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TEACHER CONFERENCES, WORKSHOPS & EVENTS



Scorpio is attending or supports these
teacher activities:

**Design and Technologies Week (merged
with Melbourne Design Week) 27-
31/05/2024**

DATTA QLD Conference, Brisbane
Convention & Exhibition Centre, (& online)
Brisbane 13-14/06/2024

**Victorian Model Solar Challenge 2024
Event** 14 or 15 September 2024 at
Eynesbury Primary School .

ITE Technology Education Conference,
Sydney Masonic Centre, Sydney 27-
29/11/2024.

WELCOME

Autumn has arrived and it's time to get excited! Engage and inspire your students with all the support you need.

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

PRIMARY STEM: MEASUREMENT - TIME

Time to get excited!

Learning to tell time using analogue clocks is more challenging than learning to read digital clocks. As a measurement the student needs to learn how to read the clock by noting that each hand has a special function.

We have some exciting time projects to make learning time fun. Maybe your students could make or investigate the following:

- Sand clock or hourglass made from clear drink bottles.
- Water clock or clepsydra that measures the outflow of water from a vessel, to measure time.
- Lemon clock (Code: FSG3306)
- LP clock (Code: LPCLOCK)
- CD clock (Code: CDCLOCK)
- Make your own Clock kit (KJ8996)

Did you know?

10 minutes past 10 is the default setting for clocks and watches in advertisements. This time shows most of the face clearly. The hands don't overlap or come close, so as to display their shape and design in the best way.



a.m.

ante meridiem

p.m.

post meridiem

o'clock

"of the clock" "*What of the clock?*" an ancient way of expressing the time.

Tempus fugit

Tempus fugit often found on clock dial faces. It is a Latin phrase, usually translated into English as "time flies".

**LEARN TO MAKE,
MAKE TO LEARN**

***"Nothing is impossible, the word
itself says, 'I'm possible!'"***

Audrey Hepburn, Actor





A great range of products to use
in your classroom.



Specials for the month of March

5% off all our digital bench meters and analogue bench meters with product code beginning with "PA". Hurry, offer ends 31st March or while stocks last!



Digital bench meters



Analogue bench meters

ANNOUNCEMENT: Unfortunately, the factory that used to assemble gearboxes for us has closed and we have been unable to find another. This affects all kits that have assembled gearboxes.



BUBBLE BLOWER V2

Bubble Blower has been replaced with

BUBBLE BLOWER V2 with an **unassembled** gearbox. Code: (BUBBLEV2)

BUBBLE BLOWER – NO SOLDER GFOUR with a (different) **assembled** gearbox (GFOURSD) (Code: BUBBLE-NS-G4) . NOTE: there is only a **limited quantity** available (before that gearbox also runs out)

BUBBLE BLOWER – NO SOLDER V2 with an **unassembled** gearbox (Code: BUBBLEV2-NS)

FERRIS WHEEL V3

There is very limited stock of FERRISV2 and FERRISV2-NS. As soon as they run out these 2 kits will be discontinued. If you are interested in the V2 versions, please check with us for availability before ordering.

FERRISV2 is being replaced with **FERRISV3** with an **unassembled** gearbox

FERRISV2 is being replaced with **FERRISV3-NS** with an **unassembled** gearbox

LO-RIDER (LORIDER)

There is a very limited stock of LO-RIDER left. As soon as that stock runs out that kit will be discontinued.

TWO RATIO GEARBOX KIT (GTWOR)

The Two Ratio Gearbox Kit (GTWOR) has been discontinued. For those wanting to continue projects with that gearbox, there are 2 choices: The Multi-Ratio gearbox kit (GMULTI – with a choice of 4 ratios) or we can pack the parts to build the 2 ratio gearbox (Code: GTWORKIT – Minimum Order quantity is 50 kits).

THE JOUSTER WITH THE ASSEMBLED GEARBOXES (JOUST)

There is still stock of JOUST left, but that will also run out eventually. As soon as that stock runs out that kit will be discontinued, but JOUSTU (with an unassembled gearbox) will continue.

DISCONTINUED ITEMS AND SOON TO BE DISCONTINUED ITEMS

- Bubble Blower (BUBBLE) and Bubble Blower No Solder (BUBBLE-NS)
- Ferris Wheel V2 (FERRISV2) and Ferris Wheel V2 No Solder (FERRISV2-NS)
- Lo-Rider (LORIDER) and Two Ratio Gearbox Kit (GTWOR)
- Seeker V2 ASM (SEEKERV2ASM) and Wanderer V2 ASM (WANDV2ASM)
- Gearbox (JOUSTER version) (GBOXVJOURN) and Gearbox (BUBBLE version) (GBOXVBUBM)

Victorian Model Solar Challenge 2024 Event

will be held on the weekend of 14 or 15 September 2024 at Eynesbury Primary School, Eynesbury VIC 3338

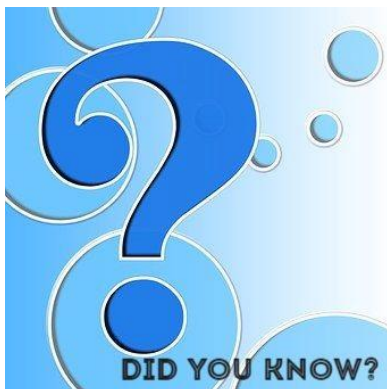


There are more events leading up to the main challenge this year so it's even more important to be ready.

Model Solar recently held a live update. You can take a look here - <https://fb.watch/qIaNNOGsok/>. It covers what you should be working on at this time, how to get the best value from the event, and how you can get help should you need it.

They have updated the website to show a preliminary event. Go take a look for details - <https://www.modelsolar.org.au>. We hope to have more this year so that we can offer students a season award and also provide better learning.

Regards
Clint Steele, Chair



- Clockwise and counterclockwise were originally sunwise and widdershins before clocks were common.
- The oldest working mechanical clock dates back to 1386 and is the Salisbury Cathedral Clock, located in Salisbury, England.
- There is a clock so accurate that it won't gain or lose a second in 20 million years. It is an atomic clock that has been named the NIST-F1 Cesium Fountain Clock.
- A day is the time period of a full rotation of the Earth with respect to the Sun. On average, this is 24 hours (86,400 seconds).



What happened when the clock broke?

It got stuck in the past.

6:30 is the best time on the clock...

Hands down.

Why did the scientist put a wristwatch into the flask?

He wanted a timely solution to his research problem.

If time is on your side, it's probably because you have a watch.



MAKING TIME RUN BACKWARDS

Man has measured time for centuries by observing nature. Later he discovered other ways to measure the movement of time. Today is no different. We need to know the time for most of our daily routines – from the time we wake, eat breakfast, leave for work and so on.

Early clocks were cumbersome and needed to be placed on a shelf or wall. As improvements were made clocks were made smaller until we could carry them on our wrist. Quartz technology changed the way most watches and clock mechanisms were made. The Quartz movement was invented in 1927. Seiko unveiled the first Quartz wristwatch on Christmas Day 1969.

Quartz has a property called piezoelectricity. When pressure is applied to a quartz crystal, it emits a small electrical charge. A small microchip circuit within the watch applies a charge to a quartz crystal so that the quartz crystal oscillates. This turns them into an electrical signal that powers the hands of a Quartz watch. Quartz watches use battery power to stimulate the quartz crystal with electricity.

Advantages:

- Quartz watches never require winding because they rely on electricity to keep ticking.
- They are accurate.
- Inexpensive

DESIGNING

Quartz clock movements (mechanisms) are a great item to have in your Design and Technology workshop. The design of a clock allows the student to cover all the criterion in the Design Process.

Did you know that Scorpio has developed a teaching resource called **CLOCK CONSTRUCTION (Secondary school)** that helps you carry out all aspects of making a clock in class?

PART 1: INTRODUCTION AND TECHNICAL NOTES

This section is aimed to provide you with information to help you decide what clock type you would like to design, and how to put it together.

PART 2: TEACHING NOTES

This section is aimed to help you to create a Design Brief, plan out the clock design and manufacture process, and at the end of the unit is a Rubric and Self-assessment section.

A FUN CHALLENGE

Add another dimension to the design. This can be done with a **Reverse Clock Movement** (Code: MR). The reverse movement simply runs in reverse to a standard clock. The hands move anti-clockwise (counterclockwise). The clock still shows the correct time despite going against the conventional direction.

Originally reverse clocks were mounted on a wall opposite a mirror in barber shops so that customers could then see the correct time in the mirror. Later they became novelty clocks for retirement gifts etc.



Code and description	Threaded length (L)	Shaft length (H)	Max clock face thickness		Possible uses	Price
			Hex nut (T)	Extension Nut (TE)		
Reverse Movement MR	13	19	10	12	Novelty	\$6.69

REFERENCES:

- <https://www.nixon.com/blogs/stories/how-quartz-watches-work>
- <https://my-wall-clock.com/blogs/blog-on-interior-decoration-with-wall-clocks/how-does-a-quartz-clock-work>