

Scorpio Technology NEWSLETTER

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TEACHER CONFERENCES & WORKSHOPS



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

DATTA VIC - ~~Friday 1-05-2020~~ *Design Interruption*, **Cancelled**

DATTA QLD - ~~25/26-06-2020~~ *Creative Integration*, **Cancelled until 2021**

DATTA WA - ~~03-07-2020~~, Edith Cowan University – Mt Lawley
Cancelled

SCITECH 2020 - 12-9-2020,
Conference for Science & Technology Teachers, Daramalan College, Dickson Canberra

DATTA AUSTRALIA - October 2020?
Design & Technologies Week

ITE (NSW) - 25 to 27-11-2020

DATTA VIC – 12.2020 Makerspace

WELCOME

Welcome to a special Covid-19 edition of the Scorpio Newsletter.

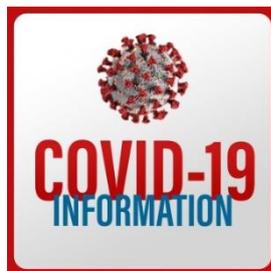
The last months have changed the way we live and placed new demands on us in the workplace. At Scorpio we wish to take some of the stress off your shoulders so you have time to do the important things – teach and to take care of yourself and your colleagues.



As always, we are here to help, so if you have any issues or questions, don't hesitate to contact us at (03) 9802 9913 or sales@scorpiotechnology.com.au

Please stay safe with your families and be assured that we are just a phone call away.

SCORPIO DURING COVID-19



Our priorities continue to be keeping staff safe and ensuring that Scorpio Technology remains accessible to all our customers. We have delivered, and will continue to deliver, solutions and support to you during this time and in the future:

Scorpio is working during the Covid-19 pandemic. We know that you will require extra assistance at this time. Please contact us so that we can make this challenging time easier.

HOW CAN WE HELP?

SPECIAL OFFERS FOR HOME LEARNING PHASE

- We are offering a FREE service - packing items for individual students. We can package these into packs for students (eg a kit + hookup wire + corflute base + batteries + double sided tape squares). This will help you distribute items quickly.
- If buying tools for students to take home, we can pack them into "student packs" for you – and we will give you a 5% discount
- If buying a 40W soldering iron for students to take home, we can include a 2m length of 0.71mm 60/40 solder and a 15cm length of desolder braid at no cost (but tell us they are for students)

NOTE: *these special offers only apply during the Home based learning phase of Covid-19, and are designed to help you during this difficult time.*



SCORPIO TECHNOLOGY Vic Pty Ltd,
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www.scorpiotechnology.com.au

April 2020 – Covid-19 Edition

Feel free to contact us about any requirements or ideas you may have.

- We pack our own kits locally, so we can be flexible about modifying kits or even pack special “kits” to suit your needs
- Any other unusual requests. Ask, and if we can, we’ll help

CONTACT US / SUPPORT:

- We are still open and able to supply your needs.
- In addition to the usual email and phone options, Skype calls can be arranged by appointment:
 - a. Knowing in advance what you want to talk about allows us to prepare and to be able to do a “show and tell” if required
 - b. Some things are easier to show than explain / visualise

Additional health and safety measures

- We are following social distancing guidelines
- Products have been in our warehouse pre-Covid-19 so there is no problem with virus from overseas sources.
- As a precaution we encourage you to dispose of outer packaging on receipt and wash hands with soap or use sanitiser after handling any goods received. The risk of Covid-19 is minimal with posted items but staying safe and well is important.

DESIGN AND TECHNOLOGY BY REMOTE LEARNING

The idea of teaching Design and Technology remotely has meant a rethink of projects and learning ideas. Our classrooms are filled with equipment from basic tools to complex machinery. These are not available to the student in the home setting.

The big question now is how can we provide a great programme that keeps our students stimulated, involves the skills they require and keeps them learning.

There is a great deal of information available on the web so we’ve summarised some of the ideas for you.

- The Design Process can be worked out by the student.
- Student keeps work diary as they would in the traditional classroom.
- Some schools have permitted students to come into the workshop area to cut their project pieces so they can continue at home. The machines are then cleaned thoroughly so no transfer of virus can occur.
- Students can work on a project. This is split into sub-sections allowing the teacher to oversee any problems remotely and work with the student.
- Electronics is difficult. Some projects can be made without soldering using alligator clips or screw on connectors or other methods. There are also many YouTube videos that demonstrate electronic concepts and also simulation programmes.

	CONNECTOR SCREW-ON - Code: CONN-SC 3.8mm Twist on connector for joining 2-3 wires together without soldering (Grey)			ALLIGATOR CLIP & WIRES - Code: ALLIWIRES12 (12 leads, 6 colours) - Codes: ALLICLIP and wire HUT5 – make your own leads
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- Woodwork and Metalwork – students design their projects ready for construction in the classroom setting when normal classes resume.

Help with Teaching Online - Resources to help teachers deliver the D&T curriculum online

<https://www.datta.vic.edu.au/content/help-teaching-online>





MODEL SOLAR VEHICLE CHALLENGES

Because students will be working from home, many parents might find it hard to help with **STEM** programs like those that use MSVC. One of the key suppliers – **Scorpio Technology**– is primed to help with this.

While we are unsure what the nature of the event will be this year, we are still working on the assumption it will run. Until we know it will not. That means, parents can still promote **STEM** at home via MSVC. If any parent wants to ensure that their children get the best experience possible while studying at home, and involve them in a design and build **STEM** project, then all they need to do is:

1. Go to the Model Solar Vehicle Challenge website - <http://www.modelsolar.org.au/>
2. Choose the vehicle type they want to build – boats and kit cars are the easier option, but designed cars might suit
3. Download the regulations for that vehicle
4. Go to Scorpio to order the parts they need - <https://www.scorpiontechnology.com.au>
5. Join the Facebook group so that they can ask questions and get advice - <https://www.facebook.com/groups/ModelSolarVehicleChallengeVictoria/> - this will need some questions answered to join, but that's just to ensure everyone is there with the same motivation
6. Hopefully come to the annual event at Scienceworks in October to race the vehicle against others

Now for the big favour. Would you please forward the above to the parents connected with your school to let them know about this option. That way they can do as much as they can to help their kids develop **STEM** skills while at home.

Thanks in advance,
Clint Steele, Chair, [Victorian Model Solar Vehicle Challenge](#)



DID YOU KNOW?

How long does the Covid-19 virus survive on surfaces?

World Health Organisation “*It is not certain how long the virus that causes COVID-19 survives on surfaces, but it seems to behave like other coronaviruses. Studies suggest that coronaviruses (including preliminary information on the COVID-19 virus) may persist on surfaces for a few hours or up to several days. This may vary under different conditions (e.g. type of surface, temperature or humidity of the environment).*”

People are much more likely to be infected by close contact with an infected person than by touching a contaminated surface.

Coronavirus is more stable on smooth surfaces like glass, than on paper, wood or cloth but doesn't tend to stay long on porous surfaces. But it's also important to remember that doesn't mean it's as infectious as when it was first deposited.

Laboratory research* has shown the virus remains viable for:
Air – 3 hours, Paper and tissue paper – 3 hours, Copper – 4 hours, Aluminium 2-8 hours, Cardboard – 24 hours, Wood – 2 days, Cloth – 2 days, Plastic – up to 3 days, Stainless steel – up to 3 days, Glass – 4 days.

(Note: Research is ongoing and these results are current at this time)



Reinforcing Social Distancing Measures With Science / Physics

I'm sure you've been inundated with press conferences, news reports and emails from the department and every company you've ever visited! We know you'll need to take care of yourselves or our health system is in trouble! Hopefully the students will also understand the health issues behind this.

WHY "SOCIAL / PHYSICAL DISTANCING"?

You understand, but how many of your students have thought about the Science behind this? Many probably don't consider that the droplets (with or without the virus) obey the same natural laws as everything else around us. What are those laws?

THE SCIENCE BEHIND IT

Velocity – droplets are ejected in a straight line at speed

Mass – each droplet – while tiny – has mass, and gravity acts on all masses

Air resistance – all objects will slow as they travel through air, proportional to the square of the instantaneous velocity – probably a bit too much for students, but worth mentioning.

What does that mean? – a droplet is dragged down by gravity, in a downward curve, until it hits the deck (hopefully less than 1.5 metres away from the ejector of the droplets).

- This is where you hope that whoever decreed the 1.5m (others say 2m) either knew his science or did some experimentation – or both.

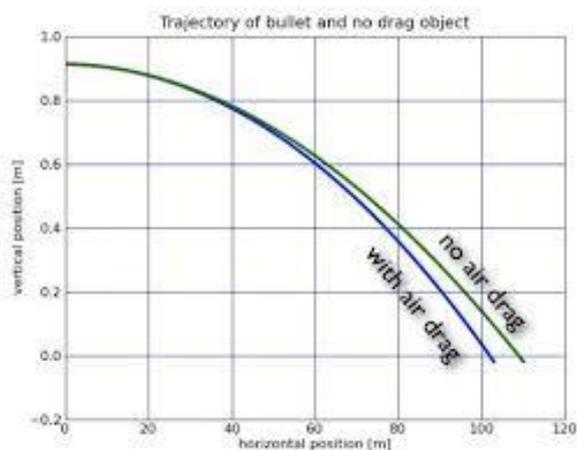
- there are formulas to work this out, but most (younger) students won't need that level of instruction ...

- for the purpose of simplicity, we have assumed people cough or sneeze in a horizontal direction but a person could have their head tilted up (increase travel distance) or tilted down (decrease travel distance)

The invisible world – this is why so many people have problems taking it seriously: they find it hard to believe that something they can't see, from someone close, can kill you just as surely as a bullet! And that is exactly what has been spelt out above – the study of ballistics. Rifles, pistols, artillery – all firing projectiles.

- To quote Wikipedia: **Ballistics** is the field of mechanics concerned with the launching, flight behaviour and impact effects of projectiles (which is what a droplet is!)

Example of ballistics:



Demonstrating this – in the classroom (or probably smarter – video conferencing the demonstration) these principles, for example, can be demonstrated, tested and graphed, by the use of a Projectile launcher (shown below).

The **Projectile launcher** is quite versatile, uses a 19mm ball, and can be fired at any angle. This is something students can see and understand.



Projectile Launcher (Code: PH0343)

