

NOT NATURAL

EXHIBITION TEACHER
RESOURCE PACK



SCIENCE GALLERY MELBOURNE

**We acknowledge the
Wurundjeri Woi Wurrung
people as the traditional
custodians of the land
where the NOT NATURAL
exhibition and accompanying
resources were developed
and exhibited, and
acknowledge and pay
our respects to Elders
past and present.**

INTRODUCTION

For each Science Gallery Melbourne (SGM) exhibition, the Learning Experiences Team creates an accompanying resource to support teachers in tailoring and extending the student experience before, during and after a visit to Science Gallery Melbourne

NOT NATURAL is an exhibition exploring the growing friction between natural and artificial systems. With increasing control over nature, humans have opened a plethora of possibility and a Pandora's box of ethical dilemmas. Experience speculative local and international projects dissolving the line between what is considered natural and not natural. Are we redesigning evolution or is evolution re-designing us? And just because we can, should we?

This resource has been developed in consultation with teachers and the Science Gallery Learning Experiences and Curatorial teams with the intention of giving detailed information, curriculum connections and suggested activities to enrich the learning experience for students exploring the NOT NATURAL exhibition.

HOW TO USE THIS RESOURCE

- It is recommended that teachers read this entire pack to plan for your trip to NOT NATURAL alongside the Schools Risk Assessment.
 - The Learning Guide for each exhibit includes a description, student participation notes, content warnings, themes, discussion points, and curriculum connections.
 - Before and After visit activities are recommended for students to deep dive into exhibition themes. Additionally, specific activities that can be undertaken within the Science Gallery without additional resources are provided for some of the exhibited works.
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For all enquiries, please contact us by using the following details:

Email: school-bookings@unimelb.edu.au

Phone: **03 8344 1420**

Resources developed by the Science Gallery Melbourne Learning Team.

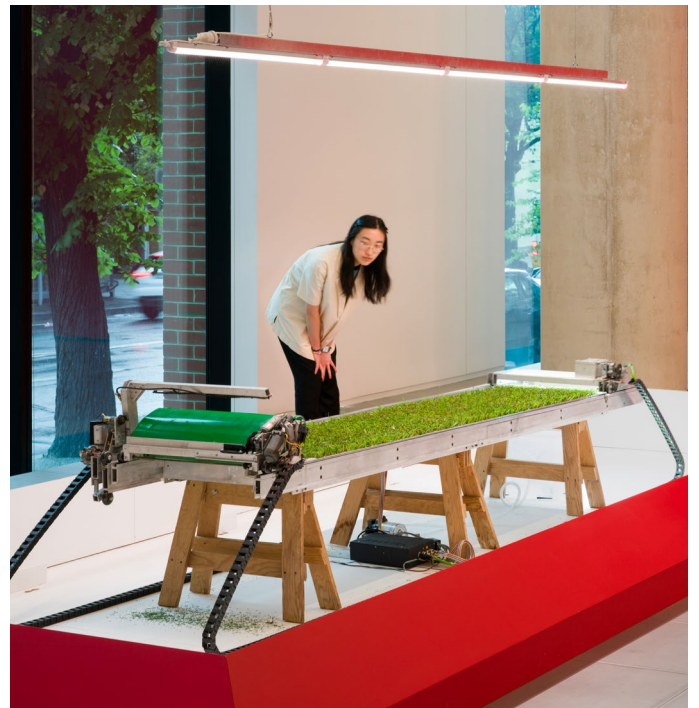
Photography by Matthew Stanton

With Graphic Design support from Sasha Aarons

The NOT NATURAL exhibition has the following content warning:

Contains sensory experiences, live jellyfish, nudity, ethical dilemmas, de-extinction research, potential allergens, a blunted machete (which does not condone human violence of any kind) and AI-generated text may include sexual themes and suicide.

Please familiarise yourself with the NOT NATURAL Risk Assessment ahead of your excursion.



BEFORE THE NOT NATURAL VISIT

THEMES

Although each exhibit is unique, there are recurring themes throughout the exhibition, including: anthropomorphism, biomimicry, ethics, evolution, extinction, genetic engineering, human-environment interaction, indigenous knowledge, redesigning nature, symbiosis, and technology (ai, robotics).

We recommend brainstorming these concepts with students before your arrival. Some questions to consider with your students include

- We already have access to gene editing technology used for many applications, including medicine and agriculture. What ethics should be considered when using this technology?
- Should gene editing technology be used for cosmetic reasons?
- Are all living creatures of equal value to humans?
- Are all living creatures of equal value to the environment?
- Does nature always provide a perfect blueprint for creating human systems?
- When have we looked to the natural world to inform our built environment?
- What can we gain from living in harmony with nature?
- Symbiotic relationships exist between organisms in the natural world. How do humans co-exist with nature?

WELLBEING

Please note that the NOT NATURAL exhibition has the following content warning: **Contains sensory experiences, live jellyfish, nudity, ethical dilemmas, de-extinction research, potential allergens, a blunted machete (which does not condone human violence of any kind) and AI-generated text may include sexual themes and suicide.**

Ask your school's wellbeing coordinator or year level coordinator if there are any students that they recommend you monitor at NOT NATURAL.

RESOURCES

- The [Gene Technology Access Centre](#) (GTAC) provides online resources and excursion programs on topics such as evolution, genetics, and biotechnology.
- Read this [Pursuit article](#) by Professor Andrew Pask about the steps involved in bringing the thylacine back from extinction.
- Will we reach a post-ecological society? Explore this [Conversation article](#) - suitable for senior students - that unpacks how technology can replace the natural environment and if we should care.

SUGGESTED ACTIVITIES

Think, Puzzle, Explore

This thinking routine can help activate prior knowledge and prime students for learning. You may like to present them with the full list of exhibition themes, select a few to focus on as a class, or allocate a different one to each student. Students create a three-column chart titled *Think, Puzzle, Explore*. Under *Think*, they record everything they think they know about the exhibition theme, under *Puzzle*, what questions they have, and under *Explore*, how they might go about answering these. Their responses can be revisited after their visit as a form of reflection.

Human Barometer

Students are presented with a thought-provoking prompt. In response, they stand along a continuum from left (agree) to right (disagree). Once they have decided where to stand, you can ask students to explain their reasoning. Use the following prompts and scenarios in preparation for NOT NATURAL:

- Advancements in science and technology are positive for humankind.
- Nature is always more effective than technology at meeting humans' needs.
- The benefits of using live animals for the sake of humans outweigh the costs.

Silent Conversations

Students are split into pairs or groups of three, and using poster paper, they respond to one of the above prompts in writing. The idea is for students to have a 'conversation' in silence on the paper, allowing for reflection and greater consideration of other viewpoints. This activity may be useful for students who find expressing themselves in front of large groups difficult.

DURING THE NOT NATURAL VISIT



MEDIATORS

Mediators are the public face of Science Gallery Melbourne who bring plenty of enthusiasm and engaging conversations about the collision of arts and science. They are self-confessed science and technology nerds, art lovers and design buffs, with a thorough understanding of the science and the art within our exhibitions and are keen to explore interesting and provoking ideas with our visitors. Mediators are excellent communicators and understand the importance of listening to the views and opinions of others.

Please encourage your students to chat with the Mediators during their exhibition visit.

LEARNING EXPERIENCE FACILITATORS

If your school is undertaking a facilitated gallery tour or workshop you will meet our team of Learning Experience Facilitators. These young people have been trained in educational facilitation, science communication and workshop development to deliver high quality learning experiences in a peer-to-peer model. All studying within STEAM, our Learning Experience Facilitators are positive role models who demonstrate the diverse pathways that students can take from high school onto further STEAM education.

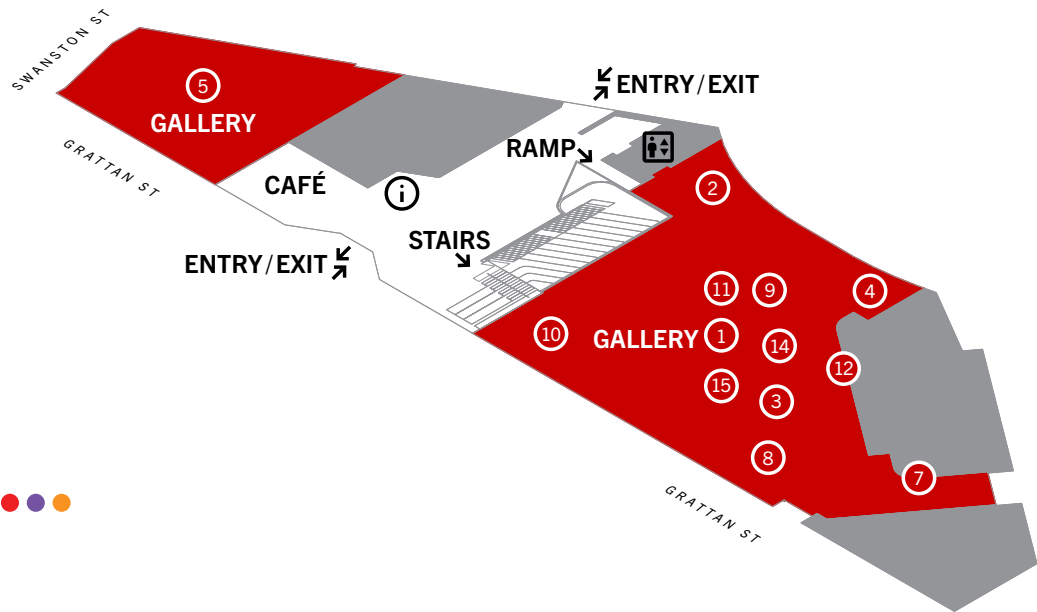
WELLBEING DURING NOT NATURAL VISIT

- Remind students what to expect during their visit. Let them know which exhibits touch on more sensitive themes, and which are more sensory experiences with limited light or space. See the map (pg. 9) and exhibit information to highlight which exhibits have specific **Content Warnings**, **Sensory Warnings**, **Allergen Warnings** and **Technology Warnings**.
- **Ensure students with sensory needs are aware they are entering a high sensory environment.**
- Let students know they can opt out of particular exhibits if they choose. The Paccar Theatre basement foyer (located on map) is a space where students can step away from the gallery if needed.

MAP

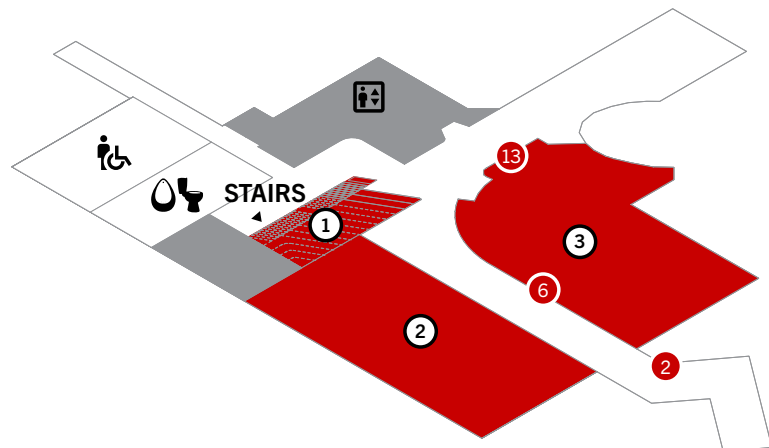
1. AGUAVIVA ●
2. BIRDSONG
3. BLINK
4. CHICKENOSAURUS ●
5. CHROMA
6. HUMAN EFFECT ●
7. IN OSCILLATION ●
8. KENTUCKY PERFECT ●
9. KINDRED ●
10. MURNONG
11. MYTHICAL LIVING DATA ●●
12. PLANT MACHETE ●
13. SEDIMENT CORES
14. SPAMBOTS ●
15. THYLACINE DE-EXTINCTION ●●●

GROUND FLOOR



LOWER GROUND FLOOR

- ① PACCAR THEATRE
 - ② SCIENCE GALLERY THEATRE
 - ③ STEM CENTRE OF EXCELLENCE
- ⓘ INFO DESK
 ⓘ LIFTS
 ⓘ DOWNSTAIRS TOILETS
 ⓘ ACCESSIBLE BATHROOM



Please note: Toilets are located in the Basement accessible by lift or stairs.

Ensure students with sensory needs are aware that they are entering a high sensory environment.

- RED indicates exhibits with **content warnings**
- BLUE indicates exhibits with **sensory warnings**
- PURPLE indicates exhibits with **technology/image capture warnings**
- ORANGE indicates exhibits with **allergen warnings**

More information about these warnings can be found in the detailed exhibit notes below.

AGUAVIVA

Thomas Marcusson



DESCRIPTION

Is a jellyfish more random than a computer?

This artwork extracts randomness from a simple yet ancient life form – the jellyfish. A camera tracks its gentle movements and translates them into random numbers on screens.

True randomness is valuable when it comes to things like encrypting data. Computers are bad at coming up with random numbers because they're designed to be predictable. That's why alternative sources of randomness are often used to initiate high-end encryption schemes, which for example, can protect sensitive data online.

The peaceful jellyfish is blissfully unaware that its cellular contractions can outperform a computer.

STUDENT PARTICIPATION

Students enter space with low lighting and can observe a tank containing jellyfish. A camera on the top of the installation tracks the jellyfish and translates its movements into random numbers. Signage indicates do not touch glass and be respectful to the live animal.

LEARNING GUIDE/THEMES

Biomimicry

Symbiosis

Technology

DISCUSSION

- Are computers too predictable? Discuss.
- What value do we place on natural systems?
- How do we exploit natural systems for human purposes?
- How will advances in technology affect non-human animals?

CURRICULUM CONNECTIONS

VCE Applied Computing Unit 2 AOS 2

Levels 7 – 10 Digital Technologies (*data and information*), Critical and Creative Thinking (*questions and possibilities*)

BIRDSONG

Tully Arnot



DESCRIPTION

Our song might be fake but did it get your attention?

Our relationship with technology is growing and soon interacting with artificial animals might not seem strange at all. Fake fauna could even prove useful in helping us study natural systems. But if we continue to separate ourselves from the natural world, will we only have facsimiles like these singing the morning chorus? Part of our daily soundscape and often flying under the radar, birds are integral to the environment. Next time you are walking down the street, in the bush, or around the block, listen out for the birds and consider what we might be losing if one day they weren't real.

STUDENT PARTICIPATION

Students can view this work in two sites. 1. Basement. 2. Eastern Gallery. They will be directed to look up to the ceiling and listen to ceramic bird whistles connected to computer fan that blow in different sequences to simulate real bird calls.

Sensory warning: the basement location of this exhibit is in a darkened corridor.

LEARNING GUIDE/THEMES

Biomimicry

Extinction

Human-Environment Interaction

DISCUSSION

- Will simulations ever replace the real thing?
- In what other ways is nature not what it seems?
- How does this make you feel about the fragility of natural environments?
- How would you feel if birds or other animals were replaced by robotic substitutes?
- Would you want them to be?
- What would we lose if they were?

CURRICULUM CONNECTIONS

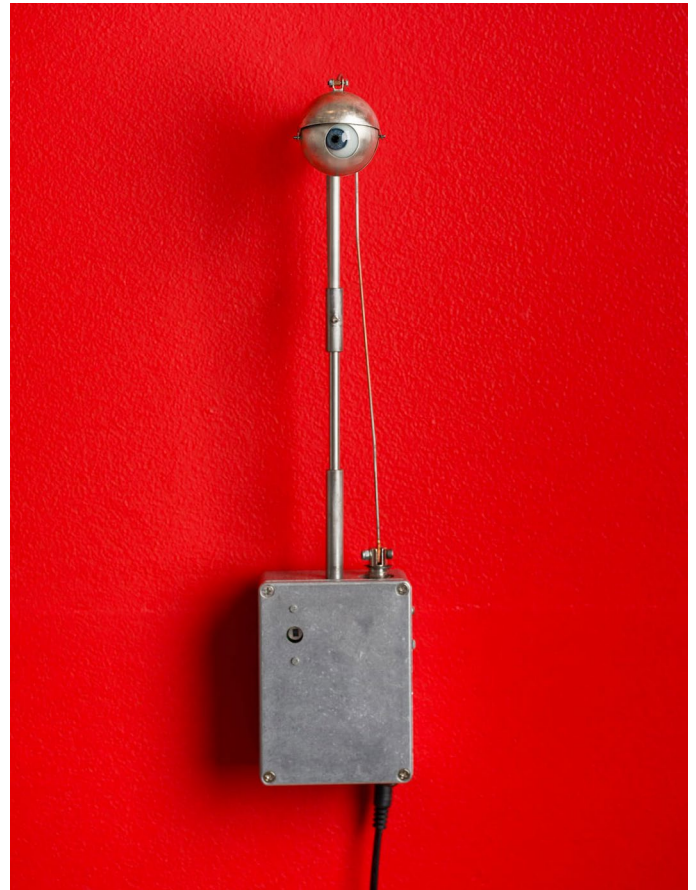
VCE Art Creative Practice Unit 1 AOS 1

VCE Environmental Science Unit 3 AOS 1

Levels 7 – 10 Science (*science as a human endeavour, biological sciences*), Visual Arts (*respond and interpret*), Design and Technologies (*technologies and society*)

BLINK

Jim Bond



DESCRIPTION

Are humans ready to fuse with machines?

Cyborgs, androids, automatons – in the realm of science fiction, the line between humans and machines has dissolved. Experience a moment of uncanniness and enter into a staring contest with our robotic eye. The artificial eye certainly has the advantage. It doesn't need to blink, but you do. When removed from its human context, the eye becomes the organic element of the machine. The bionic eye is the ultimate goal for researchers working on sight restoration for people who are blind. While current models have limited functionality, perhaps a cyborgian future is not that far off.

STUDENT PARTICIPATION

Students observe a small mechanical eyeball attached to a wall. The eyeball blinks randomly in response to movement. A plinth frames the work to discourage students from touching of the object.

LEARNING GUIDE/THEMES

Anthropomorphism

Redesigning Nature

Technology

DISCUSSION

- Are humans ready to fuse with machines?
- Can an artificial version of something ever be as good as its natural counterpart?
- Organs are pretty complex and incredible, could we actually make machine organs as good as organic ones?

CURRICULUM CONNECTIONS

VCE Art Creative Practice Unit 1 AOS 1

VCE Biology Unit 2 AOS 3

Levels 7 – 10 Design and Technologies (*technologies and society*), Science (*science as a human endeavour*), Visual Arts (*respond and interpret*)

CHICKENOSAURUS

Works by JESWRI, Andy Frazer, Freda Chiu, Gorkie



DESCRIPTION

If you could genetically engineer a new hybrid creature, what would it be?

Enter a world inspired by the fictional (maybe soon to be factual) idea of the chickenosaurus – a theoretical experiment to reactivate ancient dinosaur genes in modern birds. We want you to pick up a pen, draw a chimera and get a little silly in an immersive art space designed to spark your imagination. Will your chimera be a seaguana? A wormsquito? A tigerphant? Once finished, take your drawing to the scanning station to animate your art. While watching your frankencreature dance – maybe think about whether this is a good idea in reality. Then come back soon to see your weird creation jiving in our very own digital gallery.

STUDENT PARTICIPATION

Large student groups can observe the work, sit, draw and respond to the installation. Staff will supervise and direct students to draw and digitalise a ‘chimera’ - a creature containing two or more sets of DNA - which is then published to a digital gallery

Technology warning: students’ drawings are stored on a server and then published to a digital gallery. Before publication to the gallery, they are approved by a human and no personal data is collected.

LEARNING GUIDE/THEMES

Ethics

Genetic Engineering

Redesigning Nature

DISCUSSION

- Why has mythology long been fascinated by chimeras?
- What animals would you and wouldn't you combine? Why?
- We have the technology to develop chimeras now. Just because we can - should we?

ACTIVITY

Each student selects a bird, mammal, fish, reptile, or insect. They pair up with another student who has a different class of animal and then, sometime during their gallery visit, draw what a chimera of the two species would look like at the *Chickenosaurus* exhibit. They should consider any pros and cons of bringing such a lifeform into existence.

CURRICULUM CONNECTIONS

VCE Art Creative Practice Unit 2 AOS 2

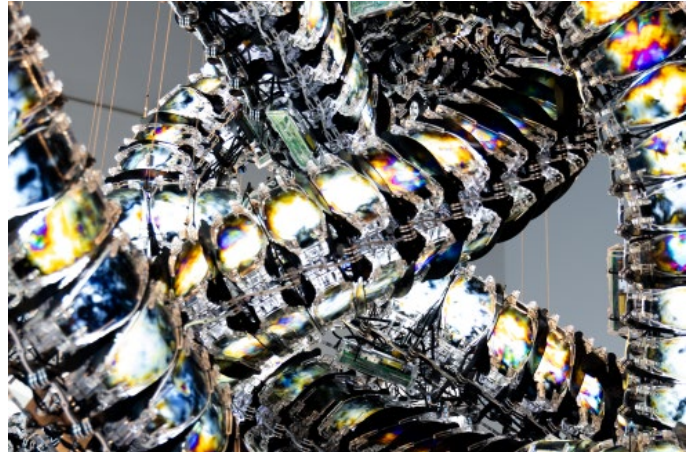
VCE Biology Unit 2 AOS 3

VCE Philosophy Unit 2 AOS 1

Levels 7 – 10 Science (*science as a human endeavour, biological sciences*), Visual Arts (*present and perform*), Ethical Capability (*decision making and actions*)

CHROMA

Yunchul Kim



DESCRIPTION

How do you visualise the randomness of the universe?

It's easy to feel small in the vastness of the universe. Activated by randomised data based on scientific data, this dynamic kinetic sculpture engages in a continuous transformation to visualise concepts beyond the limits of human understanding. Morphing in both shape and colour, let your eyes follow the lines through the twists and turns of mathematical knots inspired by a symbol of the cycle of patterns, forms and dynamic flows that transcends all possible modes of perception. With no beginning and no end, the randomness of the infinite universe is brought to effervescent light.

STUDENT PARTICIPATION

Students can walk around the work and observe how the structure changes colour and moves in response to unseen subatomic particles that have been detected by scintillators.

LEARNING GUIDE/THEMES

Biomimicry

Technology

DISCUSSION

- What disciplines do you think were involved in the creation of this work?
- Chroma is tied in a knot. What things in the world are cyclical, go on forever, or have no beginning and no end?
- Mythology is just another way to help us understand human nature and the world around us – like the ouroboros (the snake eating its own tail). Do you agree?
- Are humans meant to comprehend something as big as the universe? Can we?

CURRICULUM CONNECTIONS

VCE Art Creative Practice Unit 1 AOS 1

VCE Physics Unit 3 AOS 3

VCE Philosophy Unit 1 AOS 2

Levels 7-10 Creative and Critical Thinking (*questions and possibilities*), Design and Technologies (*technologies and society*), Science (*science as a human endeavour*)

HUMAN EFFECT

Yandell Walton



DESCRIPTION

Does the forest want you here?

Step into the lush greenery of this forest where the wall is a canvas for the jungle to drip, seep and thrive with life. Yet as you get closer, the tangled growth will react to your presence. How does this make you feel? As a vibrant scene unfolds, reflect on the impact humans have on the natural environment. In this transient, green paradise you may want to tread softly. Beautiful environments are captivating – but maybe we should be keeping more of a distance for nature’s own good.

STUDENT PARTICIPATION

In a darkened corridor, lush greenery is projected onto the wall. As students step closer, the forest reacts to their presence.

Sensory warning: this exhibit is in a darkened corridor with moving projections.

Learning Guide/Themes

Extinction

Human-Environment Interaction

Discussion

- Does the forest want you here?
- How do you feel when the forest starts to die in your presence?
- What effect does nature have on you?

Curriculum Connections

VCE Art Creative Practice Unit 2 AOS 2

VCE Environmental Science Unit 3 AOS 1

Levels 7 – 10 Geography (*landforms and landscapes, environmental change and management*), Visual Arts (*present and perform*)

IN OSCILLATION

Amélie Brindamour



DESCRIPTION

How do you connect to nature?

Get amongst the hidden world beneath the forest floor by lying down beneath our mushroom network. Inspired by the complex biochemical signals transmitted through mycorrhiza, this electronic installation invites you to be part of the network. Press the interactive sensors to activate light and sound circuits fusing nature with technology. Humans may think they have modern communication covered, but these intricate natural networks are transmitting and receiving data all the time. Hear the sounds, triggered by the light, of the electricity moving through the circuit, and amplified with speakers, in this slow-tech electronic project created using only non-programmable components.

STUDENT PARTICIPATION

Students can sit on chairs, and or bean bags and look to the ceiling to engage with the work. They can press the sensors to activate the fungi lighting and sound circuits.

Sensory warning: this exhibit is in a darkened area of the gallery that is semi-private.

LEARNING GUIDE/THEMES

Biomimicry

Symbiosis

DISCUSSION

- How do you connect to nature?
- What can we learn from natural systems?
- How do we recognise natural systems as ‘intelligent’?

CURRICULUM CONNECTIONS

VCE Art Creative Practice Unit 1 AOS 1

VCE Environmental Science Unit 1 AOS 1

Levels 7 – 10 Science (*biological sciences*), Visual Arts (*respond and interpret*)

KENTUCKY PERFECT

Robert Hengeveld



DESCRIPTION

What lies behind the desire for the perfect lawn?

Green, lush and kind of pointless to anything but humans, the lawn is a cultural icon. Humans have long exerted their control over the natural landscape, shaping the environment to our needs. Throw the familiar into question as you watch our extremely dedicated robot take care of a stretch of lawn. Never ceasing or tiring, it might do a better job than we ever could. Technology is constantly used to mould the environment for human comfort and convenience, but is this just an illusion of control? Through this elaborate robotic setup, the true absurdity of this effort could be revealed.

STUDENT PARTICIPATION

Students can observe how an assembly of robotic parts maintains the 'perfect' lawn. A plinth is across the installation prevents students from touching the object.

Allergen warning: buffalo grass is cut as part of this work, which may trigger allergic reaction in some people.

LEARNING GUIDE/THEMES

Human-Environment Interaction

Technology (robotics)

DISCUSSION

- What role does technology play in culture?
- What is the role of technology in the areas of care and maintenance?
- Can machines truly care for things when they don't have skin in the game?
- When we give the role of care to technology, does nature fare better or worse?

CURRICULUM CONNECTIONS

VCE Systems Engineering Unit 2 AOS 2, 4 AOS 2

Levels 7 – 10 Design and Technologies (*technologies and society; technologies contexts*), Science (*science as a human endeavour*)

KINDRED

Patricia Piccinini



DESCRIPTION

What do we owe to nature?

Question the idea that humans are vastly separate from animals and consider the care we owe our environment through Kindred. Destroying natural environments for human benefit has become commonplace but at a huge cost. Consider the orangutan – losing its home to deforestation despite sharing approximately 97% of the same DNA. This orangutan-like mother sits with her uncannily human babies, carrying them with tender care. Despite their differences, they gather together as family. Look into her eyes and consider the scene. The more you look the more you might realise that we are more related than we think.

STUDENT PARTICIPATION

Students observe a sculpture of an animal-like naked creature with her babies.

Content warning: contains nudity.

LEARNING GUIDE/THEMES

Anthropomorphism

Extinction

Human-Environment Interaction

DISCUSSION

- Are humans and animals really that different after all?
- Are all creatures equal in the eyes of humans?
- In what ways are we similar and different to animals?

CURRICULUM CONNECTIONS

VCE Art Creative Practice Unit 1 AOS 2

VCE Biology Unit 4 AOS 2

Levels 7 – 10 Science (*biological sciences*), Visual Arts (*respond and interpret*), Critical and Creative Thinking (*questions and possibilities*)

MURNONG

Tahlia Palmer



DESCRIPTION

Are humans separate from nature?

A pre-colonial staple food crop for people living throughout the eastern region of the Australian continent, the murnong (yam daisy) plant population was shattered by the introduction of sheep. We cannot erase uncomfortable histories, and we cannot build good futures without stable foundations of knowledge about the human relationship to the non-human world. The Murnong series highlights the importance of sharing memories and knowledges to ensure their continuation. Through video footage and audio recordings, be reminded of the food practices that existed before colonisation and remember to leave any distinctions between human and nature behind.

STUDENT PARTICIPATION

This video work can be viewed at the entrance to the exhibition.

LEARNING GUIDE/THEMES

Human-Environment Interaction

Indigenous Knowledge

Symbiosis

CURRICULUM CONNECTIONS

VCE Art Creative Practice Unit 2 AOS 1

VCE History Units 3 and 4 AOS 1

VCE Outdoor and Environmental Studies Unit 1 AOS 1

Levels 7 – 10 Geography (*landforms and landscapes; environmental change and management*), History (*historical knowledge*), Intercultural Capability (*cultural practices*)

MYTHICAL LIVING DATA

Noémie Soula



DESCRIPTION

How does the environment shape our DNA?

Humans are introducing changes into the natural environment that are hard to predict – how might we evolve to adapt to this exposure, and potentially even benefit from it? Explore speculative future adaptations through different chimera models. Touch a lung that could reduce the toxicity of inhaled chemicals or a liver able to filter and store microplastics. As we entangle with rising pollution levels, where do we end and where does our environment begin? We invite you to question your reactions and think of ways our bodies may change in response to an environment where synthetic materials could become the new natural.

STUDENT PARTICIPATION

Students can enter a fleshy room with videos and an eerie soundscape and touchable silicone organ models. Students can interact gently with the objects encouraging bioethical exploration through visual storytelling and narration.

Content warning: contains images and models of distorted organs.

Allergen warning: contains silicon models, which can be handled and may trigger allergic reaction in some people.

LEARNING GUIDE/THEMES

Ethics

Evolution

Human-Environment Interaction

DISCUSSION

- How does the environment shape our DNA?
- How will our bodies react to increasing pollution exposure in the future?
- Are we separate from our environment?
- What should we do to avoid it?
- Will pollution become an integral part of our bodies, sneaking into our DNA?

CURRICULUM CONNECTIONS

VCE Biology Unit 2 AOS 3, Unit 4 AOS 2

VCE Environmental Science Unit 2 AOS 1

VCE Philosophy Unit 2 AOS 1

Levels 7 – 10 Science (*science as a human endeavour, biological sciences*), Ethical Capability (*decision making and actions*), Critical and Creative Thinking (*questions and possibilities*)

PLANT MACHETE

David Bowen



DESCRIPTION

Does nature have to be human-like to get our attention?

Don't get too close! Anyone who has ever let a houseplant die might want to give their careless behaviour a rethink. The power is going back to the plants. An ordinary philodendron makes its boundaries known when finally given the agency to strike back – wielding a machete to defend against scary humans. A common tool used to hack through plant life and make space for human structures, the might of the machete is handed to the plant with the help of biosensors and a robotic arm. It may seem strange to see a plant with seemingly violent tendencies – but can we blame them when we regularly treat nature like garbage?

STUDENT PARTICIPATION

Students observe a blunt machete connected and responding to a plant. A plinth frames the work to discourage students from touching the object which has sensors that immediately turn off installation if it is interfered with.

Content warning: The machete used in this artwork is blunted and in no way condones human violence of any kind.

LEARNING GUIDE/THEMES

- Anthropomorphism
- Extinction
- Human-Environment Interaction
- Technology (robotics)

DISCUSSION

- How do you react to the work and why do you react that way?
- Are we desensitised to the ways we are destroying nature?
- How can we connect to the natural environment with more empathy?

CURRICULUM CONNECTIONS

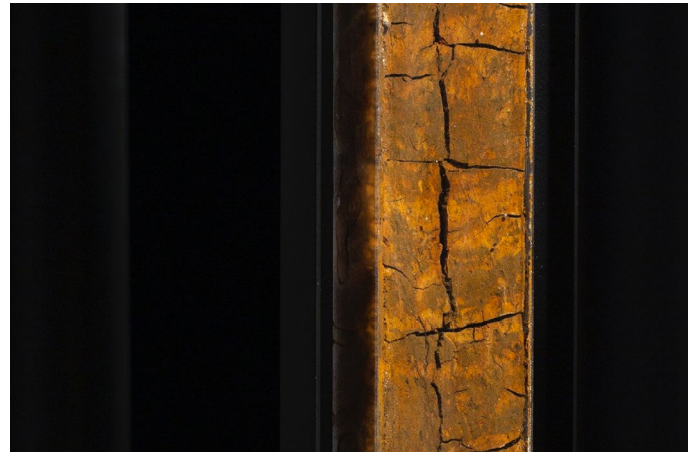
- VCE Environmental Science Unit 3 AOS 1
- VCE Systems Engineering Unit 2 AOS 2

Levels 7 – 10 Design and Technologies (*technologies and society*), Critical and Creative Thinking (*questions and possibilities*)

SEDIMENT CORES

Professor Michael-Shawn Fletcher

Sediment Cores is part of Science Gallery Melbourne's permanent collection. Teachers are encouraged to visit the work as part of their visit to NOT NATURAL.



DESCRIPTION

Sediment Cores by Professor Michael-Shawn Fletcher has found a permanent home within Science Gallery Melbourne. Displayed on the walls of the STEM Centre of Excellence, you'll find earth cores extracted from deep within the earth that tell hidden stories within their layers.

These earth cores form the foundation for the work undertaken by Wiradjuri geographer and academic Associate Professor Michael-Shawn Fletcher. Preserved through compression over centuries, these cores speak through the organic matter and charcoal trapped within them, making what Dr Fletcher describes as 'a sedimentary storybook'.

In this interactive exhibit, learn about First Nations fire management practices, discover the lifecycle of pollen, and listen to the artist describe Sediment Cores plus more.

STUDENT PARTICIPATION

Students observe a series of soil installations located outside the STEM Centre of Excellence. Both text and screen information regarding the research is provided.

LEARNING GUIDE/THEMES

Indigenous Knowledge

Human-Environment Interaction

DISCUSSION

- What roles does fire play in the Australian landscape?
- How do you think this exhibit can change perceptions about Indigenous STEM?
- Pollen counting is a big part of sediment core research., What kinds of things can they tell us?

CURRICULUM CONNECTIONS

VCE Art Creative Practice Unit 2 AOS 1

VCE History Units 3 and 4 AOS 1

VCE Outdoor and Environmental Studies Unit 1 AOS 1

Levels 7 – 10 Geography (*landforms and landscapes; environmental change and management*), History (*historical knowledge*), Intercultural Capability (*cultural practices*)

SPAMBOTS

Neil Mendoza



DESCRIPTION

What tales would nature tell if given a choice?

Oink. It turns out cans of Spam are no longer happy to sit quietly on the shelf. Industrial farming is an often-overlooked aspect of society, with animals being born into their fates. Read the porcine prose on screen as our Spambots muse on their destiny, typing out an AI-generated script based on science fiction literature. Modern technology has given these cans of ham a voice of sorts – do we empathise more when nature communicates in a language we understand? What’s your personal relationship with industrial farming and food production? Seeing animatronic luncheon meat may feel a little strange, but the ways humans separate themselves from nature are stranger.

STUDENT PARTICIPATION

Students will watch small robot spam cans with googly eyes type away on tiny keyboards. The typed text is a ‘piggified’ version of an AI generated script adapted from Aldous Huxley’s *Brave New World*. A small plinth surrounds the installation preventing students from touching the artwork.

Content warning: AI-generated text may include some innuendo and brief mentions of suicide and sex.

LEARNING GUIDE/THEMES

Anthropomorphism

Ethics

Technology (AI)

DISCUSSION

- How do animal products end up on our shelves? What is their story?
- Are we increasingly separated from where our food comes from?
- How is AI used to make spam content?
- How might nature tell its stories if given the voice? Would we want to hear them if it means changing our ways?

CURRICULUM CONNECTIONS

VCE Biology Unit 2 AOS 3

VCE Philosophy Unit 2 AOS 1

Levels 7 – 10 Design and Technologies (*technologies contexts*), Ethical Capability

THYLACINE DE-EXTINCTION

Emma Bugg, Prof. Andrew Pask, and the Thylacine Integrated Genetic Research (TIGGR) Lab & Collaborators



STUDENT PARTICIPATION

Students will engage with three installations showcasing the current bio-ethics research and relevant collections of objects from the University of Melbourne as well as contemporary art exploring de-extinction of the Thylacine. Students will be invited to contribute to their own opinions on de-extinction through an in-gallery survey.

Content warning: includes 3D-printed thylacine foetuses, which may be upsetting for some visitors.

Technology warning: students may provide responses to the in-gallery survey. No personal data is collected as part of the survey.

Allergen warning: contains models made with nylon, which can be handled and may trigger allergic reactions in some people.

LEARNING GUIDE/THEMES

Ethics

Extinction

Genetic engineering

Redesigning Nature

DISCUSSION

- Is de-extinction still the stuff of science fiction?
- Are the creatures we're bringing back from extinction the same as what we've lost?
- Who should decide whether a creature is brought back?

CURRICULUM CONNECTIONS

VCE Biology Unit 2 AOS 3, Unit 4 AOS 2

VCE Philosophy Unit 2 AOS 1

Levels 7 – 10 Science (*science as a human endeavour, biological sciences*), Ethical Capability (*decision making and actions*), Critical and Creative Thinking (*questions and possibilities*)

AFTER THE NOT NATURAL VISIT

Debriefing on the excursion provides a valuable opportunity to reflect on the students' learning. Teachers are encouraged to leave ample time to facilitate discussion about what students learned and experienced at NOT NATURAL.

RESOURCES

- Could re-introducing the thylacine restore balance to the ecosystem? Check out this [PhET interactive simulation](#) that explores the effect of predator-prey relationships or [explore electrical circuits](#) like the one featured in the exhibit, In Oscillation.
- Did Bird Song get you thinking about how scientists simulate the natural world? Read [this article](#) from Cosmos Magazine about how scientists are playing sounds of healthy reefs to encourage fish to return to depleted ones.
- Can we 'talk to the animals'? Perhaps with technology we can. [This article](#) from Scientific American unpacks the potential for technology to connect and communicate with the natural world. But should we?

DISCUSSION POINTS

- What is something new you learned at NOT NATURAL? What was something that made you stop and think?
- What were the ways you were able to connect with the exhibition? How did these enrich your experience?
- What exhibit did you find the most inspiring? Creative? Thought-provoking? Challenging?
- What concepts are you curious to discover more about?
- What ideas from the exhibition will be important to know five years from now? Why?
- Why does the Science Gallery use art practice to communicate science? Why is it a gallery and not a museum?
- Many exhibits explored the idea that 'just because we can do something, should we'. Can anyone remind us of one?
- What role will technology play in the future of knowledge forming?
- What hopes do you have for future innovations?
- What do we stand to lose if nature is replaced by technology? What will we gain?

SUGGESTED ACTIVITIES

Headlines

Students are to compose a newspaper headline based on the NOT NATURAL exhibition. The headline should be no longer than twelve words in length and should be different from any of the taglines used in NOT NATURAL. Students must therefore make a judgement on which of the ideas and themes they have explored are most important to form their headline. Below their headlines, students can write a brief summary of how they arrived at their headline, which should incorporate three separate pieces of information or evidence to support or explain their headline.

Collaborative Excursion Reflection

- On loose leaf paper, students write their name at the top and list three things they learnt, thought, felt, or sensed from the exhibition.
- They then pass this to the student on their right who will add one new thing to the list that has not already been written down.
- Students continue to pass their paper and repeat the exercise. About 10 passes works well.
- Students retrieve their original paper. They can add any new ideas they got from reading other people's responses and make connections between ideas.

Futures Wheel

A [Futures Wheel](#) is a graphic organiser that helps students to consider the consequences and flow-on effects of a scenario. Using one of the statements below as the starting point for their wheel, they record the main consequences coming off the original statement, and any flow-on effects coming off these consequences. The resulting concept map encourages students to imagine new futures, including any unintended consequences.

- We bring the thylacine back from extinction and release it into the wild?
- We create chimeras for producing human organs for transplantation.
- Natural systems that we currently rely on (e.g., plants for producing oxygen, wetlands for purifying waterways) are replaced by technological systems).

