

# Scorpio Technology

## NEWSLETTER

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## WELCOME

Welcome to Scorpio's June newsletter. **World Environment Day - 5th June 2022** and **International Women in Engineering Day - 23 June** are great ways to inspire you with ideas related to solar energy in the classroom. This area of study teams up with many areas of the curriculum. We hope you take the challenge and try it with your students. The educational outcomes have been fabulous!

Remember, we're here to support you, however we can. Contact us at (03) 9802 9913 or email us at [sales@scorpiotechnology.com.au](mailto:sales@scorpiotechnology.com.au)

## PRIMARY STEM: SOLAR

Solar energy is any type of energy generated by the Sun. Solar energy can be harnessed directly or indirectly for human use.

Scorpio has a wide range of solar energy projects that suit middle to upper school. Choose from a range of GREEN POWER AND ALTERNATIVE ENERGY SCIENCE KITS. Experiment or make a model solar vehicle or house. Check out our free [Cooking with Solar Energy](#) project sheet. Either way, students experience solar in a hands-on way.

Check out Scorpio's 2022 PRIMARY STEM CATALOGUE for many great ideas suited to your classroom needs.  
**Click on link:** <https://www.scorpiotechnology.com.au/catalogues>

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### TEACHER CONFERENCES & WORKSHOPS



Scorpio is attending or supports these Design & Technology teacher activities:

**DATTA QLD** - 16-17/06/2022  
"Creative Integration", Brisbane Convention and Exhibition Centre

**DATTA VIC** - Rescheduled to Friday 9/12/2022 "Designing the Future", Banyule Nillumbik Tech School, Greensborough

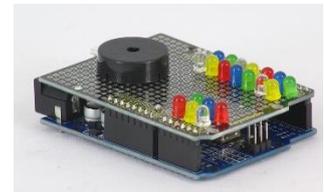
**DATTA ACT** – Sat 10/09/2022,  
TECHnow Conference, Daramalan College, Cowper St, Dickson

**what's new!**



**DIGITAL MULTIMETER SET**  
**MULTIM1527SET** consists of the Digital Multimeter 1527, a soft, foam lined zip up case, a pair of leads with banana plugs at both ends, and both insulated and plain shank alligator clips to add onto the banana plugs for greater versatility.

**JUNE SPECIAL INTRODUCTORY OFFER:** \$36.15 (RRP \$42.50)



**PAT'S UNO 20 LED – 5 TUNE**  
**PATSINO20LEDTUNE**

Another great project by Pat McMahon - UNO controlled project that can be programmed to play 5 tunes and light up 20 LEDs.

**Price:** 1 – 19 \$11.45 / 20+ \$11.00

**LEARN TO MAKE,  
MAKE TO LEARN**

***Laughter is timeless. Imagination has no age.  
And dreams are forever.***

*Walt Disney (1901-1966)*  
American animator, film producer and entrepreneur.

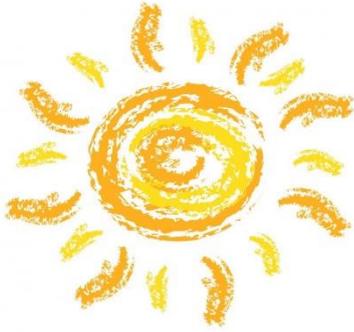


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June 2022

# Inspiring Students With Solar

Written by Anita Vejins



**“We only have to capture 1/10,000th of the solar energy landing on earth to completely satisfy all our energy needs.”**

Ray Kurzweil (1948 - )  
American inventor and futurist



**“I’d put my money on the sun and solar energy. What a source of power!”**

Thomas Alva Edison (1847-1931)

Using solar (photovoltaics or PV) modules has been a part of the curriculum in many schools for over a decade. This is sometimes used as a Design and Technology or Systems module or as a part of an organised event such as a Model Solar Vehicle Challenge. Past competitors have found a passion in design and engineering and have gone on to study in these fields at Deakin, RMIT, Monash, Swinburne and other universities.

**Victoria University of Wellington** has run Bootcamps to open up pathways to STEM careers for Māori and Pasifika students. During the January 2022 Bootcamp, students built model solar cars.

Students encountered learning and design challenges which provide real learning opportunities. Students and their instructors mentioned that the challenges faced by them at the Bootcamp included:

- When assembling the tyres to the wheels, it should be emphasized that the tyres should be eased on (like a bicycle tyre) and that they aren’t rubber bands – trying to stretch them will break them.
- When it’s cloudy, 4 solar panels are preferable. In this case, it’s a little tricky to connect them, but we haven’t quite had to commit to 4 panel cars so far
- We normally use fluted plastic/cardboard for construction, and the students struggle to get the motor to stay aligned with the cog which turns the axle because the materials move when it’s on. Maybe that’s a supplies for construction issue we need to solve.

Scorpio Technology has many kits and components for participation in the various SOLAR CHALLENGES, including specially designed solar panels. Other kits, solar projects, solar panels and components, including a range of gears for experimenting with solar power generation are also shown in the **SOLAR & SOLAR CHALLENGE CATALOGUE**. We hope you enjoy our selection.

**EMAIL SUPPORT & SOLAR CONSULTANT** - Need some advice?

For PRICING and STOCK AVAILABILITY e-mail us at [sales@scorpiotechnology.com.au](mailto:sales@scorpiotechnology.com.au)

For Solar Technical assistance ONLY, e-mail our Solar Consultant at: [ian@scorpiotechnology.com.au](mailto:ian@scorpiotechnology.com.au)



Tech Bootcamp students and advisers getting ready to race the solar panel cars they've built.



Participants of the 3rd Tech Bootcamp that the Paihau—Robinson team has held.



## WHAT STEM CAREERS ARE INVOLVED WITH SOLAR ENERGY?

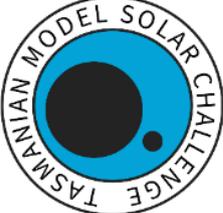
- **Solar Engineer** may research, design and develop new solar products or may work in testing, production or maintenance. They may collect and manage data to help design solar systems.
- **Electrical Engineers** design, develop, test, and supervise the manufacture of electrical components. They are responsible for designing the electrical circuitry of solar panels and supporting devices for panels, such as inverters and wiring systems.
- Materials Engineer or Scientist
- Solar Sales and Marketing of Photovoltaic Systems
- Solar Site Assessor
- Solar Installer
- Solar Energy Researcher
- Solar fleet manager
- Solar project developer
- Technician e.g. Engineering, Electronics maintenance, Solar service, Field Service



## REFERENCES

- <https://www.wqtn.ac.nz/robinson/about/news/tech-bootcamp-inspires-students>
- <https://consumerenergyalliance.org/2021/11/top-five-stem-related-careers-in-the-solar-energy-industry/>
- <https://www.indeed.com/career-advice/finding-a-job/career-in-solar>
- <https://www.cleanenergyresourceteams.org/careers>
- Free resources for Solar related topics can be found at <https://www.stem.org.uk/resources>

## 2022 MODEL SOLAR CHALLENGES

	<p>The UNSW SunSprint Model Solar Challenge runs each year on the first Saturday in September (<b>4 September 2022</b>). Some of the event is based on the specifications supplied by the Australian-International Model Solar Challenge allowing winning teams from SunSprint and the Solar Boats to participate in the national competition.</p> <p><b>Click here:</b> <a href="https://www.sunsprint.com.au/">https://www.sunsprint.com.au/</a></p>
	<p>The <b>2022 Solar Challenge</b> dates are set for <b>15-16 October</b>. Regulations are now available on their website for Designed car, boat and Sheridan Kit Car.</p> <p><b>Click here:</b> <a href="https://www.modelsolar.org.au/the-challenge/regulations">https://www.modelsolar.org.au/the-challenge/regulations</a></p>
	<p>Race day for the 2022 Tasmanian Model Solar Challenge will be held in <b>Term 4</b> (Oct/Nov) with the date and venue yet to be confirmed</p> <p><b>Click here:</b> <a href="http://www.tassolarchallenge.org/about-the-challenge/">http://www.tassolarchallenge.org/about-the-challenge/</a></p>
	<p><b>Australian-International Model Solar Challenge</b>  <i>“Developing an interest in Science, Technology, Engineering and Mathematics (STEM) through the use of renewable energies in school aged students throughout the world.”</i></p> <p>Competition dates and rules are not yet available.</p> <p><b>Click here:</b> <a href="https://www.modelsolarchallenge.com.au/">https://www.modelsolarchallenge.com.au/</a></p>

## PHYSICS – SOLAR ENERGY

Did you know that Scorpio has a great range of Physics related products to demonstrate Solar Energy?

**Click here:** <https://www.scorpiotechnology.com.au/solar-energy>

	<p><b>A solar panel and a wind turbine are taking about music</b></p> <p>Wind turbine: So, what are you into?          Solar panel: Whatever’s hot, but usually I prefer light stuff, how about you?          Wind turbine: I’m a huge metal fan.</p> <p><b>Scientists are working on new solar energy panels.</b> They want a material that absorbs and releases the most radiating heat. The consensus is car seats.</p> <p><b>What’s a solar panel’s favourite type of exercise?</b> Circuits.</p> <p><b>What you call a TV show talking about solar energy?</b> A Solar Panel</p>
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