Scorpio Technology NEWSLETTER

INSIDE THIS ISSUE

TEACHER CONFERENCES & WORKSHOPS

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

DATTA AUSTRALIA – Design & Technology Week 17-23/10/2022

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

WELCOME

It would be a very different world without inventors and their inventions. Leading up to Design and Techologies week we look at inventions that have changed our lives.

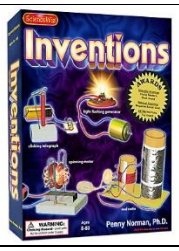
Remember, we're here to support you, however we can. Contact us at (03) 9802 9913 or email us at sales@scorpiotechnology.com.au

PRIMARY STEM: INVENTORS & THEIR INVENTIONS

An inventor is faced with many obstacles. They must first see a problem (Design brief). By experimenting and solving these problems a new invention is born. Some ideas never make it past the design stage while others are never released onto the market.

Stem vector created by brgfx - www.freepik.com

Scorpio has many ideas to explore inventors and their inventions. Here are just a few.

Leonardo da Vinci (1452 – 1519)	CATAPULT, Code: WM6703 WOODEN BRIDGE, Code: WM6718
Sir Isaac Newton (1642 – 1726/27)	NEWTON'S COLOUR DISC - HAND SPUN, Code: PH0582HS, NEWTON'S COLOUR DISC - HAND DRIVEN, Code: PH0582A
Samuel Morse (1791 - 1872)	MORSE CODE KIT, Code: MORSE
Admiral Robert Fitzroy (1805 – 1865)	FITZROY STORM GLASS, Code: HJ6185
Theo Jansen (1948 -)	WIND WALKER WIND POWERED STRANDBEEST, Code: HJ1803
	INVENTIONS, Code: SW7901 4 Major projects to build • A spinning motor • A clicking telegraph • A light flashing generator • A real radio

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

LEARN TO MAKE, MAKE TO LEARN

"Failures are pivotal moments that force you to take a different path – a path to a better place."

Thomas Edison (1847-1931)

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NATIONAL DESIGN & TECHNOLOGIES WEEK 2022

Design and Technologies week provides a great opportunity to highlight the creative, innovative and challenging work your students are engaged in.

The **Design & Technologies Week website** is filled with resources to help you engage your students - including design challenges, engineering activities, virtual tours, STEM projects industry podcasts and much, much more!"

We encourage you to check out Scorpio's extensive product range. We stock many items and projects that would engage students during Design & Technologies Week.

How will you celebrate National Design & Technologies Week?

Which historical invention was the most revolutionary?
The wheel

What was the most ground-breaking invention in human history?
The shovel

What was a more important invention than the first telephone?
The second one.

DID YOU KNOW?

Vegemite is now 100 years old. In 1922 the Fred Walker company hired a young chemist, Dr Cyril P Callister to develop a spread from brewer's yeast. A national contest to name the product was won by Melbourne sisters Hilda and Laurel Armstrong. It was first sold in 1923. It took many years for the product to become successful.

A jar of Vegemite was the first product to be electronically scanned at an Australian supermarket in April, 1984. The one billionth jar of Vegemite was produced in 2008.

ACCIDENTAL INVENTIONS

"Anyone can become an inventor as long as they keep an open and inquiring mind and never overlook the possible significance of an accident or apparent failure."

Patsy Sherman (1930-2008)

Usually a person sets out to solve a problem with the hope that they will come up with a solution. Sometimes the solution is far removed from the aim. We'll call these accidental inventions.

Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**Mauveine (Synthetic mauve dye)** English chemist William Henry Perkin 1856 To develop a synthetic substiture for quinine. Although his quinine experiment failed, Perkin created the first synthetic dye with his mixture. Tree bark and coal tar produced a dark purple die that was soluble in water and alcohol. The dye didn't wash out, was vibrant and brighter than existing dyes. At that time most dyes were made of insects, molluscs or plant material.
Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**Vaseline** American Chemist Robert Chesebrough 1859 To find and strike oil. Instead of an oil discovery petroleum jelly was found. The substance glugged up the drilling equipment and prevented progress. Chesebrough noticed that oil workers would use a gooey jelly to heal their wounds and burns**.**
Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**Saccharin** Russian Chemist Constantin Fahlberg 1878 To find a substitute for coal tar. Fahlberg discovered a sweet taste of sugar while eating his meal. He had been experimenting in his laboratory but had not washed his hands. He located the sweet taste (anhydroorthosulphaminebenzoic acid) and saccharin was discovered.
Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**Corn Flakes** Will Keith Kellogg 1894 To create a cereal porridge for patients at a Sanitarium. Wheat porridge was accidently left to boil for a few days making it flaky and hard. Instead of throwing it out it was rolled out and baked. The result was crunchy and delicious flakes. They switched from wheat to corn and named it Corn Flakes.
Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**X-Rays** German physicist Wilhelm Röntgen 1895 Experiments with cathode ray tubes Röntgen noticed that, when exposed to high electrical discharge, cathode rays produce a light that is capable of passing through several materials. He tried stopping rays by placing various objects in front of the discharge tube. When he tested a small lead disc, two shadows appeared: that of the disc and that of the bones in his hand. Röntgen suspected a new type of radiation was to blame and called them "X-rays" (the "X" for the unknown).
Invention: **Inventor:** **Year:**	**Penicillin** Bacteriologist Alexander Fleming 1928

Original Aim: **How it was created:**	Experimentation with the influenza virus – staphylococcus. Fleming left unwashed petri dishes when he went for a fortnight holiday. On his return he noticed that a mould (a fungus) had started to grow which deterred the virus. He grew the mould, and purified it resulting in an antibiotic.
Invention: **Inventor:** **Year**: **Original Aim:** **How it was created:**	**Microwave Oven** Electrical engineer Percy Spencer 1945 To develp energy sources for radar equipment. Spencer noticed a chocolate bar in his pocket melted after standing in front of an active radar set. He suspected this was caused by the microwaves emitted by the magnetron, a component of the radar. He tested his theory by making popcorn.
Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**Scotchgard** Chemists Patsy Sherman (and Samuel Smith) 1950s To develop a rubber material that would resist deterioration from jet aircraft fuels. Some of Sherman's fluorochemical rubber chemicals spilled on new white canvas tennis shoes. The spill couldn't be removed. When the shoe became dirty and stained the spot with the spill remained clean. This led to the development of a a fluorochemical polymer that could repel oil and water from fabrics. The stain resistant compound was named Scotchgard. Her invention of Scotchgard™ is considered one of the top 15 accidental inventions.
Invention: **Inventor:** **Year**: **Original Aim:** **How it was created:**	**Velcro** Swiss electrical engineer George De Mestral 1955 Walk with his dog. De Mestral noticed that burrs from the burdock plant clung to his clothes and his dog's fur after a walk in the woods. Using a microscope he observed the burrs had tiny hooks that clung to clothing. He experimented and invented a two-sided fastener – one side with stiff hooks like burrs and the other side with soft loops. He discovered that nylon was ideal for this task.
Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**Pacemaker** Electrical engineer Wilson Greatbatch 1956 To construct a heart rhythym recording device. Greatbatch accidently inserted the incorrect size of resistor into the electrical circuit. Instead of recording, the machine started to give out an irregular pulse using almost no battery power at all. This pulse resembled a human heart beat. This finding became the basis for a small implantable pacemaker that saved countless lives .
Invention: **Inventor:** **Year:** **Original Aim:** **How it was created:**	**Post-it Notes** Chemist Dr. Spencer Silver at the 3M laboratories 1968 To invent a strong and powerful new adhesive for the aerospace industry. Created a weak adhesive that stuck to objects but could be easily lifted off even after mutiple times. Despite discovering it in 1968, he couldn't find an appropriate use for it until 1974. Collegue Art Fry used the glue on scraps of yellow paper to use as bookmarks the Post-it Note was born.

REFERENCES

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