

Precious Plastics at Northcote High School

By Sarah Atkins, October 2021

Northcote High School, in the inner northern suburbs of Melbourne has long taken a traditional approach to teaching Technologies, with specific classes for woodwork, metalwork, and textiles. There was also a significant gender divide between the subjects for the more than 1,800 Years 7-12 students.

Six years ago, the school embarked on a journey to reimagine STEM and rebuild the Technologies faculty with a design approach as central to learning. Staff and students adopted the United Nations Sustainable Development goals and from there, the Precious Plastics program was introduced.

[Learn more about Precious Plastics](#)



Teacher, Peter Murphy, working with students in the reimagined learning space. Used with permission

Peter Murphy, Design and Technologies teacher led the change during his three-year role as STEM leader. He set up a STEM leaders' network with local schools and teachers visited each other's schools to see what the common success factor was.

"The sustainability theme came through loud and clear that that was really useful for connecting all those different learning areas but also using the design process and design thinking as a model for all the projects for students to work through."

"So, when we had the opportunity to renovate this space, we wanted to make them more like design studios so that we could broaden the opportunities that the students had in designing technologies and connecting to different learning areas".

Mr Murphy said.



Students at work in the Precious Plastics workshop. Used with permission.

One of the first steps the school took was to encourage teachers from different learning areas to create STEM units of work based on the existing curriculum with the focus on the design process as the underlying structure.

The teachers collectively chose to focus on the United Nations Sustainable Development Goals (UNSDG). All their units of work now incorporate problem solving, the design process, and tackle topics related to the UNSDG.

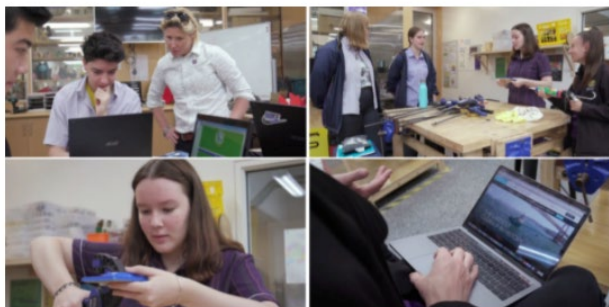
[Learn more UNSDG Goals](#)

One of the most successful programs has been Precious Plastics, part of a global movement collecting, processing and recycling plastics that can be granulated and re-formed to create sheets of plastic, extrusions or moulded directly into new products.

The process keeps plastic in a cyclic process and reduces the amount of recyclable material going to landfill. The Green Team at Northcote leads the collection and recycling of plastics in their purpose-built Precious Plastics recycling hub based in a shipping container in the school yard.

Students at Northcote High School are passionate about having an impact on the world.

Students are not only empowered through their involvement in the Precious Plastics program but also through their regular STEM classes. They have collected plastics from local schools and given presentations to students in neighbouring schools.



Students directing their own learning with guidance from their teacher, Peta Sirec. Used with permission.

Teacher, Peta Sirec said student agency plays an important part in her approach.

"Being flexible and listening to the kids is really important," she said. "If you're not listening to your students and you're just delivering content, then you're just delivering content".

Peta said.

"Having a position of leadership associated with STEM is a clear signal to the school community that this matters to us. That enables someone to have oversight over what it is that you're doing in that area. Someone to draw a coherent narrative with everything else that you're doing as a school and connect it in and to remind everyone of how it connects to STEM and how we can broaden our opportunities in that area, and still connected to the rest of the strategic plan."

Principal Sue Harrop added.