

# Sun, speed and STEM: students test their CAD designs outdoors

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Year 9 iSTEM students recently took their learning out of the classroom for an afternoon of practical application at Southend Tennis Centre.

iSTEM is a Year 9 elective which integrates Science, Technology, Engineering and Mathematics by teaching students the principles of the engineering design process. At Meriden, the girls combine learning digital technologies such as CAD and coding with hands-on projects that embrace sustainability, and future-focused solutions to the challenges of travel and transport.

The girls finally had enough sunshine to thoroughly test and race their solar-panelled cars, reaching and exceeding speeds we achieved on school campus using batteries in the rainy, overcast days of Term 2.

It was exhilarating to fly our drones on a tennis court, with our Lego pilots attached, and even use the drones to film the cars racing.

However, the highlight of our outdoor launch lab was firing our bottle rockets. After a busy term of designing bottle nose cones in Fusion 360, it was great to see our CAD designs printed by our new 3D printers and evaluated using the Rocketman launcher. This project makes engineering concepts like thrust and drag tangible by letting students design and launch rockets built from recycled PET bottles.

The girls tested the rocket tail fins designed by Mr Van Wyk, Meriden's DaCA Assistant, and cut using our laser cutter in the new Foundry. Mr Brodyk, Foundry Manager, was integral in planning and preparing for this excursion. Many thanks to the Southend staff for supporting us and a special thank you to Ms Lak for accompanying us and bringing the M into STEM.

Congratulations to Estee Doan for launching her rocket an impressive 54 metres, the new Meriden record to beat for iSTEM in the future!

## **Mrs Alexandra Phillips**

Coordinator of Learning Link – Innovation



Year 9 iSTEM students