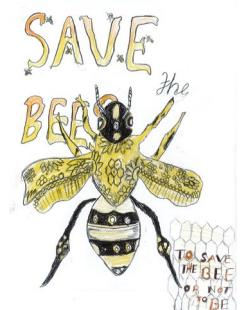


# *No Bees No Future Agricultural Science Project*



2020 Program Information Pack.

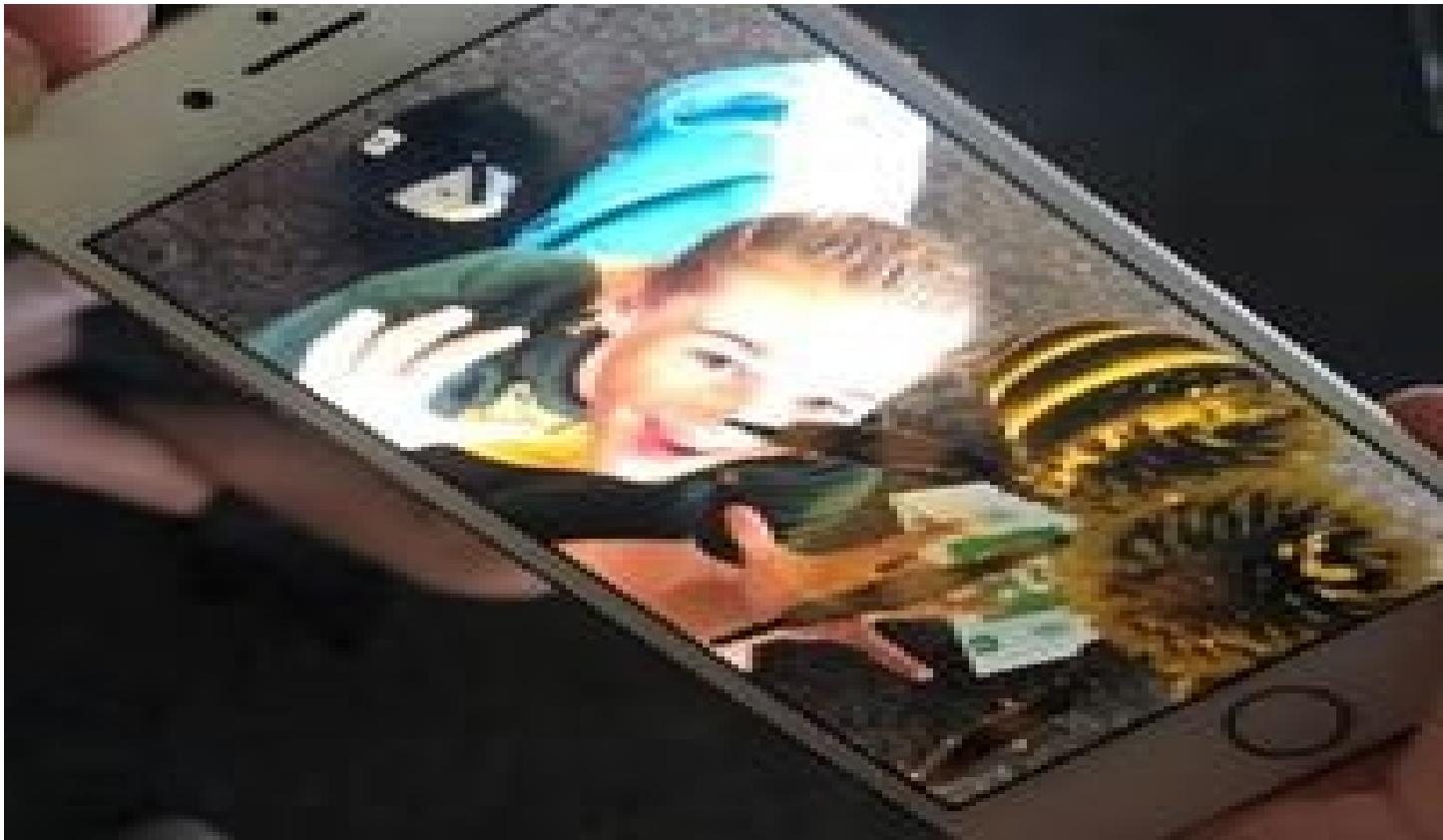


In 2019 HAHS-H, in partnership with WSU and Richmond TAFE ran a pilot project: No Bees No Future for Stage 2/3 students across 7 primary schools.

The program was a wonderful success and we are now planning for our 2020 program roll out.

This information pack provides an overview of the program from 2019 and information about registering an EOI for inclusion in the 2020 Program.

# Schools in the 2019 Pilot





## No Bees No Future Project

**Part A:** Induction Program and Planning for Campus Immersion Day. Includes access to purpose built website to support the project

**Part B:** Campus visit with immersion workshops led academics and industry partners. Launch of 2020 Project problem and student access to website blogs.

**Part C:** Schools complete school based lessons utilising resources on website and project based learning principles. Support provided by project lead and mentors as appropriate.

**Part D:** Schools return to Campus for Expo Day: presentations by participating schools, school pop up learning journeys and careers in AG/STEM Q and A forum with guest speakers.





# Purpose built Website to support the Project and fortnightly digital blogs from each school



No Bees No Future

Home · Communication Updates · Learning Resources · Activities · Gallery · Digital Journal Themes

media and acknowledgement obligations.



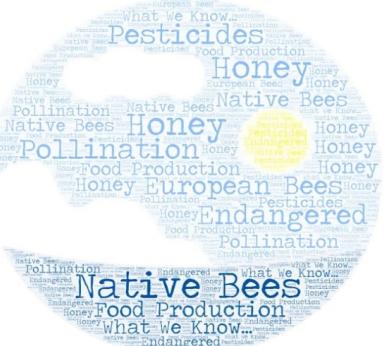
Week 1

Bee Honest...What do we know about bees?

Bee Curious...What would we like to know about bees?

## What We Know

S3C brainstormed what they already knew about bees and what they'd like to find out about bees. They then used the answers to create a Word Cloud.



Week 2

Our Visit to WSU Hawkesbury Campus.



Week 4

Bees are important. Their survival impacts directly on me, my family and my community.



## What We Want To Know



## Some student feedback from Day One Campus Visit.

### Our Visit to WSU Hawkesbury Campus

#### Isabelle

" I liked that you could see the bees crawling in the pipes. What I learned is that there is a type of bee that can not sting you because it has no stinger."

#### Erin

" I learnt that yellow and black bees are not native to Australia. They were brought in the first fleet. Honey is bee vomit. Some bees work by them self and others don't. Bees don't sting as long as you don't touch them or scare them but as soon as they sting they die."

#### Zack

" I learned all the different bees like blue banded bee and stingless bees. We also saw the inside of a bee with virtual reality."

#### Kobey

" I learnt that bees have a lifecycle. There are 2000 species of bees, the teddy bear bee, the leaf cutter bee and the stingless bee."

#### Holly

" I learnt that term is actually a blue and black bee called blue banded bee. The day was really fun because we learnt a lot and had some fun making virtual reality on the laptops about bees."

#### Zechariah

" I loved the technology and the fun we had. I learnt there are different types of bees and that they eat nectar and a little bit of pollen."

#### Matthew

" I learnt about the cuckoo bee. It can get other bees to be slaves. The blue banded bee has blue stripes. The stingless bee does not have a stinger. The day was the best."

# Linked to UN Sustainable Development Goals



SUSTAINABLE  
DEVELOPMENT GOALS  
KNOWLEDGE PLATFORM

## Sustainable Development Goals

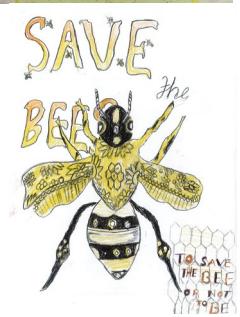


In your Digital Journals please ensure you capture the stages of research and development of your project. Think about the primary and secondary information utilised, work with experts, community and your people in your school. How did you decide on your final project? What steps have you taken to complete the project/activity? What roles did your team play in finalising the project? What UN Goals did your project address?

What new information ave you learnt and what new skills have you developed during the project?

World Bee Day is May 20th. World Bee Day has been officially recognised by the United Nations (UN), in a resolution to focus our attention on the importance of preserving honey bees and other pollinators and recognising the importance of bees for providing for the needs of humanity. The initiative was supported by all UN states, while 115 countries also acted as co-sponsors, including major countries such as the Australia, USA, Canada, China, Russia, India, Brazil, Argentina and all EU Member States.

How will your community recognise, promote or celebrate this day.





# Careers and Education in Agriculture Q and A Panel



## STEM Programs



## Literacy Programs



## Visual Arts and Digital Media Programs



## Citizen Science Programs



## Community Engagement Programs



## Environmental Sustainability Programs



## Engagement with academics, undergraduates and industry



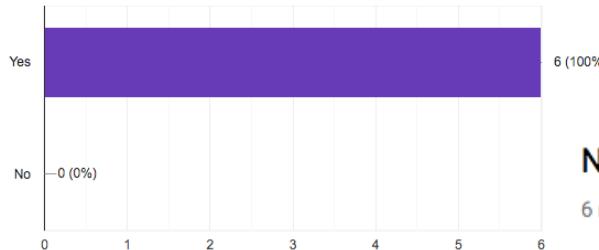
## Relevant, fun, engaged learning



# Feedback from our 2019 Pilot Schools

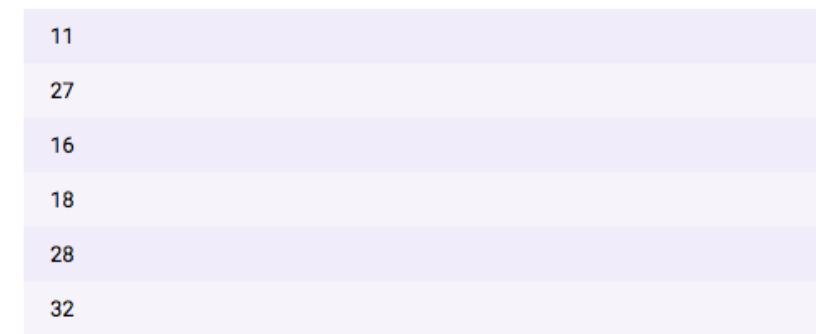
Would you recommend the project to other schools

6 responses



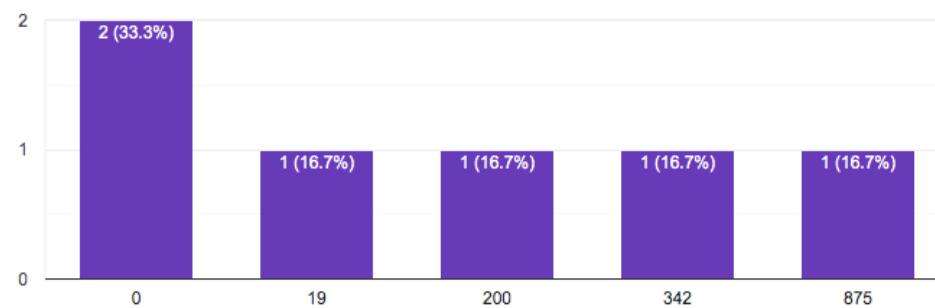
Number of students directly involved in the project

6 responses



Number of students indirectly involved in the project

6 responses





# Feedback from our 2019 Pilot Schools

## Outcomes of the project for your students

### *Importance of native Australian bees*

*Students were engaged in topic as it was authentic and relevant to them. They were able to apply real life skills to their learning such as budgeting and applying that budget to make a garden. It linked to all KLAs, allowing the topic to be taught in a variety of ways. Students have been able to spread awareness about bees to their community and peers.*

*Established a bee garden - Beetopia at our school. Whole School engagement. Increased awareness of bees and their importance for our future.*

*Students grasped the importance of sustainability and the wider ecology of the world. They learned how bees provide a pivotal role in our local and global ecosystem through food production as well as textiles and biodiversity promotion. They learned how to manage a sustainable school project that went beyond the scope of bees to increasing biodiversity in general. They also learned how to communicate effectively their findings to various audiences through fundraising initiatives and formal presentations.*

*An appreciation of the importance of bees to the continuing survival of the world, interest in learning about bees and agriculture, desire to educate others about the importance of bees.*

*Students applied for and received a grant from the council to develop school gardens, successfully ran a school fundraiser, educated their peers about the importance of bees by developing and delivering their own lessons, and had a hive of Australian native bees ordered and set up on school grounds (including finding suppliers and deciding on ideal locations for placement). Progress through the project saw students work toward outcomes in English, Mathematics, Science, Creative Arts, and Technologies.*



# Feedback from our 2019 Pilot Schools

## Outcomes from the project for your school/community

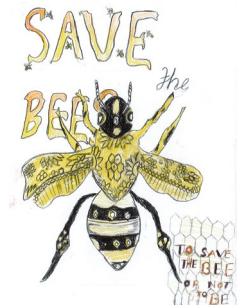
### *Introduction of native stingless bees in our school*

*Students shared their knowledge about bees to their school through world bee day and also through the bee application they designed. The bee app has been shared with parents and students at our school. High community engagement. We have parents / community members regularly visit Beetopia. Increased conversation about bees with children and their families.*

*The community will benefit from a stingless bee hive at our school and students of all stages have had an opportunity to learn about various Australian bee species at our seminars. Across the school we've been planting in garden beds to ensure an adequate food supply for the bees.*

*Placement of bee hotels in school grounds, participation in Pollinators Week (planned for Nov 10-17), creation of educational games for other students ages P-6.*

*The native bee hive that was installed supports the gardens being developed by student and members of our community group who have been working with the local council and Bunnings Warehouse. Our entire school learnt more about the importance of bees through student developed and delivered lessons that were targeted at each stage.*





# Feedback from our 2019 Pilot Schools

## Testimonial from one school Leader: Amy ( SMNPS)

"As you have witnessed through listening to the wonderful student presentations today, the No Bees No Future Project is one that has captured the interest of our students and engaged them in a way that allows them to feel truly empowered by and connected with their own learning.

### LINKS TO CURRICULUM

The No Bees No Future project has provided students with a genuine learning opportunity and practical ways to engage with the curriculum.

The Science and Technology syllabus strongly states that the subject is an 'integrated discipline that fosters in students a sense of wonder and curiosity about the world around them and how it works'. It encourages students to 'embrace new concepts, the unexpected and to learn through trialling, testing and refining ideas'.

This project has easily achieved these intended outcomes.

Through this project and the study of bees all 3 key objectives as stated in the Science and Technology syllabus have been addressed.

By working scientifically, students have developed skills in scientific inquiry, focussing on the processes involved in designing and producing, in an aim to develop a solution.

Through the content strand Living World, students developed their knowledge and understanding of the natural world, deeply researching bees and their place in the world.

Throughout their journey, students have learned to value the importance and contribution of science and technology in developing solutions for current and future global issues and in shaping a sustainable future. Students have learned to use evidence and research to respond to topical ideas, as informed reflective citizens.

Teachers are constantly battling with a crowded curriculum and while this project was initially created to meet science and technology outcomes, it has also clearly addressed other cross curricular and general capabilities for students. For example sustainability, critical and creative thinking, civics and citizenship as well as ethical understanding. In addition to this, links can constantly be made with the English and Mathematics curriculum. Cont next page.



# Feedback from our 2019 Pilot Schools

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## LINKS TO SCHOOL PLAN

Any project that a school may get involved in, must achieve outcomes that are set within their school plan. Strategic directions require the students, staff and the community to be invested in the learning that occurs for all students. The success of the No Bees No Future project has easily achieved outcomes for all key stakeholders.

Throughout the project, our students have become critical and creative lifelong learners that have learned skills to be self-driven, resilient and reflective within their learning. The No Bees No Future project has taught students about the importance of sustainability and as a result has allowed them to be more aware of their own place in the world, as global citizens. This project has allowed students to have a voice and make a stand for Australian agriculture, to make a difference for their future.

The staff that have worked alongside students in this learning journey, have seen the value of this relevant, rich and deep learning opportunity that is evenly balanced with a practical, hands on inquiring nature. For staff, this project has allowed for the achievement of school priorities, system and syllabus requirements, and it clearly meets the need of innovative practice. Staff have been able to successfully provide a real life purpose to their student's learning. Leading this initiative within individual schools, has also created leadership opportunities for teachers.

It is always important for student learning to be successful. For this to happen a connection needs to be built between school and home. The No Bees No Future project has strengthened conversations between students and their families, by sharing of information and facts learned about bees. It is sometimes difficult for schools to engage and connect with their communities, however this project has highlighted a different kind of learning – an inquiry based, hands on, real world, future-focused experience. Partnerships that have been established between the schools involved have been strengthened by the support from Kris Beazley at Hurlstone Agricultural High School. The use of her online platform for sharing student work and progress reports from each individual school has helped to inspire students and staff involved in the project. Ongoing partnerships with Hurlstone and Hawkesbury University into the future will allow more students the opportunity to feel success in student led, inquiry based, projects that promote agricultural, farming and sustainable practices into the future. It is wonderful for our students to be involved in these opportunities as it supports them in their preparation for making choices about furthering their own education beyond primary school years. Cont next page ..



# Feedback from our 2019 Pilot Schools

Cont.

## STUDENT OUTCOMES

As a participant in the small group of schools who elected to be a part of the pilot No Bees No Future project, I speak for all schools involved. As the projects has evolved in each school, we as teachers, along with our students, have continually reflected on our journey and have made necessary changes to ensure the success of the project. The outcomes achieved through the involvement in this project have been endless.

Across all schools - students have obviously connected with their learning. They have willingly engaged with the rich inquiring nature of this project, as a result, becoming researchers, scientists, entomologists and apiarists. They have learnt to express their opinions and communicate effectively about a topic they are passionate in. Students have worked collaboratively to design and implement a solution to a problem. They have questioned processes, re-evaluated their decisions and made changes in order to achieve better outcomes. Students have used technologies as tools to document, record and share their learning processes. They have taken on many responsibilities and become natural leaders in their learning, outside of the usual classroom environment. Students have felt true ownership for their learning. They have celebrated their achievements and developed a deep sense of pride and accomplishment for the work that they have done.

While the No Bees No Future project provided a framework for student learning, it has also provided individual schools with the freedom to be creative within their own school context. As you have seen throughout the student's amazing presentations, each school had their own vision and worked towards achieving the common outcomes, in their own way. Cont next Page...



# Feedback from our 2019 Pilot Schools

Cont.

## **SURPRISE OUTCOMES** at St Marys North!

At St Marys North, many surprise outcomes were achieved. The social and emotional understanding of my students has heightened as a result from this project. To be honest, I have never seen a group students so actively engaged, so invested and so passionate about a learning experience. Their ability to confidently use their own voice and stand up for what they believe in is a massive achievement for all my students. The naturalistic intelligence within my students, has appeared at different stages throughout this project. They have been able to shine, because of this opportunity. My students truly care for their bees and the space they have created at our school. They care about the future of bees and the global impact that may result if they don't make a stand and educate others. They understand their future is unknown, but this project has taught them that they can make a difference to something that matters to themselves, others and the natural world.

Thank you