Dalkeith Primary School Strategic Plan – STEM

The Vision: To create a learning environment that will inspire and increase engagement in STEM fields so our students can become reflective innovators and risk takers who create solutions for real world problems.

Business Plan Broad Strategies

Implement and maintain authentic challenge based learning experiences, with a focus on STEM (Science, Technology, Engineering and Maths), English and the Arts by 2017.

Integrate Information Communication and Technology to transform learning using the SAMR model.

Community Partnerships

Dr Carina Marshall – Scientists in Schools

Prof Kevin Vinsen from the International Centre for Radio Astronomy Research – ICT in Schools

Scientific Aerospace WA partnership

Pedagogy

- Design Thinking: Identifying problems and developing solutions through a cyclical design process of empathising, defining, coming up with ideas, prototyping and testing
- STEAM: To integrate The Arts where possible into the STEM fields to promote creativity and design as the basis for innovation

	Key Objectives Together, we will seek to…	**Actions** To achieve this we will…	**Monitoring** We will demonstrate success by…
2016	• Create a learning environment conducive to student collaboration and innovation • Provide opportunities for staff to build their capacity in STEM learning and trial STEM projects with select classes • Increase student engagement in STEM learning and raise awareness of STEM in the community • Provide opportunities for our gifted and talented students to engage in challenging STEM projects in STEM enrichment classes	• Repurpose the internal undercover area as a flexible learning area for student project work • Form a STEM committee to engage in professional learning through the TDS STEM Innovation Partnerships initiative • Create opportunities for the whole staff to engage in STEM learning and pedagogy • Collaboratively plan student projects that promote engagement in the STEM fields • Implement STEM enrichment program for identified year 3/4 and 5/6 students focusing on engineering, 3D design and printing, coding and robotics	• Students using the new flexible learning space to engage in collaborative student projects • STEM committee teachers attending PL and applying this knowledge and understanding in their classrooms to create STEM learning opportunities for students. Evidence: Planning documents and project criteria • Staff participating in PL on Student Development Day and during PLC sessions. Evidence: Staff STEM Olympics, Computational Thinking PL warm up during PLC • Student engagement in STEM increases through participation in a cross-curricular sequence of learning that encompasses STEAM fields (Year 2 and 5/6) and STEM Fest Day during Science Week. Evidence: Student STEM survey and student projects • Implementation of projects within STEM enrichment program and assessment through cross-curricular learning objectives. Evidence: STEM Enrichment reports and 2nd place in the Young ICT Explorers competition

	Key Objectives Together, we will seek to…	**Actions** To achieve this we will…	**Monitoring** We will demonstrate success by…
2017	• Further raise awareness of why STEM learning is important to the community and introducing the Technologies curriculum to parents ahead of 2018 implementation • Involve the whole staff in trialling STEM and Technologies project learning and assessment in 2017 • Develop clear curriculum linked documents to assist in the implementation of the Technologies curriculum and STEM learning • Provide a range of opportunities for our students to engage in STEM learning • Engage our community partnerships to expose our students to experts in the field	• Refine our Case for Change video and publicise to the community through the school newsletter and social media channels and continue to showcase student learning to the community through open nights and celebrations of STEM • STEM committee to develop a professional learning plan for the whole staff and support teachers to implement and assess projects • Engage in the DREAM project within the Shenton Network cluster to build capacity in two lead teachers to support the implementation of the Technologies curriculum at DPS • STEM committee to create sample lessons and learning sequences as exemplars and use the SCSA Judging Standards Technologies exemplars to assess student learning in STEM and Technologies • Ensure STEM learning can be accessed by all students via the classroom, student competitions, STEM enrichment classes for identified students and lunchtime clubs using a new makerspace area to be set up in the library • Engage our ICT in Schools partner Professor Kevin Vinsen from the International Centre for Radio Astronomy Research to work with students on various projects	• The parent community valuing the creation of a STEM enriched curriculum and parental involvement in STEM projects and clubs • Teachers engaging in a range of professional learning opportunities to build their capacity and understanding of STEM in the classroom – partly led by ICT Deputy, STEM Teacher-leader and DREAM project teachers • Teachers planning student projects using curriculum aligned planning documents • Student teams participating in the Young ICT Explorers competition, high level of participation in optional student clubs (coding, engineering) and students engaging in STEM learning projects in the classroom each term • Students being given clear learning intentions and success criteria for projects that are aligned with the Science and/or Technologies curriculum

2018	• Implement and report against the Technologies curriculum • Continue to work with community partners to provide students with exposure to STEM experts • Provide students with a STEM enriched curriculum in the classroom • Operate a range of extra-curricular STEM opportunities for students	• Support teachers to plan and assess through collaborative teacher planning and moderation sessions during PLC and collaborative DOTT time • STEM committee to work with community partners on student classroom projects • Teachers to implement at least one STEM/Technologies aligned project per term • Continue to offer STEM enrichment classes for identified gifted and talented students and run a range of lunchtime clubs for students	• Students being exposed to range of STEM learning opportunities in the classroom and being assessed using the Technologies curriculum in their mid and end of year reports • STEM experts working with DPS students on innovative projects • Students having access to a range of ways to expand their knowledge and understanding in STEM