

JPSS 2021 STEAM PROGRAM



Science Club Excursion to the local creek

JUNCTION PARK STATE SCHOOL

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Dated: 19.02.2021

Contact: Mrs Susan Kennedy Smith: sken1@eq.edu.au or
Diane Robertson: diane@australbusiness.com for any enquiries

This program was developed under the auspices of the STEAM Support Group made up of teachers, parents, grandparent and caregivers of the students at Junction Park State School as well as the JPSS Science Teachers.

19 February 2021

Ms Christine Wood
Principal
Junction Park State School
50 Waldheim Street
Annerley, Qld 4103

JPSS 2021 STEAM PROGRAM

Dear Christine Wood

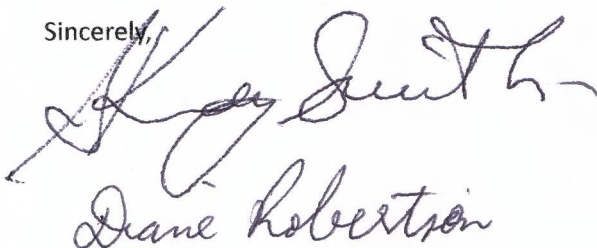
Looking back at 2020 reminds us how the curved ball of COVID-19 challenged 2020 STEAM Program plans for that year. Visits to other schools, some excursions and incursions did not occur, the school fete was cancelled along with science activities planned around that event, and the Science Fair was postponed to 2021.

What did go ahead in 2020 were some school-based activities, such as the regular STEAM Club meetings, albeit with changes to the schedule. Some meetings did not occur in the middle of the year, but instead took place in Term 4 to make up for the meetings missed earlier. Also, the classroom component of the Sustainability Project was a bonus science activity for the senior classes at Junction Park State School. The Alexander Kitchen Garden Program, too, which operates as a separate program to the STEAM Club, continued with their busy and engaging classroom activities.

What also went ahead were some excursions, all of which occurred in the early months of 2020. The STEAM Club went to a local creek to explore the microorganisms that live there and girls from the STEAM Club went to the The United Nations' International Day of Women and Girls in Science event at Southbank to hear the Queensland Chief Scientist and inspiring women in science speak about science careers and to ask some thoughtful and insightful questions.

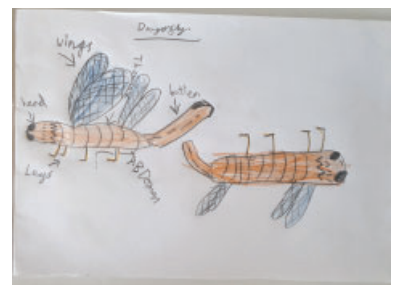
Despite COVID-19, the STEAM Club had at capacity attendances for its meetings before school each Tuesday, and the expectation is that meetings will be just as popular in 2021. This means that the STEAM Club Support Group has the encouraging task of managing numbers in 2021 rather than the opposite of trying to encourage attendance. With the hindsight of experience, the STEAM Club Support Group is looking at developing even more engaging science experiences for students in 2021.

Sincerely,



Diane Robertson

Susan Kennedy Smith
(JPSS Science Teacher & STEAM Support Group)
& Diane Robertson (Family Representative)
STEAM Support Group

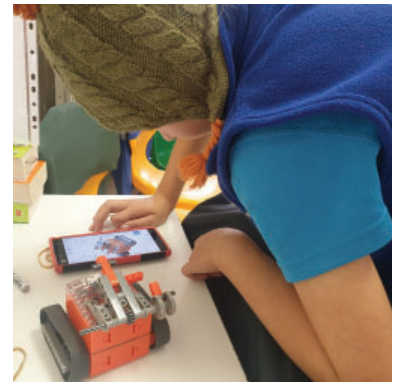
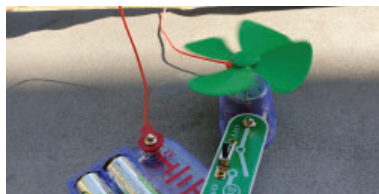


JPSS 2021 STEAM PROGRAM



CONTEXT

This document presents a Science, Technology, Engineering Arts and Mathematics (STEAM) Program in 2021 that links to the science component of the Australian Curriculum. It is supported by the STEAM Support Group (teachers and student family members) and the JPSS Science Teachers.



PURPOSE OF THE PROGRAM

To set up a viable STEAM Program, which shows what science activities are happening in the school and the possibilities for the engagement of the school community of parents, teachers and students in science.

The STEAM Support Group will organise and run certain activities, but, as this group is not wholly responsible for all STEAM activities in the school other groups or agents will conduct other STEAM activities.

STEAM SUPPORT GROUP AND SCIENCE GROUP

The STEAM Support Group consists of teachers (Susan Kennedy Smith, Kristy Fisher and Emma Richardson) plus a flexible group of parents and grandparents with children at the school, who bring an eclectic mix of skills. In 2021 activities will centre around electronics, robotics, movie making + creative thinking and life sciences in the STEAM Club Meetings, as well as the Science Fair. In particular some supporters will actively seek opportunities to put more emphasis on the A (representing Arts) in STEAM.

The regular STEAM Club meetings in 2021 are a primary focus for extra curricular science activities for students in Grades 4, 5 and 6 at the school, although even the students from Prep to Year 6 can participate in 2021 through the school's Science Fair as individual students or as class participants.

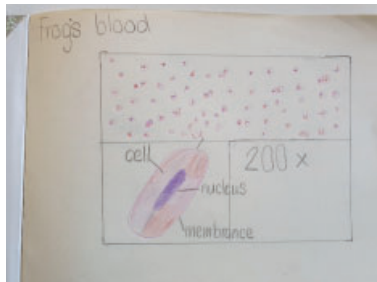


PROGRAM									
EVENT/ ACTIVITY	DESCRIPTION	TIME FRAME	RESOURCES	COSTS	S	T	E	A	M
STEAM Club Meetings	The STEAM Club (years 4, 5 and 6) is for students to extend their interest in STEAM activities. Term 1: Electronics Term 2: Robotics (2 groups: Yrs 3 & 4 and Yrs 5 & 6) Term 3: Science Fair Meetings + Movie Making and Creative Thinking Term 4: Life Sciences (including creek excursions)	Term 1 Tuesdays Term 2 Thursdays Term 3 Tuesdays Term 4 Thursdays	People: The STEAM Support Group will plan and run the STEAM Club each week during school terms and Science Fair Meetings in Term 3. Lead People: Term 1 Salvatore Colangelo, Term 2 Dr Michael Bromley, Term 3 Dr Francois Windels and Susan Kennedy Smith (Science Fair) Term 4: Dr Francois Windels. Equipment: The school has equipment, such as electronic kits, robotic kits, microscopes, laptops and iPads.	P&C Funding will be used to purchase additions to the robotic, electronic & life science resources + disposable items (pencils, books etc)	x	x	x	x	x
STEAM Club / Support for Eco and Science Captains	Individuals from the STEAM Club Support Group are offering to act as a resource to support any projects that the Eco and Science Captains would like to do in 2021.	Specific projects throughout 2021	Susan Kennedy Smith and Diane Robertson will coordinate activities.	Projects will be reliant on donations or school resources	x	x	x	x	x
World Science Festival for 2021	Class teachers have made the following bookings for their classes: Year 3: Physics - The Language of the Universe Year 4: Biology - The Circle of Life Year 5: Light and the Solar System Year 6: Chemistry - The Science of Life and Change	Term 1: 24, 25 & 26 Mar 2021	Class teachers will organise these activities.	JPSS will manage any costs.	x	x			
Year 6 Science Club visits	Cavendish Road State High School has invited JPSS Year 6 students to their Science Club meetings, which will take place if parent volunteers can drive the students.	Term 2	Susan Kennedy Smith will organise these visits, but school parents will drive the students to and from the school.	No extra costs.	x	x	x	x	x

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EVENT/ACTIVITY	DESCRIPTION	TIME FRAME	LEAD GROUP/PERSON	COSTS	S	T	E	A	M	
National Science Week 2021	The school will explore opportunities for students to take part in activities for National Science Week 2021, which has the theme of Food: Different by Design relating to the United Nations International Year of Fruits and Vegetables and the International Year of Creative Economy for Sustainable Development.	15-23 Aug 2021	The school and individuals from the STEAM Support Group will explore opportunities to engage in activities around this event.	Projects will be reliant on donations or school resources	x	x	x	x		
Science Fair for 2021	Students will conduct their own scientific investigations but school support includes 2 workshops (Prep-3 & 4-6) for teachers & parent (delivered by teachers Susan Kennedy Smith and Kristy Fisher). Leading up to the Science Fair, student STEAM Club members can show their scientific investigations in Term 3 to the STEAM Club.	At JPSS 9/08/2021 entry date cutoff 10/08/2021 judging by 30 outside experts	The STEAM Club Support Group will plan and organise the Science Fair for 9&10/08/2021. The STEAM Support Group will design and print a poster to advertise the Science Fair. Susan Kennedy Smith will recruit the judges.	Funding from the P&C will be used for prizes and other equipment.	x	x	x	x	x	
Fete	The STEAM Club Support Club will organise a display of the student projects that win prizes at the Science Fair.	17 Oct 2021	The STEAM Support Group.	Funding will come from donations or school resources	x	x	x	x	x	
Stephanie Alexander Garden Project	The Stephanie Alexander Garden Project operates as a separate activity to the STEAM Club, but the club may collaborate with them if there is some overlap in activities.	Terms 1, 2, 3, 4	Steve Hyde and Vicki Runniger	The school manages any costs	x			x		

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BUDGET

Where possible The STEAM Support Group will use items already owned by the school for the various activities planned for 2021, but the group also has funding from the P&C for the Science Fair and regular ongoing STEAM Club activities. For other resources the school relies on generous supporters who give their time or provide materials for free, or on loan. The group does look for grant opportunities, but economic realities seem to be impacting options there in 2021.



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BENEFITS OF A STEAM PROGRAM

For the School:

A STEAM program shows how the school is meeting one of the key improvement strategies suggested in a 2016 School Improvement Report.

For the Teachers:

A STEAM program makes it clearer to teachers how STEAM activities in the school can directly benefit them in the classroom.

For the Students:

A STEAM program provides students with more engaging and interesting and out-of-the-box activities, but also meets the schools' desire to provide educational extension programs for students.

For the Parents:

A STEAM program provides a platform for parents to engage in STEAM activities.

EVENTS FOR 2021

Term 1

STEAM Club Support Group Meetings:
Tuesdays in Weeks 2 and 10

STEAM Club Meetings:
Tuesdays Weeks 3 to 9

Term 2

STEAM Club Support Group Meetings:
Thursdays in Weeks 1 and 10

STEAM Club Meetings:
Thursdays Weeks 2 to 9
(Weeks 2, 3, 4, 5: Years 3 & 4
Weeks 6, 7, 8, 9: Years 5 & 6)

Year 6 Student Visits to Cavendish Road SHS

Term 3

STEAM Club Support Group Meetings:
Tuesdays Weeks 1 and 10

STEAM Club Meetings:
Tuesdays Weeks 2 to 9

National Science Week:
15 to 23 August

Science Fair:
9 to 10 August

Fete:
17 October

Term 4

STEAM Club Support Group Meetings:
Thursdays Weeks 1 and 9

STEAM Club Meetings:
Thursdays Weeks 2 to 8



RESOURCES

Events

National Science Week 2021

The school theme is 'Food: Different by Design':
<https://www.scienceweek.net.au/schools/>

Science Fair 2021

The Junction Park State School Science Fair Handbook can be downloaded from the JPSS website.

General

Try Engineering Resources

For teacher resources and lesson plans:
www.tryengineering.org

Edison Robots and Teacher Lesson Plans

For Edison robot kits and educational activities:
<https://meet Edison.com/>

Littlebits Electronic Building Block Kits

For kits to learn about electronic:
<https://littlebits.com/>

Astronomical Society School Nights

To book School Nights with Brisbane Astronomical Society:
<https://www.bas.asn.au/index.php/public-outreach-and-education/school-nights>

Planetarium Programs for Schools

<https://www.brisbane.qld.gov.au/things-to-see-and-do/council-venues-and-precincts/sir-thomas-brisbane-planetarium/planetarium-programs-for-schools>

State Library of Queensland Free Online Digital Courses for teachers and parents

To access over 13,000 high quality online IT courses with Lynda.com, including Windows 10, Office 365, Google Docs, photography, web development, etc:
<https://www.slq.qld.gov.au/research-collections/information-collections/eresources/lyndacom>

STEAM Experiences at QUT

For information on QUT's two-storey digital interactive screens called The Cube:
<http://www.thecube.qut.edu.au/visit/>
 Or for Holiday Programs:
<http://www.thecube.qut.edu.au/whats-on/2020/summer-holidays.php>
 And engaging activities at the QUT Art Museum:
<http://www.artmuseum.qut.edu.au/learn/>

Queensland Museum Learning Resources

For high quality classroom resources:
<https://learning.qm.qld.gov.au/>

World Science Festival:

STEM activities for classes and families in 24-28 March 2021
<https://www.worldsciencefestival.com.au/>

Queensland Chief Scientist STEM Activities and Resources

For links to Qld science education & outreach activities:
<https://www.chiefscientist.qld.gov.au/stem-education/activities-resources>

CSIRO Partnership Program

<https://www.csiro.au/en/Education/Programs/STEM-Professionals-in-Schools>

CSIRO Sustainable Futures Program

For free access to digital teaching resources for primary teachers (years 3–9) who register:
<https://www.csiro.au/en/Education/Programs/Sustainable-Futures>

Ergon Energy Electricity Education Resources

For free primary educational incursion program about Ergon Energy's Safety Heroes program:
<https://www.ergon.com.au/network/safety/safety-heroes>
<https://www.ergon.com.au/network/safety/safety-heroes/teaching-resources>

University of Qld's Wonder of Science Program

To connect with ambassadors of STEM in Qld schools
www.wonderofscience.com.au

Big Bang Education Workshops & Shows

For Prep-6 activities aligned with the Aust Science Curriculum
<http://bigbangeducation.com.au/>

Street Science

For science shows and workshops
www.streetscience.com.au

Griffith University's Science On the Go

For STEM outreach programs, events and experiences:
<https://www.griffith.edu.au/griffith-sciences/science-on-the-go>

Creating Science by Dr Joe

For Science incursions, workshops & shows:
www.DrJoe.id.au