



## WELCOME

Welcome to a new year of teaching. We hope you are feeling recharged and ready for new challenges.

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)

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## PRIMARY STEM: INVENTIONS

Leonardo da Vinci is seen as one of the greatest inventors. You can introduce your students to his ideas with PATHFINDERS WOODEN MECHANICAL KITS.

Primary - STEM – Inventions  
Teacher Conferences & Workshops

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What's New?  
Model Solar Challenge  
Humour – Just for laughs

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Feature article: When Children Invent

### Kit

Da Vinci Catapult  
Da Vinci Wooden Bridge  
Da Vinci Helicopter  
Da Vinci Aerial Screw Miniature  
Da Vinci Crossbow Wooden Miniature

### Code

WM6703  
WM6718  
WM6705  
WM6745  
WM6740



### 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

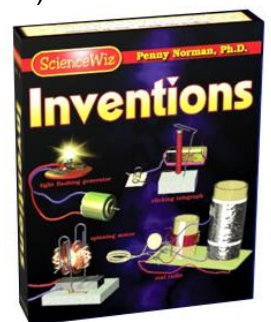
**DATTA QLD Conference**, Brisbane Convention & Exhibition Centre, (& online) Brisbane 13-14/06/2024

**Victorian Model Solar Challenge 2024 Event** Sat & Sun 19-20/10/2024.

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

The **SCIENCEWIZ KIT inventions** (Code: SW7901) contains four major projects to build. Great for small groups or home education.

- A spinning motor
- A clicking telegraph
- A light flashing generator
- A real radio



**LEARN TO MAKE,  
MAKE TO LEARN**

***“There are three responses to a piece of design – yes, no and WOW!  
Wow is the one to aim for.”***

*Milton Glaser, Graphic designer*



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**A great range of new products to use in your classroom.**

### **FLY-STICK - ELECTROSTATIC ENERGY MAGIC WAND (Code: EM0254-01)**

A fun and easy way to demonstrate electrostatics. Watch the flying shapes float and dance in the air as high as the ceiling allows!

Supplied with 1 x fly stick levitation wand, 5 x pre-cut mylar tinsel flying shapes and manual. Use to bend water, move alum. cans, float bubbles and more! Requires 2 x AA batteries (*not included*).

Spare mylar flyers also available (Code: PA0254-02)



### **Victorian Model Solar Challenge 2024 Event**

will be held on Saturday & Sunday 19-20/10/2024. Venue to be advised.



### **Want a STEM project with sustainability to drop into your school program?**

Model Solar Challenges are a great way to encourage students to work together with the goal of producing a model solar vehicle that runs purely on energy generated by a solar panel. The vehicle (either car or boat) is raced against other school entries. This event engages students across STEM disciplines and empowers them with a hands-on project limited only by their imagination. Challenge winners then compete in the Australian International Model Solar Challenge (AIMSC) against Australian and Taiwanese entries.

#### **What is involved?**

Regulations for the students' designed cars and the other regulations (boats and kit cars) are posted on your state's Challenge website. Lots of information and resources can be found at <https://www.modelsolar.org.au>

Scorpio has a great range of products to support the production of a model solar vehicle. Check out our Solar Catalogue.



**Australian-International Model Solar Challenge**



#### **A computer inventor starts talking to his friend.**

"I've almost made a human-like robot!" He says.

"You mean it can think?" His friend replies.

"No, but when it fails, it puts the blame on the back of another computer."

#### **One of the most underrated events of the past must be the invention of the lock.**

It was a ....key turning point of history.



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# WHEN CHILDREN INVENT

Children see the world differently than adults. They have a sense of wonder about the world around them leading them to ask many questions and seeking answers. Inventions begin with an idea on how to solve a problem. They may improve existing items, or they invent something new.

Some of the greatest inventions were designed by children. Some of these children invented other things while others continue to improve their invention. Here are just a few kids' inventions.

## **Ben Franklin (1706-1790): Swim Flippers**

**PROBLEM:** To improve the ability to cut through water while swimming.

Ben Franklin was a keen swimmer. At the age of 11 he invented handheld fins made out of oval shaped planks with holes in the middle for his hands. The fins helped him cut through the water more easily while swimming but tired his wrists.

## **Louis Braille (1809- 1852): Braille**

**PROBLEM:** Difficulty reading with a visual disability

At the age of three Louis Braille lost his sight following an accident in his father's workshop. He struggled to read letter imprints on a page. Later, he was able to read with a system developed by the French military in 1819. Louis simplified this system of raised dots and presented his work in 1824 at the age of fifteen. Braille is now used worldwide.

## **Chester Greenwood (1858–1937): Earmuffs**

**PROBLEM:** Ears getting painfully cold while ice skating

Chester enjoyed ice skating but found that his ears got painfully cold. So, in 1873 at the age of fifteen, he tried to find a better solution than using a scarf. Chester designed a wire frame onto which his grandmother sewed beaver skins between the loops of wire. He improved his design which he patented by age of nineteen. Earmuffs were sold to Soldiers in World War I.

## **Albert Sadacca (1901-1980): Christmas Lights**

**PROBLEM:** To provide an alternative to candles used for Christmas lights.

Albert at the age of fifteen had an idea to make safer Christmas lights. Until this time people used candles to decorate their Christmas trees as electric lights were expensive. Albert's family had a novelty lighting company which began to produce his popular lights in 1925.

## **Joseph-Armand Bombardier (1907- 1964): Snowmobile**

**PROBLEM:** To travel across snowy terrain especially in rural areas.

Joseph was mechanically minded. in 1922, at the young age of 15, he invented the snowmobile. A Ford Model T engine was mounted on four runners. A propeller was mounted onto the back. Joseph continued to improve his design and by 1959 he had created the world's first ultralight snowmobile model. His invention helped those in rural areas navigate the snowy terrain where traditional vehicles couldn't navigate.

## **George Nissen (1914-2010): Trampoline**

**PROBLEM:** To improve gymnastic skills involving tumbling.

George loved gymnastics and participated in tumbling at school. While visiting the circus he observed trapeze artists dropping into the safety nets. He thought that the bouncing action would allow a gymnast to do more tricks.

George left school the age of sixteen and went onto develop a trampoline in his father's garage. The original invention had a metal frame and a canvas stretched over it, but as he got older, he perfected the design with a nylon canvas, giving it more bounce.

# KID INVENTORS OF TODAY

Even today kid inventors improve the world around them. They focus on the best way to solve their problem and then work towards solving it. Today's STEM skills give them an avenue to make prototypes and improve design.

## Kylie Simonds: Pediatric IV Backpack

**PROBLEM:** A design that would allow children some mobility while receiving I.V. treatments or infusions. A fifth grade class assignment to create something to solve an everyday problem led to Kylie (age eleven) designing a backpack that was connected to an IV bag. While undergoing cancer treatment Kylie found the traditional IV pole made movement difficult. Kylie got tips from doctors and nurses and worked with her parents on the design. Her backpack invention allows children receiving transfusions to move around more freely. The design has won four awards.

## Kenneth Shinozuka: Alzheimer Alert System

**PROBLEM:** To assist a person caring for someone with Alzheimer's disease. Kenneth's grandfather had Alzheimer's disease. To assist his grandfather who would go wandering, he invented a sock with a pressure sensor at the age of fifteen. If the sensor was triggered a message was sent to his grandfather's caregivers. This successful invention won first prize and the \$50,000 Scientific American Science in Action Award.

## Mark Leschinsky: Self-Disinfecting Hazmat Suit

**PROBLEM:** Keep health workers safe when treating infected patients. The Ebola scare of 2014 required the use of hazmat suits. Unfortunately, healthcare workers still became infected. Mark (nine years old) invented a Self-Disinfecting Hazmat that could keep healthcare workers safe when treating patients.

The suit has three layers, an impenetrable inner layer, a centre layer with pockets filled with disinfecting solution, and an external perforated layer that lets the solution out to kill viruses on the suit.

These are just a few examples how today's young people are influencing the world around them. There are so many others. Maybe one of your students will join this list of inventors.

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