONE class of article to be judged. (i.e - a group of two or three as ONE piece of work, if identified by exhibitor).

Wet chemical and Digital Camera Imaging will be mixed in the classes (Colour or Black and White)

A. An original photograph must be taken by the exhibitor. (No scanning)
B. The "subsequent originals" may be modified.
C. The final, good quality print(s) must be mounted on card.
D. The print(s) may need to be titled if the subject or theme is not obvious to the viewer/ judges.

Digital Studio Manipulation (Colour or Black and White)

A. The original may be manipulated and modified for a "contrived / nonrealistic print".
B. Judges will be looking for the creative use of photo editing skills to create an impact.
C. The final good quality print(s) must be mounted on card.
D. The print(s) may be titled and also use various fonts.
Technology Compliance

Privacy policy - All tasks involving people and places need to have permission of the person(s) involved. Any work showing height needs to have permission from people including use of GoPros, UAVs/ Drones, and similar devices. Any heights used above 30 metres may require permission from external authorities (e.g. Drones or Launchbox technologies at 35 km, use CASA as the main source of permission.)

WHS Policy - All tasks need to involve a minimum of risk to the person(s) involved. This includes the photographer working at heights or on the ground.

Digital Citizenship – All prints/photos must not interfere with the rights of others in their lifestyle by being threatening or harmful to their character, or their well-being.

JUDGING CRITERIA
All photography exhibits will be judged according to
A. Technical Quality upon presentation and mounting print(s).
B. Correct choice and use of suitable camera, darkroom, and photo editing techniques.
C. Clear use of theme or topic.
D. Visual impact of print(s).
E. All work is the exhibitor’s original images.

FOR STUDENTS WHO HAVE COMPLETED THEIR EXHIBITS DURING OR BEFORE YEAR 8
Mounted Print(s) Only

Class 154 People, Portraits
Black and white or colour.

Class 155 Buildings and other structures
Black and white or colour.

Class 156 School Life

Class 157 Landscapes

Class 158 Seascapes

Class 159 Landscapes

Class 160 Urbanscapes

Class 161 The Camera

Class 162 The Camera
Looking above 100 mtrs. (e.g. Drone or Launchbox Technologies), colour.

Class 163 Special Effects

Class 164 Nature, Animals

Class 165 Nature, Pets
Black and white or colour.

Class 166 Nature, Flora

Class 167 Nature, Flora
The Rose, colour only.

Class 168 Celebrations

Class 169 Carnivals and Special Events
Black and white or colour.

Class 170 Motion

Class 171 Digital Studio Manipulation
A creative use

Class 172 Any Subject
Not included elsewhere, black and white or colour.

BEST EXHIBIT IN PHOTOGRAPHY DURING OR BEFORE YEAR 8

FOR STUDENTS WHO HAVE COMPLETED THEIR EXHIBITS DURING YEAR 9
Mounted Print(s) Only

Class 173 People, Portraits

Class 174 Buildings and other Structures
Black and white or colour.

Class 175 School Life
Black and white or colour.

Class 176 Landscapes
Black and white or colour.

Class 177 Seascapes

Class 178 Landscapes - Rivers, Creeks, and Streams

Class 179 Urbanscapes Towns Cities

Class 180 The Camera, Looking above or from below

Class 181 The Camera, Looking above 100 mtrs
(e.g. Drone or Launchbox Technologies), colour.

Class 182 Special Effects
Black and white or colour.

Class 183 Action, Movement, Motion
Responding to the instant, black and white or colour.

Class 184 Texture

Class 185 Shape, Pattern and Form

Class 186 Perspective
Black and white or colour.

Class 187 Animals, Wildlife

Class 188 Animals
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

Class 189 Pets
Black and white or colour.

Class 190 Nature, Flora
, black and white or colour.

Class 191 Nature, Flora, The Rose

Class 192 Celebrations

Class 193 Carnivals and Special Events
, black and white or colour.

Class 194 Motion
Black and white or colour.

Class 195 Digital Studio Manipulation, any topic
a creative use.

Class 196 Any Subject, not included elsewhere

BEST EXHIBIT IN PHOTOGRAPHY YEAR 9

FOR STUDENTS WHO HAVE COMPLETED THEIR EXHIBITS DURING YEAR 10

Mounted Print(s)

Class 197 People, Portraits
Black and white or colour.

Class 198 Studio Portraits

Class 199 Buildings and other Structures

Class 200 Landscapes

Class 201 Seascapes

Class 202 Landscapes - Rivers, Creeks and Streams

Class 203 Urban-scapes Towns Cities

Class 204 The Camera looking from above 100 mtrs.

Class 205 Special Effects
Black and white or colour.
This may include use of special effects and camera techniques.

Class 206 Action, Movement, Motion, responding to the instant

Class 207 Texture

Class 208 Shape, Pattern and Form

Class 209 Perspective
Black and white or colour.

Class 210 Animals, Wildlife
Black and white or colour.

Class 211 Animals, Birds

Class 212 Animals, Zoo

Class 213 Farm Animals

Class 214 Pets

Class 215 THE OMEGA PICTURE FRAMES PRIZE
Nature, Flora
Black and white or colour.
First: Voucher ($100.00) sponsored by Omega Picture Frames

Class 216 The Rose

Class 217 Celebrations

Class 218 Carnivals and Special Events

Class 219 Special Effects, In Camera

Class 220 Close up Photography/Macro, less than one metre, Flora
Black and white or colour. Less than 1 metre, requires special lens use.

Class 221 Close up Photography/Macro or less than one metre, Fauna
Black and white or colour. Less than 1 metre requires special lens use.

Class 222 Close up Photography/Macro, less than one metre, Man-made Objects

Class 223 Digital Manipulation, any topic
a creative use.

Class 224 Digital Desktop Publishing, Magazine Cover Etc, any topic
Black and white or colour.
A creative use.

Class 225 Any Subject, not included elsewhere

BEST EXHIBIT IN PHOTOGRAPHY IN YEAR 10

FOR STUDENTS WHO HAVE COMPLETED THEIR EXHIBITS DURING YEAR 11

Mounted Print(s) Only
Some exhibits require the design process approach

Class 226 People, Portraits

Class 227 Studio Portraits
Black and white or colour.

Class 228 Buildings and other structures
Black and white or colour.

Class 228 Landscapes

Class 229 Seascapes

Class 230 Landscapes - Rivers, Creeks and Streams
Black and white or colour.
2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

Class 231 Urban-scapes Towns Cities
Black and white or colour.

Class 232 The camera looking from above 100 mtrs.

Class 233 Special Effects
Black and white or colour

The Design Process Approach.
This folio could include tone separation, multiple exposures, any type of graphic work, solarization. This may include use of special effects with the camera, A3 or A4 presentation.

Class 234 Ageing or Time

Class 235 Action, Movement, Motion, responding to the instant
Black and white or colour.

Class 236 Perspective
Black and white or colour.

Class 237 Animals, Wildlife

Class 238 Animals, Birds
Black and white or colour.

Class 240 Animals, Zoo
Black & white or colour.

Class 241 Farm Animals
Black & white or colour.
First, Second, Third

Class 242 Pets
Black and white or colour.

Class 243 Nature, Flora

Class 244 The Rose

Class 245 Celebrations
This folio could include tone separation, multiple exposures, any type of graphic work, solarization. This may include use of special effects with the camera, A3 or A4 Presentation

Class 246 Carnivals and Special Events
Including tone separation, solarization. This may include use of special effects with the camera, A3 or A4 Presentation

Class 247 Special Effects, In Camera

Class 248 Captured Image, "Front Page News"
Black and white or colour,

Class 249 Close up Photography/Macro or less than one metre, Flora
Black and white or colour. Less than 1 metre, requires special lens use.

Class 250 Close up Photography/Macro, less than one metre, Man-made objects, black and white or colour. Less than 1 metre, requires special lens use.

Class 251 Close up Photography/Macro, less than one metre, Fauna
Black and white or colour. Less than 1 metre, requires special lens use.

Class 252 Night Life and Lights
Black and white or colour.

Class 253 Still Life-Table top photography
Black and white or colour.

print(s) only.
i.e. table top photography, using artificial and/or natural lighting on a non-living pre-arranged subject.

Class 254 Digital Manipulation, any topic
The Design Process in an A4 folio
i.e. table top photography, using artificial and/ or natural lighting on a non-living pre-arranged subject.

Class 255 Digital Desktop Publishing, Magazine cover etc, any topic
Print(s) Only.
i.e. table top photography using artificial and/or natural lighting on a pre-arranged subject.

Class 256 Any Subject, not included elsewhere
Less than 1 metre, requires special lens use.

BEST EXHIBIT IN PHOTOGRAPHY IN YEAR 11 FOR STUDENTS WHO HAVE COMPLETED THEIR EXHIBITS DURING YEAR 12/13

Mounted Print(s) Only
Some exhibits require the design process approach.

Class 257 People, Portraits

Class 258 Studio Portraits
Black and white or colour.

Class 259 Buildings and Other Structures
Black and white or colour.

Class 260 Landscapes

Class 261 Seascapes

Class 262 Landscapes - Rivers, Creeks and Streams
Black and white or colour.

Class 263 Urban-scapes Towns Cities.
Black and white or colour.

Class 264 The Camera looking from above 100 mtrs.
(egDrone or Launchbox technologies) colour.
THE DESIGN PROCESS

PHOTOJOURNALISM YEARS
10/11/12/13

Conditions
Judging and assembling of exhibits done prior to Show week (Thursday 22 August 2019)

Registration numbers may be restricted due to availability of space.

The Photojournalism Brief – A Day in the life of a Young Person
You will be required to show 5 images, as a package, depicting a day in the life of a young person. Competitors will need to exhibit prints that may assist an editor of a newspaper or magazine to highlight a story that can be used in a high-quality magazine.

Here are some helpful ideas. You may add others of interest to you and the public –

The images may include –

Celebrations and Special Events
- Christmas Pageants
- Music and venues
- Street life/ City Life
- Markets and fairs
- Country life
- A day at the beach
- Famous landmarks
- Sports and personalities
- Travel (local, state or overseas)
- Free choice
- A Day and a night at the Royal Adelaide Show

Class 265 Special Effects
Black and white or colour.
This folio could include tone separation, multiple exposures, any type of graphic work, solarization. This may include use of special effects with the camera, A3 or A4 Presentation

Class 266 Ageing or Time

Class 267 Action, Movement, Motion
Responding to the instant, black and white or colour.

Class 268 Perspective

Class 269 Animals, Wildlife
Black and white or colour.

Class 270 Animals, Birds

Class 271 Animals, Zoo

Class 272 Farm Animals
Black and white or colour.

Class 273 Pets

Class 274 Nature, Flora
Black and white or colour.

Class 275 The Rose
Colour only.

Class 276 Celebrations

Class 277 Carnivals and Special Events

Class 278 Special Effects, In Camera.
Black and white or colour.

Class 279 Captured Image, "Front Page News".
black and white or colour, capturing the moment.
High Visual Impact

Class 280 Close up Photography/Macro or less than one metre, Flora.
Black and white or colour.
Less than 1 metre, requires special lens use.

Class 281 Close up Photography/Macro, less than one metre, Man-made objects.
Black and white or colour. Less than 1 metre, requires special lens use.

Class 282 Close up Photography/Macro, less than one metre, Fauna.
Black and white or colour. Less than 1 metre, requires special lens use.

Class 283 Night Life and Lights.

Class 284 Still Life-Table top photography.
Black and white or colour.
i.e. table top photography, using artificial and/or natural lighting on a non-living pre-arranged subject.

Class 285 Digital Manipulation, any topic.
, black and white or colour a creative use.
Less than 1 metre.

Class 286 Digital Desktop Publishing, Magazine Cover etc, any topic.

Class 287 Any subject, not included elsewhere.
Black and white or colour.

BEST EXHIBIT IN PHOTOGRAPHY IN YEAR 12/13

2019 TECHNOLOGY AND STEM INSPIRED INNOVATION

Class 265 Special Effects
Black and white or colour.
This folio could include tone separation, multiple exposures, any type of graphic work, solarization. This may include use of special effects with the camera, A3 or A4 Presentation

Class 266 Ageing or Time

Class 267 Action, Movement, Motion
Responding to the instant, black and white or colour.

Class 268 Perspective

Class 269 Animals, Wildlife
Black and white or colour.

Class 270 Animals, Birds

Class 271 Animals, Zoo

Class 272 Farm Animals
Black and white or colour.

Class 273 Pets

Class 274 Nature, Flora
Black and white or colour.

Class 275 The Rose
Colour only.

Class 276 Celebrations

Class 277 Carnivals and Special Events

Class 278 Special Effects, In Camera.
Black and white or colour.

Class 279 Captured Image, "Front Page News".
bright and white or colour, capturing the moment.
High Visual Impact

Class 280 Close up Photography/Macro or less than one metre, Flora.
Black and white or colour.
Less than 1 metre, requires special lens use.

Class 281 Close up Photography/Macro, less than one metre, Man-made objects.
Black and white or colour. Less than 1 metre, requires special lens use.

Class 282 Close up Photography/Macro, less than one metre, Fauna.
Black and white or colour. Less than 1 metre, requires special lens use.

Class 283 Night Life and Lights.

Class 284 Still Life-Table top photography.
Black and white or colour.
i.e. table top photography, using artificial and/or natural lighting on a non-living pre-arranged subject.
Judging Criteria
The Final Images must be –

a. Originals produced by a digital camera, by the student
b. The originals may be suitably modified with studio techniques to enhance the quality, presentation and impact of the print
c. High technical quality and presentation for publication in a magazine, with mounted card.
d. Clear use of themes or topic chosen, full coverage for a magazine article.
e. Images have visual impact to the public which is in good taste, not offensive for the Society and public.

Class 288 A Day in the Life of a Young Person
Year 10/11/12/13

SPECIAL AWARDS

Overall Special Prizes for 2019 Photography Section

THE ROSE SOCIETY OF SOUTH AUSTRALIA PRIZE
BEST EXHIBIT OVERALL IN PHOTOGRAPHY DEPICTING A ROSE (COLOUR PRINT)
$75.00 sponsored by Rose Society of South Australia

BEST EXHIBIT OVERALL IN PHOTOGRAPHY (COLOUR PRINT) FOR IMPACT

THE JOHN FOX MEMORIAL PRIZE for BEST EXHIBIT OVERALL IN PHOTOGRAPHY SEASCAPE (BLACK AND WHITE OR COLOUR PRINT) FOR IMPACT
$50.00 sponsored by Design & Technology Teachers’ Association of SA

BEST EXHIBIT OVERALL IN PHOTOGRAPHY (BLACK AND WHITE) FOR IMPACT

BEST EXHIBIT OVERALL IN PHOTOGRAPHY (DIGITAL MANIPULATION) FOR IMPACT AND EFFECTS
THANKS TO OUR SPONSORS

Automotive Exhibitors Association
Bunnings Warehouse
Design & Technology Teachers’ Association of SA
eLabtronics
John Grygus
McKechnie Iron Foundry Pty Ltd
Omega Picture Frames
Rose Society of South Australia
School of Mechanical Engineering - University of Adelaide
The Show Society Foundation
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Royal Adelaide Show
PRIZE
You can too!
For as little as $50.

To find out more, please contact Jackie Marsh, Sponsorship Co-ordinator
Phone: 08 8210 5284 or visit theshow.com.au
HAZARD REPORTING
Competitors must notify the Area/Pavilion Supervisor or the Venue Management Office immediately of any hazards detected. Hazards are any situation which has the potential to cause:
1. Injury, illness or death to people or animals either immediately or in the future
2. Damage or destruction to property

INCIDENT REPORTING
Competitors must notify the Area/Pavilion Supervisor or the Venue Management Office immediately an incident occurs which has resulted in:
1. The injury, illness or death of any person or animal
2. The damage, destruction or loss of property
3. A near miss incident that could have resulted in the consequences listed in 1 and 2

WASTE DISPOSAL
All waste including liquids must be disposed of responsibly and placed in the appropriate bin or receptacle. Storm drains must not be used for the disposal of any waste.

HAZARD MINIMISATION
All areas must be kept in a clean and tidy order with clearly defined and available access and exit routes at all times. Build-up of combustible waste must be avoided. Care must be taken to minimise trip hazards and obstacles that people may walk into.

HAZARDOUS MATERIALS
The RA&HS are to be advised of all hazardous materials that are brought onto the Showground. Appropriate warning signs and Safety Data Sheets (SDS) will need to be provided before allowing these materials on site. SDS are to be available onsite and provided immediately upon request by an RA&HS Representative.

MEDIA COMMENTS
Any public comment on emergencies, incidents or other venue matters should only come from the RA&HS. The key media spokesperson for the RA&HS is the Marketing Manager.

DUTY OF CARE
*It is important to ensure your own safety and that of all other site personnel, visitors and general public at the Adelaide Showground.*

All competitors have a “Duty of Care” to avoid exposing themselves or other people to situations which could lead to injury. This “Duty of Care” extends to the prevention of damage to property.

LIABILITY AND INDEMNITY

1. Release
Entry to and remaining on the Showground is entirely at the risk of the Exhibitor and to the maximum extent permitted by law, the Exhibitor releases the Society (which term includes in this clause the Society’s officers, employees, members and agents), from all claims and demands of every kind resulting from any accident, damage or injury occurring at the Showground, and without limitation, the Exhibitor acknowledges:
   a) the Society has no responsibility or liability for any loss, damage or injury to or caused by any Exhibit;
   b) the Society has no responsibility or liability for any loss, damage or injury to or caused by any Exhibitor, his or her family, invitees and Agents;
   c) the Society has no responsibility or liability for any loss, damage or injury to a Motor Vehicle or any of its contents whilst it is located on the Showground; and
   d) without limiting Regulations 1 (a) and 1 (b) above, the Society has no responsibility or liability for any loss, damage or injury resulting from the sale, treatment, failure to treat, destruction, disposal or other dealing with any Exhibit, or for loss, damage or injury to any personal belongings, equipment or property brought onto the Showground.

2. Indemnity
To the maximum extent permitted by law, the Exhibitor must indemnify and keep indemnified the Society and its officers, employees, members and agents from and against all actions, claims, demands, losses, damages, costs, expenses and liabilities including without limitation, consequential loss and loss of profits for which the Society is or may be or become liable in respect of or arising from:
   a) loss, damage or injury to any person in connection with the Exhibit or the relevant Event;
   b) without limiting Regulation 2(a), loss, damage or injury to any other Exhibit or Exhibitor, his or her family, invitees, Agents, or to the property of the Society, or its members, or to the general public, caused or contributed to or by any act or omission of an Exhibit of the Exhibitor or by the Exhibitor, his or her family, invitees or Agents; and
   c) without limiting Regulation 2(a), loss, damage or injury to the Exhibit, or the Exhibitor, his or her family, invitees, or Agents caused or contributed by an act or omission of an Exhibit of the Exhibitor or by the transportation, feeding or housing of an Exhibit of the Exhibitor.

Updated May 2018
3. **Removal from Showground**
   Without prejudice to any other provision in these Regulations, where the Society, its officers, employees, members or agents removes an Exhibit, or causes an Exhibit to be removed from the Showground, the Exhibit is removed or caused to be removed entirely at the risk of the Exhibitor. The person or persons removing the Exhibit will be deemed to be the agent of the Exhibitor, and his or her acts and omissions will be deemed to be the acts and omissions of the Exhibitor.

4. **Insurance**
   The Society will arrange Animal Exhibitors Public Liability insurance cover for all Exhibitors of Exhibits being animals. The Exhibitor is bound by the terms and conditions of this insurance and by Statutory Duties as defined under the Insurance Contracts Act (1984). Details of the Animal Exhibitors Public Liability insurance are set out in the Relevant Schedule. The Society does not insure first party loss, damage or injury to Exhibits, and Exhibitors should consider purchasing insurance if required.

5. **Personal effects**
   The Society has no responsibility or liability for any loss or damage caused to personal belongings, equipment or property which is brought onto the Showground by an Exhibitor, his or her family, invitees or Agents.

**EMERGENCY INFORMATION**

Emergency information and Emergency Assembly Points for the various animal pavilions and stables will be included with Exhibitor Entry Detail Returns and Notice to Exhibitor notifications. Competitors should be familiar with these plans.

**FIRST AID**

During the Royal Adelaide Show, St John provides First Aid Services but it is suggested that competitors have a basic First Aid kit for minor injuries. St John is not in attendance after public hours. For emergency contact details, check Notice Boards for onsite assistance or dial 000 for a medical emergency.

**RA&HS EMERGENCY FACILITIES**

Firefighting and other emergency equipment must not be removed or used for any other purpose. Missing or unserviceable equipment should be reported to the Venue Management Office immediately.

**SMOKING**

Smoking is only permitted in designated locations. The Royal Adelaide Show is a smoke free event.

**TRAFFIC CONTROL**

The RA&HS Traffic Control Policy imposes speed restrictions within the Showground. For the duration of the Royal Adelaide Show the speed limit is 10 kph on the grounds and 8 kph inside buildings.

The use of vehicles inside the Showground is closely managed during the Royal Adelaide Show. Conditions of entry will be provided with the issue of Vehicle Entry Permits.

**ELECTRICAL EQUIPMENT**

1. All extension cords and electrical appliances should be tested and tagged in accordance with current legislation as per Australian Standards 3760.
2. Removal of all untagged electrical equipment will be required or costs levied to exhibitors regarding any equipment without a current inspection tag.
3. Power boards with overload protection can only be used at the discretion of the Venue Manager.
4. The use of double adaptors is strictly prohibited.
5. Appliances and power cables must not be used or laid through any area that may become wet.
6. Power cables must not be laid across walkways, paths, roads or any area where damage could occur to the cable.
7. Bar (resistance) heaters are strictly prohibited.
8. Light sockets must not be used for any other purpose
9. In external areas only, extension leads that are Heavy Duty Rated may be used.
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