

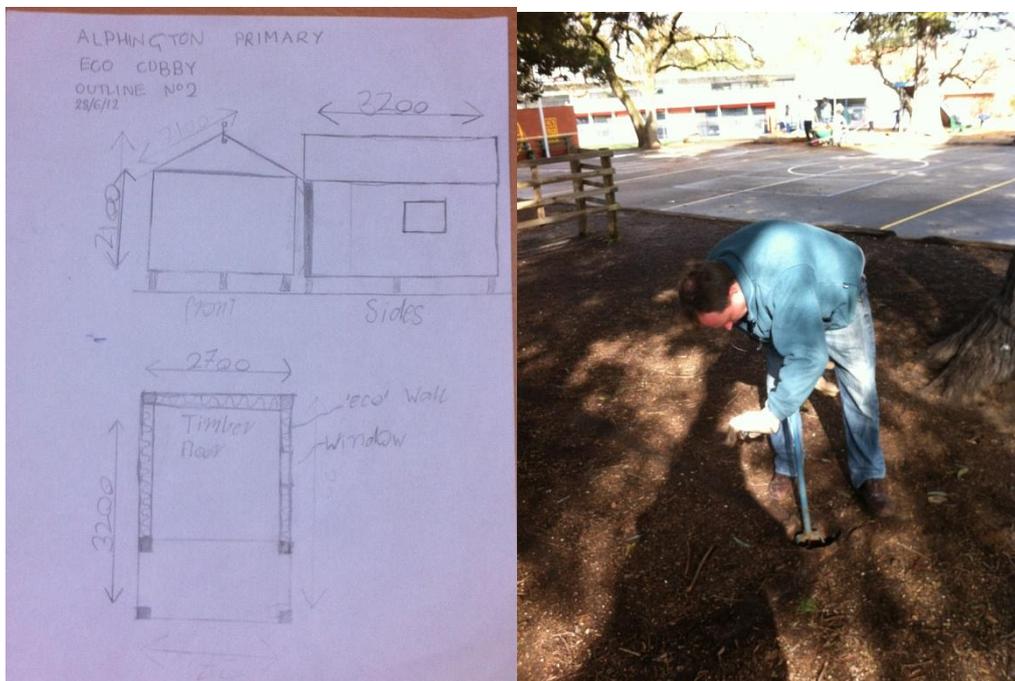
THE ECO-CUBBY

Alphington Primary School

The eco-cubby project began as an architectural investigation into sustainable building designs in 2010. Year 6 students worked collaboratively with architect Andrew Smith to create a design that went on to be a finalist in an eco-cubby design challenge initiated by ArtPlay and the City of Melbourne.

In 2011, Year 5 students modified the design to make it achievable to build and began investigating ways to create 'eco' coverings. With the assistance of parent Katrine Morris the students created a prototype seat made from bottles filled with playground litter. This prototype was taken up by the 2012 Year 5 students.

In February 2012, Year 5 students formed an Action Team, with the intention of building the eco-cubby. They enlisted Kim Guttridge, a parent and structural engineer, to help with the schematics. Under Kim's guidance students drew up plans and began construction at the August working bee. Many skilled parents from within the community were involved in the initial construction.



Most materials used during the construction were either recycled or reclaimed. New stumps were purchased at a cost of approximately \$100 for both structural integrity and OH&S standards.



At the following working bee (November, 2012) the year 5 students all chipped in and painted the wood, making the shell of the eco-cubby weather proof until suitable coverings were investigated and built.



Year 6 students then poured a concrete base, under the supervision of skilled teacher Adam Lovell, to support the weight of the eco-bottles. Students also began work on building a brick base, 6 courses high, to add strength and support. The brick base was finished over a weekend by a volunteer parent, Frank Muller. All these materials were surplus from a neighbouring building project.

Back in the classroom, the action team had been busy making eco-bottles. The bottles were packed tightly with soft plastics that were collected from wrappings used in school lunches and snacks. The 2012 Year 5 group spent many hours preparing the 'eco-bottle'.

Students calculated that they would require 391 bottles to complete one wall of the eco cubby. After slow progress, the 2012 Year 5 cohort had completed only 67 of the 391 bottles required.

In 2013, a new action team took on the task of making eco-bottles with a fresh outlook. Based on the achievements of the prior year group, the 2013 action team decided to engage the community in the task. Several assembly announcements were made and weekly newsletter items communicated how to make eco-bottles to the school community.

ECO-BOTTLE TARGET 391

1. Clean and dry scrunchable plastics
2. Clean and dry a 1.25 litre plastic bottle
3. Using a long stick, fill the bottle with the scrunchable plastic and compact until rock hard (No food scraps or paper)
4. Seal and bring to the Year 5s

**By the ECO-CUBBY
Action Team**

The rationale that if every family in our school made 2 bottles, the work would be completed was successful. By August 2013, the school community had collaboratively achieved making the 391 eco-bottles required to complete the wall.

An eco-mortar to fill the gaps and provide extra strength to the concept design. Students mixed the eco-mortar (adobe) by using clay, cement, hay and a touch of bondcrete. The process of attaching the bottles to the wall took almost a whole day and resulted in many cracked and dried out hands and fingers.



A Year 6 student action team attended the Resource Smart Sustainability Fair in 2013 and presented their eco-cubby achievements. Students delivered a presentation to approximately 40 students from other schools and shared their journey in designing and building the eco-cubby. This sharing of knowledge enabled our students to communicate and articulate sustainable practices at APS.



The 2013 Year 5 students also wanted to design their own concept for a wall covering and capitalised on a planned event to remove a dead Cyprus Pine from within the school grounds. Once the tree had been cut down, sections of the trunk was milled length ways and nailed to the wall. This gave an appearance similar to a log cabin. The gaps between the logs were packed with a mixture of mud and straw. This also acts as a mild eco-insulation.



By 2014, only one wall remained to be covered. The 2014 Year 5 cohort brainstormed various sustainability issues facing our school and how this could be addressed in the next wall covering. After researching on YouTube, students believed that paper bricks would make a suitable wall covering and also bring an awareness of the large amounts of paper used.

To make paper bricks, students collected paper due for recycling, shredded it, soaked it in water tubs for two days and then compressed it using paper brick makers. The bricks usually took two to three weeks to dry, depending on weather.



Students measured how many bricks they would need to fill the wall and estimated how long this would take to make the required 141 paper bricks. This process was relatively easy when compared to the eco-bottles. Students also calculated the amount of paper being re-used by making paper bricks (95 sheets per brick, 13375 sheets in total). This process will complete the three walls of the school's eco-cubby – a project that began in 2010.