

Working Models and Inventions – All divisions

Section Coordinators: Janice Teng, Maureen Frith, Manju Mohandoss and Gregory Boyles

The Working Models category is an exciting and valuable section which inspires students to explore a scientific principle or idea that they find interesting. Individually with research or support, students translate their concept to a design and construction of a working model to demonstrate a particular scientific theory and/or principle. Students also have a chance to recreate a scaled model of an existing invention and explain the science behind their project.

The Inventions category encourages students to explore their creativity in designing and constructing either their own original scientific invention to solve a problem, or making an innovation and/or improving on an existing scientific invention for new or existing devices. It is important that students explore their design and redesign in the development of their invention using different scientific solutions. Inventions must be an original concept, and students should research that their innovation has not been previously explored.

In addition, we would like to encourage students to include more diagrams of their model/invention for their design brief in the report. Students should explain how their device has changed as they were building and developing it, with several diagrams of their prototypes. Diagrams should be labelled describing how the science applies to their device. Sample report formats are available online if required.

Students interested in the Inventions section may want to explore the resource links in 'The New Inventors' ABC website. This year, our Inventions Major and Minor bursary winners are also eligible for entry in the BHP Billiton Foundation Science and Engineering Awards, in the Engineering category. Girls interested in the inventions category should look out for information on the STS website February or March of 2018 for a special workshop.

Many students are inspired by the year's theme, but we would like to remind students that in Working Models and Inventions, they do not have to be limited to the theme and can be creative as well as pursuing their own interests in any aspect of Science!

2017 entries included a diverse range of projects, such as the 'Fully Autonomous UAV with Robotic Arm Application'; 'Eco Bicycle'; 'Brushless Motor Generator'; 'Smart Lock'; 'Tablet Sorter'; 'Automatic Composter' and a 'Hand Heat Powered Torch'. In addition, we saw several sustainability entries and some working models such as 'Tesla Coil'; 'The Moving Earth'; 'Richelle's Light Worx'; 'Micro-sensors In The Future' and 'Invisible Force'.

Students are reminded that if they are re-entering a project that has been developed since the previous year, they must clearly show in their model/device and report all the new modifications and/or improvements made from their previous entry.

Congratulations to all the bursary winners of the Working Models and Inventions. This year there were 19 Major bursaries and 36 Minor bursaries awarded in the Working Models section, and, 10 Major bursaries and 8 Minor bursaries awarded in the Inventions section.

We would also like to commend all entrants into the Working Models and Inventions as we appreciate the amount of effort and persistence required to achieve a working device from their design.

We would like to thank, Methodist Ladies' College for hosting our Judging Day, and Sara White, Miriam Beasy and all the staff and students who were essential in the set up and running of the day. Our appreciation and thanks also go to all the judges who provided time and expertise to listen and speak to our student entrants, giving them valuable feedback and a richly rewarding experience.