**CODING, ART AND ROBOTICS (CAR) Program**

Burnie Primary School

The CAR Program sets out a range of learning activities that are targeted towards specific grades from Kindergarten to Grade 6. This structure also enables students to build up a bank of transferable skills from multiple STEAM disciplines that they can draw upon for individual innovations and ideas.

There is a range of experiences offered to the students in the areas of robotics, coding, technology, visual arts, leadership programs and environmental activities. This serves multiple purposes:

* Provision of a broad range of experiences so that students develop a range of transferable skills to carry through to high school and more intensive career decision making.
* Enabling students to find personal areas of interest that they would like to pursue. It must be recognised that students will like different aspects of the CAR program. Not all students will like coding, not all students will like robotics etc. The CAR program is structured to enable students to begin to pursue areas of interest while still developing skills in areas of less interest.
* Multiple and varied learning experiences supports the enjoyment of discovery in STEAM through primary school and supports student engagement.
* Learning opportunities will range from whole school opportunities, to grade based opportunities through to students having the opportunity to follow individual inquiry-based projects.

The following information provides a more detailed understanding of what is currently offered through the CAR program and in what direction the program will develop into the future.

**CURRENT INITIATIVES**

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| **WHAT** | **DETAILS** | **CURRENT STATUS** |
| **Student access to the Makerspace** | Student access to CAR Program | Active and ongoing |
| **Introduction of 3D printing and drawing** | Purchased new printers, introduced to students. Students to develop a personal AVATAR based on a fictional creature that has special characteristics that link to the General Capabilities. Students design the character and write a narrative about their character and special characteristics. Students transfer their design to a 3D drawing program and then print the AVATAR through the 3D printer. | Currently designing learning plan.  Students have discussed and approved |
| **Partnerships with University of Tasmania** | **Farmbot robot** – Burnie Primary School is the base for student teachers from UTAS to work with grade 6 students and develop STEAM-based learning plans.  **Sustainability Leaders** – Three Burnie Primary School Sustainability Leaders work with UTAS to develop the gardens built by grade 6 students last year. This activity involves engaging classes to care for their individual gardens as well as incorporating recycling and sustainability activities within the school.  **School of Education** – Partner with current students from the School of Education at UTAS to work alongside students in the Makerspace to design STEAM based learning programs. | Waiting for Farmbot to become active.  Active  Proposed start in Term 2 |
| **Partnerships with Apple Australia** | Critical friendship partnership with Josh Levy from Apple Education Australia in development of coding program at Burnie Primary School. | Meetings held in 2018. Projected meeting in Term 2 2019 |
| **Partnership with local High Schools and Colleges** | Develop transitional partnership to enable structures to be developed for students from Kindergarten to College through to University and Trade Centres to Industry. Focus on scope and sequence that enables a clear STEAM Pathway for students through their schooling years. | Meetings held in 2018 and 2019. |
| **Hour of Code** | Students invite families and community into the Makerspace to run learning programs. Students taking on the role of the teacher / mentor. This enables families and community to develop understanding of and skills in the learning areas students pursue through STEAM and the Makerspace. | First sessions run in 2018. 2019 dates to be set in Term 2. |
| **Teacher Professional Learning** | Opportunities for Teachers from Burnie Primary School and other local schools to access PL through the Makerspace. This PL will be a combined facilitation between the Lead Makerspace Teacher and students. | Initial discussions with other schools and teachers.  My education Teachers to attend a PL session in Term 2 2019 |
| **Micro credentialing to measure General Capabilities** | Digital badging – Micro credentialing as a means of measuring student demonstration of the Australian Curriculum General Capabilities. | Still in concept form |
| **Development of Burnie Primary School makerspace CANVAS website** | Utilisation of the Tasmanian Department of Education CANVAS website to develop a Burnie Primary School Makerspace site that both staff and students can access. | Site set up. Content being uploaded. Current access is available to Makerspace Lead Teacher and Blended Learning staff. Access for school staff and students projected for Term 3 2019. |
| **Individual student STEAM initiatives** | Imogen Lloyd – Earpiece initiative – Student has developed an idea for assisting students with Autism and is working with Lead STEAM Teacher to develop the idea.  Daisy – Model car wheels – Father collects model cars and vehicles. There are a number of tyres missing and Daisy wants to draw them up through 3D and print in 3D Printers. | Utilising Imagination Diary – developing ideas, prototypes made with plasticine. Next step to utilise 3D drawing program and develop some prototypes through 3D printer.  Developing idea in Imagination Diary |
| **Community Challenges** | Student families and community members set real life 3D printing challenges for students (e.g. Computer cord organiser etc) | Still in concept form |