It Takes a Spark!
STEM Conference

Grace College Lutheran, Rothwell - Thursday 25 June 2026

Theme: Imagine, Invent and Inspire – we are the change

Presenter: Assigned Room, Needs and Flow of the Day

9.00am Attendee Registration in Grace Lutheran MPC Foyer

9.45am – 9.54am Masters of Ceremonies

Keynote #1: 9.55am – 10.25am

Keynote Speaker	Room	Needs	Setup	Max #
Dr Naomi Paxton Research & Operations Lead and Superstar of STEM, Propel Health AI	Front of MPC	Sound, Projector, clipon mic	5 – 10 min	All

Rotation #1: 10.25am – 11.25am

STEAM Expo **Room: Back of MPC** **29 expo activities: all attendees approx. 450**	Needs	Setup	Max #
Mars AI Rover and AI SMART Home Demonstrations STEM Punks Year 5 - 9	Bringing: All resources supplied by STEM Punks– kits, mats etc Need: 2 x tables, power	40 min	10-15 ppl over 5-10 min
Draw who you see in STEM Future You Year 4 - 6	Bringing: Large foamboard sheets (sized to fit space available), pens, handouts Need: Trestle Table, back wall	30 min	15 ppl over 5-10 min
Melting Metal Mementos Assumption College Warwick Year 7 - 10	Bringing: Camp stove, Bismuth metal chunks, Tongs, Safety goggles, Earring blanks, Heat proof gloves, Watch glasses to hold the cooling crystals Need: outside area near Expo, Table, Heat proof mats to put the stove and watch glasses	20 min	8 ppl over 5 min
Stars, Planets & Black Holes: A VR Exploration OzGrav (ARC Centre of Excellence for Gravitational Wave Discovery) Year 4 – 10	Bringing: Laptop, VR Headsets, Router, HDMI, Charging points, Extension cable, Power Board Need: Trestle Table, 6-8 chairs set up in approx 2mx2m open space, Bollards, if available, for queuing, Access to multiple power points	45 min	6 ppl over 5 mins
UQ Mobile Makerspace School of Education and Faculty of Engineering, Architecture and Information Technology, The University of Queensland Year 4 – 10 **Out in car park**	Bringing: Mobile Makerspace and all associated tools and technologies. Need: Power and a flat open space outside to set up the Mobile Makerspace.	min	12 ppl over 10 mins

Discover and Do: How Maths is Made Meaningful CSER STEM, University of Adelaide Year 4 – 7	Bringing: Laptop, microbits, ozobots, activity cards Need: 2 Tables, 10 chairs	30 min	10 ppl over 10-15 mins
Gravity Discovery Centre Rayner Digital Labs Year 4 – 10	Bringing: Posters, flyers, teacher info Need: 4m x 2m space, Table	10 min	2 ppl over 5-10 mins
Virtual Art Painting Rayner Digital Labs Year 4 – 10	Bringing: Hardware and information Need: Table, power	5 min	1 ppl over 5 mins
Powering Wearables with You: Battery-Free Health and Fitness Technology CSIRO Year 7 – 10	Bringing: Wearable device, Laptop, pull up banners, tablecloth Need: TV, power, extension cord, HDMI cable, Table	20 min	10 ppl over 15 mins
DigiTech Tinker Lab Digitech Tinker Lab Year 4 - 8	Bringing: Digitech stuff Need: Power, 2 x tables	30 min	10 ppl over 5-15 mins
Making Science Deadly! Deadly Science Ltd Year 4 – 10	Bringing: All required materials - Bush Soap samples, native plant materials, soap-making ingredients, water buckets, Glow Germ powder, and portable UV light boxes and torches, fish trap kits, challenge materials, and display resources. Need: 3 tables, area where water can be used for small buckets at the Bush Soaps station	30 min	10 ppl over 5-10 mins
Build your own habitat with Augmented Reality Islamic College of Brisbane Year 4 - 10	Bringing: iPads Need: Table, 5 chairs	20 min	3 ppl over 5 – 10 min
Test your tastebuds, win a prize! University of Queensland / Sustainable Minerals Institute Year 4 - 6	Bringing: Posters and a monitor for playing videos Need: TV, power, 2 Tables, somewhere close to a toilet for cleaning would be ideal	30 min	8 ppl over 15 min
Hidden Wonders: Science Under the Microscope Ormiston State School Year 4 - 10	Bringing: 10 x Ipads, 10 x Ipad microscopes, Materials, soils, rock and natural objects Need: 2 x Tables and power	10 min	12 ppl over 5 - 10 mins
Make the invisible visible Centre for Microscopy and Microanalysis, The University of Queensland Year 5 - 8	Bringing: The Hitachi TM4000 Scanning Electron Microscope, instrument operator, samples Need: sturdy table at least 1.5 meters in length, 75 cm in width, and 70–90 cm in height to comfortably accommodate the microscope & provide space for accessories or samples, must support > 120 kg, TV	60 min	4 ppl over 5 – 15 mins
Foil Sculpting Grace Lutheran College Year 4 - 10	Bringing: Laptop, flyers, aluminium Foil, Spoons, Display items Need: 2 Tables, 6 chairs, power	30 min	10 ppl over 5-15 mins
Artist Challenge BotBuilders Year 4 - 10	Bringing: Materials to use Need: Table	20 min	5 ppl over 10min
Game Design Challenge BotBuilders Year 4 - 10	Bringing: Materials to use Need: Table	20 min	5 ppl over 10min
Crash Control Challenge: Sounds and Sensors MindSET-do (UniSC) Year 4 - 8	Bringing: All equipment – Maqueen Micro:bit Kits, laptops and chargers, powerboards, tape Need: 2 Tables, floor space 2m x 2m, power	15 min	10 ppl over 15 mins

Make+Meld Design, Woodwork and STEM Make+Meld Year 4 - 10	Bringing: portable benches, range of pinballs, toys and other Need: nil	30 min	10 ppl over 10-15 mins
Snowy STEM Academy - Thinking inside the box Snowy Hydro - Snowy STEM Academy Year 4 - 10	Bringing: small generator (300mmx300mm max size), hand pump, vinyl piping, containers Need: General set up: A TV screen with HDMI cord, power, 2 x trestle tables + small table, Access to water, An area that can have water spilled (the activity is designed to not have water leave the system, but may happen). A space where a "water cooler" size bottle can be put on the ground without being a tripping hazard	75 min	5-10 ppl over 5-15 mins
Fire Brigade Drones and STEM Rural Fire Service QLD Year 4 - 10 **Out on Oval**	Bringing: Drone, TV and Van, traffic cones and signs Need: 30m Circle to be blocked off, internal just a Table	30 min	2-4 ppl over 5-10 mins
How Engineers Drill Through Rock Engineers Australia Year 4 - 10	Bringing: Rock samples representing different hardness levels, Mohs hardness scale kit, 3D-printed drill bit replicas (PDC and roller cone), Real PDC cutters, Short visual slides explaining drilling and rock hardness, laptop Need: 2xTrestle Table, power, TV (if possible)	15 min	10-15 ppl over 10 mins
SailLAB – Australian Sailing STEM Education Australian Sailing Year 6 - 10	Bringing: Radio Control Boats, Materials to make hydrofoils, hydraulics Need: 2 Trestle tables, power	60 min	10 ppl over 10 mins
Can we actually defy Gravity? Islamic College of Brisbane Year 7 - 10	Bringing: All materials needed. Handouts guide with instructions and task. Need: 2 Tables, 5 chairs	20 min	5-10 ppl over 15 min
Manufacturing Matters Manufacturing Skills Queensland Year 4 - 10	Bringing: TV Screen, two Ipads, 4 VR headsets, flyers Need: Power, 2 trestle tables – adequate space for 3 – 4 headsets with a 1.5m boundary for safety	45 min	4 ppl over 4 mins
Demonstration of mineral processing technologies Sustainable Minerals Institute, The University of Queensland Year 7 - 10	Bringing: Laptop to play a video, Materials for the live demonstration of flotation (water, buckets, air pump, sand), Brochures Need: power, TV, Table	60 min	5 – 8 ppl over 10-15 mins
Robot Sumo: Drive & Compete with WiFi Robots Stem Academy Year 4 - 10	Bringing: Sumo mat and ring with barriers to sit on table. Robots, ipad and laptop Need: Table or floor space (I can run it on the floor with a 1mx1m mat or I can do a smaller table top version with vertical barriers)	60 min	2 ppl over 4 mins
Is our environment slowing us down? Brisbane South State Secondary College Year 8 - 10	Bringing: Inquiry cycle, data analysis, balloons, string, rulers, CO2 sensor, posters Need: Table, power	20 min	5 ppl over 10-15 mins
Info Table	Need: Table	min	

Light Lunch 11.25am – 11.45am Front of MPC

Rotation #2: 11.50am – 12.30pm

Teacher Mini-Masterclass	Room	Needs	Setup	Alloc
Maths Made Meaningful CSER STEM, University of Adelaide Primary	F1	Bringing: Laptop, microbits, handouts Need: wifi, TV/projector, powerboard, extension lead, classrm	30 min	5T
Bringing STEM to life through video games Future You Primary	C3 Lab (18 PCs)	Bringing: Laptop, Game software, could bring iPads Need: TV/ projector, power, access to Arludo.com Note: Becky + Harry aware of move to VC Lab for Rot#3	30 min	7T
The pedagogy of innovation and entrepreneurial thinking Australian Skills Development Institute Secondary	F3	Bringing: Printed worksheets Need: Projector, Boards	15 min	14T
Digidesign Workshop	**Room**	**Needs**	**Setup**	**Alloc**
Introduction to Sumo Robotics using mBot2 Corinda State High School Year 4 – 9 VC is a very slim space but there is ample space in the foyer next door for the sumo field	VC computer room (24)	Bringing: Sumo Field, mBot2 Robots, Charger Need: Power board, TV / projector, About 3m x 2m for the field and robot, Table for robot, ppts to have an internet enabled laptop with access to https://ide.mblock.cc/	15 min	5T + 11PS + 8SC
Become the power behind Australia's sustainable energy future! Snowy Hydro - Snowy STEM Academy Year 4 – 6	V6 computer room (30)	Bringing: Small props (suitcase size max) to demonstrate some forces used in electricity generation, Laptop Need: TV with ability to connect a laptop, wifi, participant has a device	15 min	1T + 23PS
Stop Motion Animation Digitech Tinker Lab Year 4 - 7	F4	Bringing: Tablet devices, whiteboards, markers Need: TV / Projector	5 min	1T + 26PS
Think, Create, Prevent: Melanoma Awareness The University of Queensland's Integrated Pathology Learning Centre Year 5 - 8	F5	Bringing: Real human specimens, Paper and pens, Museum brochures Need: TV/Projector, Power	10 min	1T + 7PS + 15SC + GLC Teacher
Fire Dynamics STEM Lab Rayner Digital Labs Year 7 - 10	F6	Bringing: a laptop pre-configured Blender fire simulation, student schematic worksheets for predictions. All software and digital files are ready to run. Need: TV/Projector, pens and highlighters	40 min	6T + 23SC
The Cosmic Distance Ladder St Ursula's College Toowoomba Year 7 - 10	F7	Bringing: variable star template, makeshift star maps Need: Data projector	5 min	3T + 26SC
Maker Squad Manufacturing Challenge Manufacturing Skills Queensland Year 4 - 6	F8	Bringing: Materials Career Book, PPT, Handouts, materials for workshop Need: TV for presentation, tables for groups	30 min	2T + 27PS

Curious Minds - Arduino Moving Bots Murrumba State Secondary College Year 7 - 9	F9	Bringing: 2 Arduino robots preset up and two laptops with some predetermined code. Need: TV / project, wifi, 5 Laptops with Arduino IDE 2.3.8 application https://www.arduino.cc/en/software/ Ensure that have powerboards in rm	15 min	1T + 11SC
Eco-Vision: Giving Trash a Brain Southern Cross University Year 5 - 10	S1 Science Lab	Bringing: 10 laptops, Uses https://teachablemachine.withgoogle.com/ ~~Need: Students can bring recycled wastes to class to use as samples~~	15 min	2T + 6PS + 14SC
The Science of Everyday Ingredients Queensland Academy for Science Mathematics and Technology Year 4 - 7	S2 Science Lab	Bringing: Fabric of different types, Red cabbage solution and containers for dyeing fabric in, PREDYE FABRIC , Household item solutions in jars, small mat, Cotton buds, Plastic zip lock bags. Need: projector, Safety Glasses for the students, Cleaning up kits for spills – paper towels, Soap, access to water to clean up after workshop.	15 min	3T + 24PS + 1SC
Bowling for Pythagoras Tullawong State High School Year 7 - 9	J1	Bringing: Sphero SPRK class kit, Sphero Bolt Teacher Demo Bot, All other Materials, class set of 12 tablets for the Spheros Need: Projector/TV, carpeted floor (a normal classroom with no desks), power for Spheros, pens, paper	90 min	2T + 19SC
Hidden Worlds Revealed: A Microscopic Science Adventure Ormiston State School Year 4 - 6	J2	Bringing: 10 x Ipads, 10 x Ipad microscopes, Tables, Materials, soils, rock and natural objects Need: power, We can work in an outdoor space	30 min	1TA + 22PS + 7SC
Mathematics, Geometry and Tessellations Students from Islamic College of Brisbane Year 7 - 9	J3	Bringing: All materials needed, Handouts Need: Big classroom space (5 big tables and chairs)	30 min	2T + 15SC
Designing Safe Habitats to survive climate change Students from Islamic College of Brisbane Year 4 - 7	J4	Bringing: All materials needed to build the habitat, weights, scissors, ruler, etc. (equipment), Handouts Need: Big classroom space (5 big tables and chairs)	30 min	GLC Teacher + 10PS + 10SC
Community Creators BOP Industries Year 5 - 10	J6 – J7	Bringing: textas, paper and laptops to present Need: TV/Projector and tables for students to work in teams of up to 4	30 min	3T + 16PS + 21SC
STEM Sail Racing with SailLAB Australian Sailing Year 4 - 10	GLC Pool	Bringing: 6 x Radio Controlled Yachts Need: 2 x trestle tables Remind Peter to move these over after Expo	60 min	3T + 10PS +6SC + Yr 12 STEM captain

Short Break 12.35pm – 12.45pm

Rotation #3: 12.50pm – 2.00pm

Teacher Mini-Masterclass	Room	Needs	Setup	Max
Art-based STEAM using 3D printing and Microbits Corinda State High School Primary and Secondary	C3 Lab (18 PCs)	Bringing: Robots, laptop, power board, chargers, Need: TV or Projector, need space for the robots, about 3m by 3m, ~~teachers to bring laptops~~	5 min	15T
Sustainability Innovation Challenge **STEM Punks** Primary and Secondary	F1	Bringing: SMART Sensor Boards, Micro:bits, Innovation Kit Need: TV/Projector, Access to power https://makecode.microbit.org/	30 min	8T
Bionic Hand Damien Kee, Digitech Tinker Lab Primary and Secondary	F4	Bringing: Materials to construct the hand, microbits and tablet devices to program the servo motors. Need: TV, classroom	15 min	9T
Problem Solver Design Challenge	**Room**	**Needs**	**Setup**	**Max**
Idea Sparks: Problem to Prototype Living Faith Lutheran Primary School Year 4 - 8	V1	Bringing: Recycled materials, pens, tape, gluesticks Need: TV/projectors ,power, benches, If possible in V Block at GLC as their benches would be suitable	20 min	3T + 18PS + 1SC
Run your own space tourism agency Future You Year 4 - 6	VC Computer Room (24)	Bringing: staff Need: Projector, Computer Lab Note: Becky + Harry aware of move to VC Lab from rot#2	30 min	25PS + GLC Teacher
Data to Action: Innovating Climate Solutions for a Safer Future CSIRO Year 7 - 10	V6 Computer room (30)	Bringing: laptop Need: TV /projector, sticky notes, power, computer lab and tables to make groups https://data.gov.au/ https://www.data.qld.gov.au/ https://data.sa.gov.au/	10 min	4T + 2PS + 20SC
Autonomous Vehicles Challenge STEM Punks Year 5 - 10	F3	Bringing: SMART Sensor Boards, Micro:bits, Innovation Kit, bringing their own laptops Need: TV/Projector, Access to power https://makecode.microbit.org/	30 min	2T + 3PS + 20SC
Think, Create, Prevent: Melanoma Awareness The University of Queensland's Integrated Pathology Learning Centre Year 7 - 10	F5	Bringing: Real human specimens, Paper and pens, Museum brochures Need: TV/Projector, Power	10 min	3T + 16SC
Inspired by Nature: Using Biomimicry to Design Bushfire-Resilient Communities University of Southern Queensland Year 4 - 6	F7	Bringing: MacBook / IPad, "craft" materials, scissors, tapes, pens, butchers paper Need: wifi, classroom, Pens and "drawing tools", scissors, glue, etc	15 min	28PS + GLC Teacher

Engaging in inclusive music experiences MindSET-do (UniSC) Year 4 - 8	F9	Bringing: Arduino Kits, laptops and chargers, hand-outs and resources Need: TV/ projector, classroom, Access to power outlets.	30 min	3T + 6PS + 19SC
To Bee or not to Bee Grace Lutheran College Year 4 - 7	S1 Science Lab	Bringing: PowerPoints, inquiry activities, everyday materials or recycled materials for building Need: TV/Projector, Power, benches	45 min	2T + 23PS + 3SC
First Nations Aquaculture Deadly Science Ltd Year 4 - 10	S2 Science Lab	Bringing: DeadlyScience Fish Traps kits, challenge cards, scoring sheets, and data recording tools, teacher handouts Need: tables/ benches, TV/projector, power	20 min	2T + 11PS + 16SC
Creating a healthy food future Griffith University Year 7 - 10	J2	Bringing: materials for the workshop Need: TV/projector	10 min	3T + 13SC
Bridge Builders Showdown UniSC Engineers Year 4 - 7	J3	Bringing: Materials for bridge building Need: Projector/TV and a table.	15 min	3T + 27PS +1SC
Forces in Motion - Design + Build a Toy that moves! Make+Meld Year 4 - 8	J4	Bringing: 2 - 3 x portable woodwork benches, tools, materials and PPE. Need: Tables, 2 x tables for materials Adequate space to set-up our tool stations approx. 2 x 6m area	30 min	1T + 24PS + 5SC
Build a balloon powered car Engineers Australia Year 4 - 10	J5	Bringing: Cardboard, Straws, Bottle Caps, Bamboo skewers, scissors, Blue tack, etc Need: Tables, Power, chairs, long rubber mat / runway to test cars.	60 min	1T + 9PS + 17SC
Future Of Retail BOP Industries Year 5 - 10	J6 – J7	Bringing: textas, paper and laptops to present Need: TV/Projector and tables for students to work in teams of up to 4	30 min	4T + 11PS + 28SC
Build & Program a WiFi Robot (No Coding Required to Start) Stem Academy Year 7 - 10	J8	Bringing: 3D printer, robot pcb, pre-printed chasses Need: TV / projector, standard 10A power point	60 min	5T + 14SC

Completing the day: 2pm – 2.15pm Room: Front of MPC

Feedback sheets – students and teachers
Pens, Pencils, Prizes / In-Kind Gifts

Room and Workshop: Timeline

Room	Workshop
Front of MPC	**9.45am – 9.53am:** Conference Start with Grace Lutheran College MCs **9.50am – 10.25am Keynote: Dr Naomi Paxton** **11.25pm – 11.45pm:** Lunch – extra seating outside **2pm – 2.15pm: Feedback and Completing the Day**

Back of MPC	**9am – 9.45am:** Registration for Conference **10.25am – 11.25pm:** STEAM Expo Expo open/available until 11.45am - end of break
GLC Pool	**11.50am – 12.30pm:** STEM Sail Racing with SailLAB, Australian Sailing
F1	**11.50am – 12.30pm:** Maths Made Meaningful, CSER STEM, University of Adelaide **12.50pm – 2pm:** Sustainability Innovation Challenge, STEM Punks
F3	**11.50am – 12.30pm:** The pedagogy of innovation and entrepreneurial thinking, ASDI **12.50pm – 2pm:** Autonomous Vehicles Challenge, STEM Punks
F4	**11.50am – 12.30pm:** Stop Motion Animation, Digitech Tinker Lab **12.50pm – 2pm:** Bionic Hand, Digitech Tinker Lab
F5	**11.50am – 12.30pm:** Think, Create, Prevent: Melanoma Awareness, UQ Integrated Pathology Learning Centre **12.50pm – 2pm:** Think, Create, Prevent: Melanoma Awareness, UQ Integrated Pathology Learning Centre
F6	**11.50am – 12.30pm:** Fire Dynamics STEM Lab, Rayner Digital Labs
F7	**11.50am – 12.30pm:** The Cosmic Distance Ladder, St Ursula's College Toowoomba **12.50pm – 2pm:** Inspired by Nature: Using Biomimicry to Design Bushfire-Resilient Communities, University of Southern Queensland
F8	**11.50am – 12.30pm:** Maker Squad Manufacturing Challenge, Manufacturing Skills Queensland
F9	**11.50am – 12.30pm:** Curious Minds - Arduino Moving Bots, Murrumba State Secondary College **12.50pm – 2pm:** Engaging in inclusive music experiences, MindSET-do (UniSC)
C3 Lab (18 PCs)	**11.50am – 12.30pm:** Bringing STEM to life through video games, Future You **12.50pm – 2pm:** Art-based STEAM using 3D printing and Microbits, Corinda State High School
V1	**12.50pm – 2pm:** Idea Sparks: Problem to Prototype, Living Faith Lutheran Primary School
VC Computer Room (24)	**11.50am – 12.30pm:** Introduction to Sumo Robotics using mBot2, Corinda State High School **12.50pm – 2pm:** Run your own space tourism agency, Future You
V6 Computer Room (30)	**11.50am – 12.30pm:** Become the power behind Australia's sustainable energy future!, Snowy Hydro - Snowy STEM Academy **12.50pm – 2pm:** Data to Action: Innovating Climate Solutions for a Safer Future, CSIRO
J1	**11.50am – 12.30pm:** Bowling for Pythagoras, Tullawong State High School
J2	**11.50am – 12.30pm:** Hidden Worlds Revealed: A Microscopic Science Adventure, Ormiston SS **12.50pm – 2pm:** Creating a healthy food future, Griffith University
J3	**11.50am – 12.30pm:** Mathematics, Geometry and Tessellations ICB Students **12.50pm – 2pm:** Forces in Motion - Design + Build a Toy that moves! Make+Meld
J4	**11.50am – 12.30pm:** Designing Safe Habitats to survive climate change, ICB Students **12.50pm – 2pm:** Bridge Builders Showdown, UniSC Engineers
J5	**12.50pm – 2pm:** Build a balloon powered car, Engineers Australia
J6 / J7	**11.50am – 12.30pm:** Community Creators, BOP Industries **12.50pm – 2pm:** Future of Retail, BOP Industries
J8	**12.50pm – 2pm:** Build & Program a WiFi Robot (No Coding Required to Start), Stem Academy
S1 Science Lab Downstairs	**11.50am – 12.30pm:** The Science of Everyday Ingredients, QASMT **12.50pm – 2pm:** First Nations Aquaculture, Deadly Science Ltd

S2 Science Lab Downstairs	**11.50am – 12.30pm:** Eco-Vision: Giving Trash a Brain, Southern Cross University **12.50pm – 2pm:** To Bee or not to Bee, Grace Lutheran College