

Drawing on Complexity: Experiment 9, Briony Barr

Drawing on Complexity: Experiment 9 is an immersive installation that will evolve over the festival. Artist Briony Barr invites you to become an 'agent' and participate in this drawing system by applying colourful tape across 3D surfaces. All agents must first learn a simple algorithm before they may contribute freely. The appearance of the work will change over time, and as more and more agents contribute, patterns will appear. This is referred to as 'emergence' when many smaller, simple interactions and feedback influence new contributions and the development of bigger, complex patterns.

Humans experience complex layers of systems. We have interacting systems in our bodies such as the neurological and digestive. We interact in social and financial systems, which extend into larger examples, such as national and ecological systems. Interactions give rise to higher-level patterns and the study of these interactions is called 'complexity science'. Understanding more about complexity is a way to reflect on your place in an increasingly interconnected, unpredictable world.

The participation of agents in Drawing on Complexity: Experiment 9 is an essential part of this artwork. Typically, a computer simulation is used to study and understand the behaviour of a system made up of lots of interacting parts – people, things, places over time. Drawing on Complexity: Experiment 9 is a collaborative drawing model, which uses people instead of computer programming. It is a playful way for people to experience being part of a complex adaptive system in real time and learn about how even small decisions can affect the direction of the whole.



<u>PREP</u>

MATHEMATICS

Sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons. AC9MFSP01

Describe the position and location of themselves and objects in relation to other people and objects within a familiar space. AC9MFSP02

SCIENCE

Sort and order data and information and represent patterns, including with provided tables and visual or physical models. AC9S2I04

TECHNOLOGIES

Represent data as objects, pictures and symbols. AC9TDIFK02

<u>YEAR 1</u>

MATHEMATICS

Recognise, continue and create repeating patterns with numbers, symbols, shapes and objects, identifying the repeating unit. AC9M1A02 Give and follow directions to move people and objects to different locations within a space. AC9M1SP02

SCIENCE

Sort and order data and information and represent patterns, including with provided tables and visual or physical models. AC9S1I04

TECHNOLOGIES

Represent data as pictures, symbols, numbers and words. AC9TDI2K02

Follow and describe algorithms involving a sequence of steps, branching (decisions) and iteration (repetition). AC9TDI2P02

YEAR 2

MATHEMATICS

Recognise, compare and classify shapes, referencing the number of sides and using spatial terms such as 'opposite', 'parallel', 'curved' and 'straight'. AC9M2SP01

Locate positions in two-dimensional representations of a familiar space; move positions by following directions and pathways. AC9M2SP02

SCIENCE

Sort and order data and information and represent patterns, including with provided tables and visual or physical models. AC9S2I04

TECHNOLOGIES

Represent data as pictures, symbols, numbers and words. AC9TDI2K02





Recycled cardboard, plastic lids, pipe cleaners and milk bottles cut into circular shapes and hole punched.

Exploring and Responding:

Explore how and why the arts are important for people and communities AC9AVAFE01

Describe observations of Barr's artwork. What materials have been used? What colours have been used? What shapes have been used? How have the materials been manipulated? Explore patterns observed in the classroom, in nature or at home. Draw or collage patterns using predetermined shapes and colours.

E.g. **E**.g.

Creating and Making:

Create arts works that communicate ideas AC9AVAFC01

Create a collaborative mobile using recycled materials that communicates a pattern using one or a combination of shape, colour, size or texture. Materials could be threaded onto pipe cleaners, wire or string and then attached to coat hangers, hooks or clips. See other artists like <u>Rox De Luca</u>.

Developing Practices and Skills:

Use play, imagination, arts knowledge, processes and/ or skills to discover possibilities and develop ideas AC9AVAFD01

Start a collection of recycled objects in your classroom, reflect on properties of these materials and sort into groups according to shape, texture, size or colour. Explore "simple rules" like; warm colours, shiny objects, alternating shapes. Arrange materials collaboratively or in small groups in long lines, grids or mandala formations and observe emerging patterns.

Presenting and Performing:

Share their arts works with audiences AC9AVAFP01

When sharing Barr's artwork, cameras are placed above each drawing to document the drawing and create video documentation to be displayed by the drawing.

Student artworks can be suspended from a breezeway between classrooms, in the playground or from tree. Students photograph their work from a variety of perspectives and present as a series of images with narration using a digital storytelling program (Bubblr, Book Creator, Speech Journal, Slidestory) or refer to the Visual Language Template to describe experiences, ideas and/or feelings about their artwork. Tip: print out word lists onto sticky labels and students can stick them onto relevant photographs when read aloud.

Visual Language Template

Open ended questions for teachers and support staff:

- What materials were used to create your artwork?
- How did you put the materials together?
- What did you enjoy / find challenging about creating this artwork?
- Tell me about the colours you have used... Are they warm / cool / same / different?
- Tell me about the shapes you have used... Do they have sharp / rounded / wiggly edges or corners?
- Tell me about the textures you have used... How would the sculpture feel to touch?
- What pattern was created? What does it remind you of?
- Is there anything else you want to share?
- Where would you display this artwork (breezeway / playground / tree / other)? Why did you chose that location?

Words to describe colour:	Words to describe shape:	Words to describe texture:	Words to describe pattern:
Bold	Curved	Smooth	Regular
Bright	Pointy	Rough	Spiralling
Dull	Smooth	Fuzzy	Geometric
Natural	Triangular	Hard	Flowing
Energetic	Coiled	Soft	Regular
Fresh	Flat	Slippery	Irregular
Cheerful	Round	Prickly	Radiating
Calm	Long	Bumpy	Grid
Cool	Short	Squishy	Alternating
Warm	Square	Shiny	Symmetrical





Ghost Nets of Pormpuraaw, Pormpuraaw Art and Culture Centre

Pormpuraaw Art and Culture Centre is a flourishing First Nations creative hub on the western coast of Queensland's Cape York Peninsula. For a decade, the Pormpuraaw artist community has deftly crafted stunning sculptures out of salvaged fishing waste from the Gulf of Carpentaria. Seaborne detritus such as fishing line, nets and floats - known as 'ghost nets' -travel thousands of kilometres across international waters and threaten ocean ecologies by indiscriminately tangling marine life. Many species threatened by this pollution hold important cultural significance and connection to ancestors. The ghost nets are retrieved from the shoreline and recycled by Pormpuraaw artists. These sculptures are synonymous with an artistic movement of several First Nations communities in Queensland, and many are exhibited and collected internationally. The centre in Pormpuraaw provides local artists with opportunities to export their work. It also acts as a community 'Keeping Place' of local artefacts, photographs, languages, stories and art, preserving them for future generations.

This large-scale, immersive installation of Ghost Net sculptures has been created by eight Pormpuraaw artists – **Catherine Coleman, Christine Holroyd, Jones Holroyd, Lillian Jackson, Steven Kepper, Eric Norman, Michael Norman** and **Syd Bruce Shortjoe**. The works showcase cultural practice and creative ingenuity, while drawing attention to environmental degradation. Significant creatures and totems from Pormpuraaw and Saltwater Country include the pelican, stingray and octopus.

YEAR 3

ENGLISH

Plan, create, rehearse and deliver short oral and/or multimodal presentations to inform, express opinions or tell stories, using a clear structure, details to elaborate ideas, topic-specific and precise vocabulary, visual features, and appropriate tone, pace, pitch and volume. AC9E3LY07

MATHEMATICS

Interpret and create two-dimensional representations of familiar environments, locating key landmarks and objects relative to each other. AC9M3SP02

HASS

Causes and effects of changes to the local community, and how people who may be from diverse backgrounds have contributed to these changes. AC9HS3K01

Significant events, symbols and emblems that are important to Australia's identity and diversity, and how they are celebrated, commemorated or recognised in Australia, including Australia Day, Anzac Day, NAIDOC Week, National Sorry Day, Easter, Christmas, and other religious and cultural festivals. AC9HS3K02

YEAR 4

ENGLISH

Plan, create, rehearse and deliver structured oral and/or multimodal presentations to report on a topic, tell a story, recount events or present an argument using subjective and objective language, complex sentences, visual features, tone, pace, pitch and volume. AC9E4LY07

SCIENCE

Identify sources of water and describe key processes in the water cycle, including movement of water through the sky, landscape and ocean, precipitation, evaporation and condensation. AC9S4U02

HASS

The importance of environments, including natural vegetation and water sources, to people and animals in Australia and on another continent AC9HS4K05

Sustainable use and management of renewable and non-renewable resources, including the custodial responsibility First Nations Australians have for Country/Place. AC9HS4K06



Platypus design with collage prints on paper [above]. T-shirt design showing artwork placement, colour and size [left].

Exploring and Responding:

Explore how First Nations Australians use visual arts to communicate their connection to and responsibility for Country/Place AC9AVA4E02

Research the effects that plastics are having on our oceans and the ways in which First Nations artists are combining traditional knowledge with new technologies to manage Country and protect marine animals.

- Ghost Net Art: Pormpuraaw
- Behind The News: Ocean Rubbish
- <u>Ghost Net Art: Globally Connected –</u> <u>Plastics in the Marine Environment</u>

Describe the colours, textures, shapes and forms in the ghost net artworks.

Draw detailed pictures of soft plastics using a variety of drawing materials.

Creating and Making:

Use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning AC9AVA4C01

Create a collage of an animal which lives in local waterways by cutting and/or tearing printed paper experiments onto templates, photographs or drawings for reference. E.g. platypus, dugong, yabby.



Developing Practices and Skills:

Experiment with a range of ways to use visual conventions, visual arts processes and materials AC9AVA4D01

Develop printing skills creating your own printing-making implements using combinations of recycled plastics E.g. plastic bag, bubble wrap or foam shapes glued onto rolling pin, pvc pipe or cardboard rolls. Students can work in small groups or collaboratively as a whole class on a large roll of paper. Alternatively create monoprints by pressing plastic netting or pre-cut shapes onto a gelli plate or recycled plastic book cover with a thin layer of acrylic paint rolled onto it. Also research ghost printing techniques as part of mono-printing practices to extend students. Use a variety of colour combinations; warm, cool, monochromatic, analogous.

Linked resources: Australian National Maritime Museum

Presenting and Performing:

Share and/or display artworks and/or visual arts practice in informal settings AC9AVA4P01

As a class discuss using a PMI [Plus/Minus/Interesting] chart the differences between displaying an artwork in formal (gallery) and informal (wearable artworks) settings. Design a bag or t-shirt which incorporates your artwork. Consider the size, colour and placement of your design on a template.



Tectonic Resonance, Snooks + Harper with Philip Samartzis

Tectonic Resonance is a 3D-printed sculpture and sound work which explores parallels between ancient geological formations and new modes of fabrication. This complex and innovative form has been created with emerging technologies, including 3D printed sandstone processes and artificial intelligence (AI). Tectonic Resonance explores human manufacturing, naturally occurring phenomena and the potential intersections between technological and earth formations.

This evocative work has been intentionally placed in a highly-designed and urbanised site. Formed concrete and hard edges of brutalist architecture surround and offer a strong physical contrast to its intricate and flowing articulation. Comparatively this concrete space is also made from sand and aggregate, the same earthly matter used in this 3D-printing process. Cast bronze elements are integrated into the work and reference forms created when liquids such as magma or water fill voids within landscapes.

This work is a collaboration by innovative Melbournebased, multi-disciplinary architecture duo Snooks+Harper and Philip Samartzis, a sound artist, curator and academic. The collaboration offers an opportunity to consider how the natural environment around us is formed through long-term geological processes: tectonic shifts, erosion, deposition of sediment, and glaciation. In Tectonic Resonance, technology evokes geological landscapes, and highlights the potentials of new human processes of fabrication such as additive manufacturing (3D printing) to produce these forms. An AI model has been developed to help synthesise the work by integrating photography of geological features and images of previous design works.

Philip's rumbling sound composition is designed to be localised and affective. As you move around the work the multichannel experience is revealed and what you hear and feel may change. Reverberating from the sculpture the composition is inspired by ground vibrations and



Left: The wondrous patterns created by stromatolites (layers of fossilised organic matter in the Pilbara region of Australia. Photography by David Flannery from ABC News

Right: Banded ion formation showing intense deformation as a result of gravitational overturn Pilbara region.

phenomena generated by topography, weather, and wildlife. Philip has integrated site-based recordings from remote locations and the oldest geological phenomena in Australia. Sound is another somatic expression of geology and evocative of our relationship with the natural world, including the Earth's magnetic field, provoking questions of our relationship with cosmic and geological forces.

Situated in the centre of Brisbane city, Tectonic Resonance is both familiar and otherworldly. It reminds us of the deep layers of Earth's time and the fleeting duration of human existence and technological advancements, and our exploitation of the Earth's resources.

YEAR 5

MATHEMATICS

Interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made. AC9M5ST02

SCIENCE

Describe how weathering, erosion, transportation and deposition cause slow or rapid change to Earth's surface. AC9S5U02

HASS

The influence of people, including First Nations Australians and people in other countries, on the characteristics of a place. AC9HS5K04

YEAR 6

MATHEMATICS

Plan and conduct statistical investigations by posing and refining questions or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation. AC9M6ST03

SCIENCE

Investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions. AC9S6U01

Construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships. AC9S6I04

MEDIA ARTS

Use media languages, media technologies and production processes to construct media art works that communicate ideas, perspectives and/or meaning for specific audiences. AC9AMA6C01





Original images [left] Combined images using PowerPoint to manipulate transparency and colour with highlighted drawing [above].

Exploring and Responding:

Explore ways that visual conventions, visual arts processes and materials are combined to communicate ideas, perspectives and/or meaning in visual arts across cultures, times, places and/or other contexts. AC9AVA6E01

Use Chat GPT to create a list words describing texture and circle/underline/highlight terms which describe how Tectonic Resonance might feel to touch. Find out what Tectonic Resonance is made from.

Describe the links between stromatolite patterns, soundwaves and Tectonic Resonance. Respond with a line drawing using ink on paper and reflect upon how changes in proximity and pressure of the lines create movement / rhythm / pattern within space.

Listen to sound recordings collected by Philip Samartzis on Antarctica Floe | NGV and make a list of sounds that you can identify in the school environment.

Creating and Making:

Use visual conventions, visual arts processes and materials to plan and create artworks that communicate ideas, perspectives and/or meaning. AC9AVA6C01

Create a series of three digitally manipulated photographs, alongside recorded soundbites which communicates a personal perspective of your school environment. Merge multiple images by changing the opacity and manipulate the colours, tones and textures of these images using digital media or design functions in PowerPoint or Word.

Developing Practices and Skills:

Experiment with, document, and reflect on ways to use a range of visual conventions, visual arts processes, and materials. AC9AVA6D01

Document patterns from your environment using frottage with soft drawing materials like graphite pencil, wax crayon or chalk on paper or drawing materials or press natural and man-made materials into wet clay tiles and fire.

Go on a photo-walk of the school grounds and photograph the materials, textures and shapes that make up your environment. Categorise your images into man-made and natural. Combine two images using collage by cutting them into strips and weaving them together.

Watch <u>The Magic of Making Sound (youtube.com)</u>.

Experiment with creating and recording sounds responding to documented textures within your environment E.g. stomp or scrape your shoes against concrete.

Presenting and Performing:

Select and present documentation of visual arts practice, and display artworks in informal and/or formal settings. AC9AVA6P01

Select and present an experiment from your Developing Practices and Skills stage alongside your drawings, digital images, soundbites from your Creating and Making stage in a PowerPoint presentation. Collaboratively display slides as a class presentation and share with peers.





ADA, Karina Smigla-Bobinski

Karina Smigla-Bobinski's 'post-digital drawing machine' ADA is an interactive sculpture that invites engagement with one of the most primal forms of communication – mark making.

However, this enormous floating orb is not simply a drawing tool, but a conceptual artwork situated at the intersection of art and computer science.

Constructed with plastic and gas, ADA's transparent surface is dotted with sticks of black charcoal. She is analogue, devoid of electronics. As a kinetic sculpture, she can be moved around the white room she inhabits. Over many days, dense stories accumulate, as each human interaction leaves marks on the walls and floor.

To use Karina's own analogy, ADA is like software. She responds to visitors' input, then elicits further response and creative generation, impacting the development of the next phase of input. People may try but, according to Karina, ADA 'cannot be controlled'. This highlights how the work draws out intuitive, physical responses, evok-ing a deeper somatic experience and learning.

ADA is a novel experience for all who enter her domain. Interaction requires participation through experimentation, a scientific approach where a hypothesis is tested and learning achieved. Perhaps this is why ADA has evoked many organic creative responses, inspiring artistic exchange and parallel discussions across disciplines, mesh-ing scientific and artistic enquiry.

For example, during ADA's decade-long existence, dancers have responded with spontaneity, generating new performances. Sound artists have reflected on her acoustic resonance and produced innovative compositions. Motivated by ADA's potential as a creative catalyst, Smigla-Bobinski has engaged with a growing network of scientists. Through this dialogue, visual similarities in molecular structures, neural and in-organic networks captivate these conversations. Additionally, Karina's interest in computing science is a conceptual foundation of the work. ADA's namesake, the visionary 19th century writer and mathematician Ada Lovelace, collaborated with Charles Babbage on his Analytical Engine, the first prototype computer. Babbage employed new technologies, including a revelation of the industrial revolution, the Jacquard Loom, which enabled automation of mechanical pattern production. Lovelace worked with Babbage on an early form of general computing, utilising punched loom cards to convey algorithmic data and programming. Lovelace is credited as the first computer programmer.

Their research led to meditations on relationships between man and technology. Lovelace theorised a machine that could create music, art and poetry, just like an artist. This proposition still holds resonance with today's technologies, as the complex frontier of artificial intelligence and machine learning is increasingly normalised. ADA is aptly named, the anthropomorphism has us questioning consciousness and intent as we experiment.

Aesthetically, ADA appears highly futuristic. Initially her environment is a pristine blank slate, but becomes densely layered with creative response and exchange. Each black mark is data, a visual record of interaction, movements, human bodies and time passed. There is potential to consider the allegory of use, aging and degradation.

Here in Brisbane, ADA sits next to the river, Maiwar and adjacent to the CBD and a skyscape that symbolises modern and affluent civilisation. The surrounding architecture and environment inform a layered spatial conversation. ADA's semi-transparent walls allow transference of built infrastructure and histories of human presence in this environment. We can consider allegorical meanings to long human marks on this site and ponder what may come to pass in the future.

7-8



ADA, Karina Smigla-Bobinski

YEAR 7

MATHEMATICS

Conduct repeated chance experiments and run simulations with a large number of trials using digital tools; compare predic-tions about outcomes with observed results, explaining the differences. AC9M7P02

SCIENCE

Investigate and represent balanced and unbal-anced forces, including gravitational force, acting on objects, and relate changes in an object's motion to its mass and the magnitude and direction of forces acting on it. AC9S7U04

DESIGN TECHNOLOGIES (7-8BAND)

Analyse how characteristics and properties of materials, systems, components, tools and equipment can be combined to create de-signed solutions. AC9TDE8K06

YEAR 8

MATHEMATICS

Conduct repeated chance experiments and simulations, using digital tools to determine probabilities for compound events, and de-scribe results. AC9M8P03

SCIENCE

Classify different types of energy as kinetic or potential and investigate energy transfer and transformations in simple systems. AC9S8U05

DESIGN TECHNOLOGIES (7-8BAND)

Analyse how characteristics and properties of materials, systems, components, tools and equipment can be combined to create de-signed solutions. AC9TDE8K06



Linear and aerial view of paper sculpture representing data

Exploring and Responding:

Investigate ways that visual conventions, visual arts processes and materials are manipulated to represent ideas, perspectives and/or meaning in artworks created across cultures, times, places and/or other contexts. AC9AVA8E01

View <u>ADA by Karina Smigla-Bobinski</u> and imagine your reaction to the artwork. Would you have a childlike sense of happiness and play or would your dark side emerge with the need to "control" the mark making process?

Explore other machines that make marks to create mechanical drawings E.g. <u>Spinning Top Doodle Art</u> (youtube.com), online spirograph or spiro drawing tools in the classroom, videos of <u>James Nolan Gandy's</u> drawing process. Using a Venn Diagram reflect upon similarities and differences between the marks made by these machines and ADA.

Creating and Making:

Generate, document and develop ideas for artworks. AC9AVA8C01

ADA produces a visual record of data, movement and the passing of time. Generate your own set of rules, materials and processes to create a paper sculpture which communicates your movement in the school environment across a day, week or year. Document your idea using the Developing Ideas For Artworks template. See other data artists like Nathalie Miebach.

Developing Practices and Skills:

Experiment with visual conventions, visual arts processes and materials to develop skills. AC9AVA8D01

Smigla-Bobinski explores ideas of chance and movement within her work Ada. Using pencil or a ballpoint pen suspended over paper attached to a clipboard record your movement on the page without looking as you walk, skip, jump etc.

Research the <u>Dear Data Project</u> by Giorgia Lupi and Stefanie Posavec and explore different ways to visualise data using colour, line and shape.

View explorations of "chance" in Leave it to Chance [CROWN CREATIVITY LAB AT HOME and experiment using a range of materials (sticks, chalk, ink, pencil, pen, plasticine, masking tape, wire, string) on different surfaces (sand, coloured paper, recycled paper, brown card, newspaper, plastic, cement pathways).

Presenting and Performing:

Curate and present examples of their visual arts practice to accompany exhibits of their artworks to communicate ideas, perspectives and/or meaning to audiences. AC9AVA8P01

Curate and present your artwork with two other artworks that explore the idea of "chance" and justify your choices using the Curation in the Classroom template. See Letting Go: Making Art with the Element of Chance | Magazine | MoMA for artworks that explore this concept.

Developing Ideas for Artworks



Cut and paste image/s of experiments here



Elements: Line, tone, texture, shape/form, colour, space

Principles: Balance, focal point, repetition, movement, rhythm, pattern, harmony, contrast, proportion, perspective



Curation in the Classroom

 Where? formal (gallery, museum) informal (street, park, public space, retail, online) 	How? worn by a performer moving (time-based) static (still) suspended
Other considerations; sound lighting tactile (touch) experiences artificial intelligence (AI) collaboration/participation cues	 on a stage/platform/plinth inside a box/recess/room mounted framed other?

Sketch/cut and paste image/s of your floorplan here

How does your artwork and your two researched artworks, collectively communicate the concept of chance?

How have these display choices encouraged or reinforced the concept of chance?

9-10



Simulated Selves, Svenja Kratz and Bill Hart

Simulated Selves by art-science practitioners Svenja Kratz and Bill Hart is a meta exploration of self, artificial intelligence (AI) and creativi-ty. Sitting in a room of AIgenerated imagery, two AI-generated human forms are engaged in a conversation. The digital avatars on each figure portray each artist's likeness and their dialogue philosophically questions machine versus human forms of intelligence.

This is a speculative artwork that responds to recent AI developments both technically and conceptually. It is now possible to create a 'simulated self', an AI that can operate indefinitely and independently of the original human model. The artists playfully explore their own autonomous digital doppelgangers and invite viewers into this conversation. The two sculptural mannequins feature details cast from bodies and while referencing the likeness of the artists, the sculptures are intended to look awkward. This design references the current limitations and quirks of generative AI systems which often have difficulty accurately representing fine body features like hands and limbs.

The digital avatars are developed from the scanned likenesses of Kratz and Hart, and the system data includes personality profile, speech style, mannerisms and archived philosophical perspectives. The installation actively considers philosophical questions regarding what funda-mentally constitutes the human self. The AI doppelgangers discuss whether it is possible to create an AI archive of the self that can act as a substitute in the absence of the 'real' person.

This speculative conversation reflects contemporary philosophical enquiry around the role of AI in society, and the vast digital footprints of our online selves. They converse on the nature of being and existence and reflect on the differences between human and machine intelli-gence and creativity.

You will also have the opportunity to engage in this conversation, by speaking into an anachronistic telephone receiver. Using speech recog-nition, a tailored response will be prompted, in line with the philosophical focus of the work. A web-based archive accessible via QR code provides insight into



the generative AI in the creative development and production of this artwork. This work heralds from the artists' shared academic experience lecturing on interdisciplinary artistic practice at the University of Tasmania.

YEAR 9

MATHEMATICS

Design and conduct repeated chance experiments and simulations, using digital tools to compare probabilities of simple events to related compound events, and describe results. AC9M9P03

SCIENCE

Analyse the key factors that contribute to science knowledge and practices being adopted more broadly by society. AC9S9H03 Examine how the values and needs of society influence the focus of scientific research. AC9S9H04

DIGITAL TECHNOLOGIES (9-10 BAND)

Investigate how hardware and software manage, control and secure access to data in networked digital systems. AC9TDI10K01

Design and prototype the user experience of a digital system. AC9TDI10P07

Select and use emerging digital tools and advanced features to create and communicate interactive content for a diverse audience. AC9TDI10P11

YEAR 10

MATHEMATICS

Design and conduct repeated chance experiments and simulations using digital tools to model conditional probability and interpret results. AC9M10P02

Use the language of 'if then', 'given', 'of', 'knowing that' to describe and interpret situations involving conditional probability. AC9M10P01

SCIENCE

Analyse the key factors that contribute to science knowledge and practices being adopted more broadly by society. AC9S10H03

Examine how the values and needs of society influence the focus of scientific research. AC9S10H04 $\,$

DIGITAL TECHNOLOGIES (9-10 BAND)

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9-10

Simulated Selves, (display choices), Svenja Kratz and Bill Hart







Mock-up of project with set design including; Al generated video simulation of a fish tank, Speakers playing Al generated background music, Faux window with Al generated animated view, Faux plants, Al generated images using prompts that consider the future of Al and simulated reality





Digital mock up of sculptural forms with screens [left]. High brightness LED screen with artist avatars. Screen armature with mechanised rotator that shifts the screen in response to audience input.

Seating option and mock up of basic sculpture and audience input configuration [right].





Mock-up of modified phone for audience input [left]. Audience uses a mock telephone to speak to the avatars. The cloud lights up when the receiver is off the hook.

Al rendition of simulated view for faux window [right].



Examples of AI generated 'paintings' in response to simulated reality input prompts.



Exploring and Responding:

Investigate the ways that artists across cultures, times, places and/or other contexts develop personal expression in their visual arts practice to represent, communicate and/or challenge ideas, perspectives and/or meaning. AC9AVA10E01

Art is a reflection of history and the unique context of artists and audiences. Read about and view images of *Simulated Selves*, access the web-based archive accessible via at https://www.simulated-selves.me/ and fill in the Exploring and Responding to Artworks handout at the end of this resource. Make links between the artist influences, media and techniques used, dominant visual language and intended meaning. Did you know the history of AI spans across 75 years? Explore the following terms and create a timeline demonstrating their chronology to better understand the development of AI as a creative medium.

Vaucanson's Digesting Duck ca. 1738	1965, Joseph Weizenbaum wrote a program called Eliza	1997, IBM's Deep Blue, defeated the reigning human world chess champion
MidJourney	DALL- E	ChatGPT
Surrealist word games	'cut up' techniques of Burroughs and Gysin	20th century telephone
Avatar	The "cloud"	Digital footprint

Creating and Making:

Select and manipulate visual conventions, visual arts processes and/or materials to create artworks that reflect personal expression, and represent and/or challenge, ideas, perspectives and/or meaning. AC9AVA10C02

Deconstruct, fragment, distort and reconstruct new meaning by manipulating text using collage or digital media to create an artwork that represents or challenges the use of AI in artworks. Consider the composition of your ideas and how this can add further meaning. See other text artists like <u>Rosalie Gascoigne</u>, <u>Barbara Kruger</u> and <u>Vanghoua Anthony Vue</u>. Collage text on canvas, photographed and manipulated in PowerPoint to insert green highlights.

Developing Practices and Skills:

Experiment with visual conventions, visual arts processes and materials to refine skills and develop personal expression. AC9AVA10D01

'Cut up' is the deconstruction of primary texts and reconstruction of something new using chance and juxtaposition. More recently artists like <u>David Bowie</u>, <u>Lenka Clayton</u> and media satirists also borrow from this technique.

Students select a juxtaposition to develop: Old vs. New, Nature vs. Technology or Reality vs. Fantasy. Use AI media like Chat GPT to brainstorm two lists of words related to each idea. Continue to apply AI techniques like;

- Rearrange words from each list into juxtaposing phrases.
- Group the words based on shortest to longest, alphabetical order, number of syllables.
- Cut up words into syllables and mash up with other words to create new ones.

Select a phrase, sentence or mash up and apply a range of fonts, sizes, colours and styles to your text and apply them to street art techniques like stencils or paste ups.

Create a personal code, new symbols/icons by fracturing lettering characters to create new ones.

Record yourself speaking your selected text and manipulate your tone, volume and pace.

Presenting and Performing:

Evaluate art exhibits to inform the curation and exhibition of their own and/or others' artworks and/or visual arts practice. AC9AVA10P01

The 2024 Art/Science Program continues to extend the creativity around art and science in a program that features interactive artworks on a larger, engaging scale. Refer to Kratz and Hart's display ideas, fill in the Evaluating Art Exhibits handout and reflect upon how these display choices encourage audience interaction?

Curation in the Classroom

Artist influences:

How did artists' cultural background, gender, sexuality, family, education, career, interests influence their artwork?

Media and techniques: What did they use to create the artwork?

How did they manipulate these materials to create meaning?

Sketch/cut and paste image/s of artwork/s here

Dominant visual language used (circle/highlight/underline/describe):

Elements: Line, tone, texture, shape/form, colour, space

Principles: Balance, focal point, repetition, movement, rhythm, pattern, harmony, contrast, proportion, perspective

Intended audience reaction:

- Appreciation
 - Reflection
- Emotional
- Physical
- Shock/challenge
- Participation
- Collaboration

Evaluating Art Exhibits

Where?	How?
🗌 formal (gallery, museum)	worn by a performer
informal (street, park, public space,	moving (time-based)
retail, online)	static (still)
	suspended
Other considerations;	on a stage/platform/plinth
sound	inside a box/recess/room
lighting	mounted
tactile (touch) experiences	framed
artificial intelligence (AI)	other?
collaboration/participation cues	

Sketch/cut and paste image/s of exhibitions here

How have these display choices encouraged audience interaction and engagement?

Design an alternate display for this artwork that would enhance meaning and justify your choices.

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