

Scorpio Technology

NEWSLETTER

INSIDE THIS ISSUE

WELCOME

Let us motivate you with great ideas and projects for the cooler months. Our article about wood turns up a few surprises.

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

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Teacher Conferences & Workshops

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What's new?
Did you know?
50% OFF Padlock & keys promotion
For Laughs

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Feature Article – Wonderful world of wood

TEACHER CONFERENCES & WORKSHOPS



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

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

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

PRIMARY STEM: ENGINEERING

Bring **engineering** into your primary classroom. Engineering provides opportunities to learn problem-solving skills, work together, to think critically and creatively whilst also communicating clearly and concisely.



Check out these NEW products!

| | |
|---|---|
| <p>Kids First Robot Engineer (Code: SN567009) Build up to 10 robots while following the story of two inquisitive kids. Suits ages: 3+</p> |  |
| <p>Architectural Engineering (Code: SN625416) Explores the engineering principles behind planning and developing buildings and structures. Try building Australia's own Sydney Opera House or one of the other great projects.</p> |  |
| <p>Roller Coaster Engineering (Code: SN625417) Conduct a series of engineering challenges Kit includes full-colour manual guiding you through the model assembly and experiments with step-by-step illustrated instructions.</p> |  |

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>

Stem vector created by brgfx - www.freepik.com



**LEARN TO MAKE,
 MAKE TO LEARN**

"Engineers like to solve problems. If there are no problems handily available, they will create their own problems."

Scott Adams (1957 -)

Author and cartoonist. Creator of the Dilbert comic strip



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DID YOU KNOW?

The word “engineer” comes from the medieval Latin word “ingeniator,” which comes from “ingeniare” meaning clever; native talent.

Civil engineering is the oldest branch of engineering. It began in the stone age and encompasses a variety of sub-disciplines and jobs.



Have you checked out our promotion?

Padlocks suitable for locking up machinery. Keyed alike.

2.0mm Shackle (Code: PL-5) - Pack of 5, Was \$2.75 **Now \$1.38**

4.0mm Shackle (Code: PLL-5) – Pack of 5, Was \$4.40 **Now \$2.20**

4.0mm Shackle (Code: PLL-25) – Pack of 25, Was \$17.50 **Now \$8.75**

<https://www.scorpiontechnology.com.au/tools>

Wire Cable (Plastic coated) (Code: CA2-10)

7 x 7 strand, stainless steel rope, 2mm dia, 10m. Was \$3.75 **Now \$1.87**

Wire Cable (Plastic coated) (Code: CA2-15)

7 x 7 strand, stainless steel rope, 2mm dia, 15m. Was \$5.25 **Now \$2.65**

Swage (Code: SWAGE)

Swages to suit 2mm wire rope, 13mm long, pack of 10. Was \$2.50 **Now \$1.25**

Crimping Tool (Code: CRIMP)

Large, 600mm crimping tool suitable for crimping swages. Was \$25.25 **Now \$12.50**



To the optimist, the glass is half full.

To the pessimist, the glass is half empty.

To the engineer, the glass is twice as big as it needs to be.

What is the definition of an engineer?

Someone who solves a problem you didn't know you had in a way you don't understand.

Check out our product range at www.scorpiontechnology.com.au to see what's new!



WONDERFUL WORLD OF WOOD

Written by Anita Vejins



“Gold is a luxury. Trees are necessities. Man can live and thrive without gold, but we cannot survive without trees.”

Paul Bamikole (Author)



Trees are an essential part of our environment. Without them we would not be able to live. They provide the oxygen we breathe, fuel, material, natural wind-proofing, beauty, shade, and more.

Wood and woodworking have a fascinating role in human history and daily life. Early man used wood for heating, cooking, shelter, implements and tools. Man then developed knowledge for construction, shipbuilding, furniture making, fencing, musical instruments, decoration, carving and much more.

It is understandable that wood is so useful. It is strong, has a long life and has multiple applications. It is a natural, sustainable and biodegradable resource. Using timber is considered carbon negative. Something is “carbon-negative” if it removes more carbon dioxide in the atmosphere than it adds.

Building with timber has the advantage that wood is an effective natural insulator with significant thermal mass properties. This helps to retain heat from the day and release it at night.

Engineered wood is a fabricated product such as plywood, fibreboard and particleboard that is used in residential, industrial and commercial projects.

Wood is important in wine production since seasoned wooden barrels promote fermentation of the wine. Many wineries have traditionally used oak barrels, but many also use oak wood chips to speed up the aging process and for adding woody aromas to the wine.



Weird and wonderful facts about wood and trees

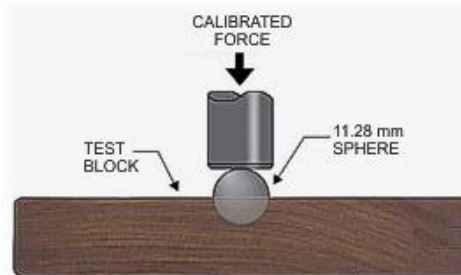
- 23,000 different species of trees can be found on Earth.
- Trees **never** die of old age – trees are only ever killed by elements outside of their control, including insects, diseases, and people.
- Some trees can communicate by emitting a chemical warning when threatened by pests e.g., willows secrete more tannin that deters insect pests.
- Wet wood, unlike dry wood, can conduct electricity.
- Around 30,000 BC, man began to use charcoal as a pigment for drawing on cave walls. Charcoal continues to be used as an artistic medium today.
- Ancient Egyptians and Ancient Chinese were the first cultures to practice woodworking, developing many of the techniques still in use by modern day woodworkers. They utilised various types of wood and techniques to produce wheels, carts, shelters, toys and beautiful carved art.
- The oldest surviving wooden building in the world is “**Horyu-ji temple**” in Ikaruga, Japan. It was constructed in 607 AD and includes a five-storey building called the “**Gojunoto**”. The oldest surviving wooden structure may be a 7,200-year-old well found in the Czech Republic.
- Wood has wonderful acoustic properties in that it can absorb echoes and sounds and is perfect for building structures such as concert halls.
- The “**Splinter**”, a supercar, designed by Joe Harmon, an American engineer, is made of wood. The entire chassis, suspension and shell were made from plywood, maple and MDF.

“Hardwood” and “Softwood”

Doesn't refer to the wood itself. Generally, hardwood trees bear leaves and softwood trees bear cones. Hardwoods are typically also considered to be denser than softwoods. Softwoods are not always softer than hardwoods

Measuring hardness of wood

The Janka hardness test calculates the hardness of wood by measuring the force needed to embed a steel ball halfway into a piece of wood. In Australia we measure hardness in Newtons (N) or Kilo Newtons (kN). The test was named after Austrian wood researcher Gabriel Janka who invented it in 1906.



Hardest wood

Includes the Australian Buloke

Softest wood

Cuipo and Balsa wood (Balsa is really a hardwood)

Largest tree

Giant sequoia in California's Sequoia National Park named “*General Sherman*” with a height of over 83.8 metres and at its widest, the circumference is over 31.3 metres.

Tallest tree

Redwood named “*the Hyperion*” over 115 metres tall located in the Redwood National Park in California.

Most expensive wood

The African Blackwood. The wood is used primarily to make woodwind instruments like clarinets and oboes.

Darkest natural wood

Gabon Ebony

Palest natural wood

Silver Striped Holly

Pinkest natural wood

Pink Ivorywood is expensive and rare. It has a pink to red colour timber

Cork

The bark of the Cork Oak is used for bottle corks and cork flooring.

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