QUEENSLAND MUSEUM NETWORK PRESENTS World Science Festival Brisbane

IT'S LIVE! in Queensland

TEACHER RESOURCE
YEARS 9-10
REMIXED REALITIES

FEATURING

CIRCITY BRISBANE | brisbane ECONOMIC DEVELOPMENT AGENCY BRISBANE CITY COUNCIL

QUEENSLAND MUSEUM NETWORK

Queensland Government

CONTENTS

Cover: Georgie Pinn, *OHCE/ECHO*.

ART VS. SCIENCE

STEM-literacy is fundamental in a world increasingly saturated with advertising and mixed messages from the media. Having basic scientific literacy helps us to navigate some very practical questions, like: how can we trust vaccines, should we use energy-saving lightbulbs, and why is it important to be healthy?

Science should be shared with everyone, in an accessible and clear manner. Why is this important? Well, it gives us a sense of wonder and curiosity, encourages us to find better ways of doing things, and it help us look after ourselves and our planet.

One way of making science accessible, is by presenting it in creative ways, like the artists who participated in Curiocity Brisbane 2022. As you engage with these public artworks, what will you discover about science, about yourself, or about the state of the planet?

REMIXED REALITIES

With technological advancements, humans are becoming more and more connected. However, being connected doesn't always mean you fit in.

Artificial intelligence (AI) knows a lot about you. How long you spend looking at a screen, where you go, what your buying habits are, even who your friends and family are. The definition of community is in flux, especially in the wake of the pandemic, and humans are forging new, meaningful ways to stay connected.

But what ethical questions does this raise? Are we ever truly alone? Are we controlling our devices, or are they controlling us? How do you imagine the future of communities, and can we get an invite please?

FEATURED ARTWORKS

Georgie Pinn. *OHCE/ECHO*

Seth Ellis and Michelle Vine. *The Wandering Birds Have Returned to the River (Even Bernice)*

Peter Thiedeke. *Communing with robots*

CURRICULUM LINKS

This resource is aligned with Australian Curriculum[i], Visual Arts, Years 9-10 and includes reference to Australian Curriculum[ii] , Science, Years 9-10 and Australian Curriculum[iii], Digital Technologies, Years 9-10.

1 ***Acknowledging Place***
Carol McGregor

2 ***Soft-body Adapters***
Kellie O'Dempsey

3 ***CURIOCITY EcosysSTEAMs***
Dalby South State School

4 ***TIMEE22***
Isis District State High School

5 ***Luminous Threads***
Kirsten Baade

6 ***CurioCreatures***
Alinta Krauth and Jason Nelson (EphemerLab)

TRAIL Collect all 15 across South Bank, the Goodwill Bridge and Queen Street Mall

7 ***City Symphony***
QMF and Textile Audio

TRAIL Visit all four sites across South Bank and Brisbane CBD

8 ***Self-talk is our superpower!***
Blackall Range Independent School

9 ***Cooyinnirra in Flames***
Boonah State High School

10 ***93% Human / Breathwork***
Helen Pynor

11 ***Baidam Tithuyil***
Brian Robinson

12 ***In the Air***
Priscilla Bracks & Gavin Sade
(Music: Greg Jenkins and Gavin Sade)

13 ***AmphiSonic***
Panos Couros

14 ***The Wandering Birds Have Returned to the River (Even Bernice)***
Seth Ellis and Michelle Vine
Guest creators Lota State High School

15 ***The Origins of Art I and II***
Maria-Fernanda Cardoso

15 ***DE-CAY-dence***
Donna Davis

15 ***Communing With Robots***
Peter Thiedeke

16 ***Sounding Tides***
Erik Griswold and Rebecca Cunningham

17 ***OHCE/ECHO***
Georgie Pinn
Guest creators MacGregor State High School

18 ***MIRAGE PROJECT [iceberg]***
David Burrows and Australian Antarctic Program

TRAIL Visit all 10 locations throughout Streets Beach

Wednesday 9 – Sunday 13 March

19 **Dinosaur Discovery**
Presented with Brisbane Urban Environmental Education Centre

19 **Reef Creature Coding Challenge**
Presented with Great Barrier Reef Marine Park Authority

20 **Protect Our Coral Reefs**
Presented with CoralWatch

21 **Stellar STEM**
Presented with PFi Aerospace

21 **Coding with CodeMonkey**
Presented with Junior Engineers

21 **Energy in Motion – STELR Program**
Presented with Australian Academy of Technological Sciences and Engineering

Saturday 12 – Sunday 13 March

24 **It's Rocket Science**
Presented with It's Rocket Science

24 **Stargazing**
Presented with Brisbane Astronomical Society

25 **Marble Run Madness**
Presented with Make & Meld

26 **ImmunoKru: A Cancer Art Gallery Exclusive**
Presented with Excite Science

26 **Butterflies, Bees and Other Insects**
Presented with Butterfly & Other Invertebrates Club Inc.

26 **Fungi Count**
Presented with FungiMap and QuestaGame

26 **Addiction Neuroscience and Obesity**
Presented with Translational Research Institute

26 **Science for Citizens**
Presented with Australian Citizen Science Association

26 **Radiation Exploration**
Presented with Queensland branch of the Australasian Radiation Protection Society

26 **Beneath the Streets**
Presented with Urban Utilities

27 **Race to Escape**
Presented with Robogals Brisbane

27 **The Young Entrepreneurs Hub**
Presented with BOP Industries

21 **Science of Tunnelling and Future Brisbane**
Presented with Cross River Rail Delivery Authority

22 **Design and Fly a Virtual Aircraft**
Presented with Cool Aeronautics Australia

22 **Professor Tech's Awesome Introduction to Extended Reality**
Presented with The Create Lab by Professor Tech

23 **Micromelon Robotics Automation Challenge**
Presented with Micromelon Robotics

23 **Innovation in Science Ideation**
Presented with Australian School of Entrepreneurship

23 **Become a Young Scientist**
Presented with The University of Queensland

27 **Achieving a Circular Economy**
Presented with Steam Powered Kids

27 **Augmented Reality Games**
Presented with Ardacious

27 **Robotics**
Presented with Young Engineers Brisbane North

27 **Catchment Curiosities**
Presented with Brisbane Catchments Network

27 **The Science of Movement**
Presented with Australian Catholic University

27 **Finding Ink the Famous Octopus!**
Presented with Plastic Oceans Australasia

27 **The Future of Health**
Presented with QIMR Berghofer

28 **Get Buried!**
Presented with LUSY

28 **Soil: Life's Foundation**
Presented with Soil Science Australia, Queensland Branch

28 **Understanding Earth Science**
Presented with Geological Society of Australia

28 **Building Sustainable and Biodiverse Gardens**
Presented with Natura Pacific Pty Ltd

i1 **Information Tent**

i2 **Information Tent**

i3 **Information Tent**

CONTENT DESCRIPTIONS

ACAVAM125	Conceptualise and develop representations of themes, concepts or subject matter to experiment with their developing personal style, reflecting on the styles of artists, including Aboriginal and Torres Strait Islander artists
ACAVAM126	Manipulate materials, techniques, technologies and processes to develop and represent their own artistic intentions
ACAVAM127	Develop and refine techniques and processes to represent ideas and subject matter
ACAVAM129	Present ideas for displaying artworks and evaluate displays of artworks
ACAVAR130	Evaluate how representations communicate artistic intentions in artworks they make and view to inform their future art making
ACAVAR131	Analyse a range of visual artworks from contemporary and past times to explore differing viewpoints and enrich their visual art-making, starting with Australian artworks, including those of Aboriginal and Torres Strait Islander Peoples, and consider international artworks

STEM LINKS

Science, Years 9 and 10	
ACSHE228, ACSHE230	Values and needs of contemporary society can influence the focus of scientific research
Digital Technologies, Years 9 and 10	
ACTDIP043	Create interactive solutions for sharing ideas and information online, taking into account safety, social contexts and legal responsibilities

GENERAL CAPABILITIES

Knowledge, skills, behaviours and dispositions:


intercultural understanding


critical and creative thinking


ethical understanding


personal and social capability


information and communication technology (ICT) capability


Aboriginal and Torres Strait Islander histories and cultures

LEARNING OBJECTIVES

Students are learning:

- to manipulate media, techniques and processes to represent their ideas
- how artists use visual conventions to explore who they are and where they fit, and as a way of storytelling
- how to consider others' viewpoints on what makes a community
- how artists create compositions for digital artworks
- how artists display artworks to emphasise meaning

SUCCESS CRITERIA

Students will be successful when they can:

- demonstrate purposeful use of digital and mixed media to express characteristics of their chosen community
- discuss the purpose of visual conventions to communicate meaning and viewpoints, using vocabulary to label, categorise, describe and explain
- reflect on how they fit into their social and cultural environments
- apply visual conventions to create original compositions
- increase engagement with their artworks through innovative display

TEACHING NOTES

TIMING

5 x 1-hour sessions

MATERIALS

- devices for students to take digital photographs
- editing software (preferably software that can export images in a GIF or PNG format) and internet access
- a range of media, including paint, paint-pens, pencils, tape, found objects, feathers, cellophane (students could bring appropriate materials from home)
- loan or source images of masks and headdresses (suggestions below).

HOW TO USE

Students view featured artworks in situ, prior to completing these activities. Activities can be modified for remote learning.

To enrich this experience, Queensland Museum collection items may be accessed. Creating a free account means you can save, sort, manage and share your favourite collection items (audio and video, collection items, events, fact sheets, images, learning resources, loan kits, etc.).

Suggested items:

- QE11495, QE12725 – *Dance Headdress (Dhari)*
- E985, E8563 – *Mask (Malagan)*, New Ire/Papua New Guinea
- E40673 – *Mask*, Solomon Islands
- E5929 – *Mask*, Darnley Island/Torres Strait

LEARNING ACTIVITIES

LESSON 1: COMMUNITY

Inquiry question

- How do artists represent community within their artworks?

Preparation

- Students engage with the three featured artworks and document their answers to the following questions:
    - What is this artwork all about?
    - What can you see, hear, sense or feel that makes you say that?
    - What questions do you have about this artwork?

Learning activities

- Project a still-image or digital recording of *OCHE/ECHO* by Georgie Pinn so that students can recollect and reflect on their experience engaging with this work as they enter the classroom.
- As a class, brainstorm who or what makes a community. Students capture class responses in a mind-map in their visual diary. Discussion could include the following statements:
    - Community is formed with people to whom you are alike (in physical looks, ethnicity, beliefs/values, behaviour)
    - You are born into community (chosen for you)
    - Community is formed with people you trust or like (chosen by you)
    - Communities are geographical – based on people in proximity
- Read the following statement out loud

OCHE/ECHO, is a large-scale interactive public sculpture that uses immersive user-driven technology and personal storytelling to explore empathy as a key to interpersonal connection and community building. Pinn includes generative sound and animation experiences that can be manipulated by the audience, so that they become part of the creative process.

Georgie Pinn (OCHE/ECHO)

- As a class, discuss whether Pinn has attempted to create a new community, or highlight an existing one. In what ways does the work represent a community of people? Students should justify their responses.
- Students identify a community that they belong to and build a profile of this community in their visual diary. They can make a list, mind-map, or other graphic organiser, to answer the following questions:
    - What does your community look, sound, and feel like?
    - Where is it located?
    - Is it small or large?
    - Is it open (inclusive) or closed (exclusive)?
    - How often can you visit/be a part of your community, or are you always there?
    - Is there a cost (financial or otherwise) associated with membership of your community?
    - Do you have temporary or permanent membership?
    - Why are you part of this community?
- Students share their community profiles with their elbow partners.

LEARNING ACTIVITIES

LESSON 2: COMMON STORIES

Inquiry question

- How do artists use symbols to convey meaning?

Preparation

To prepare for this lesson, consider community groups local to the school, including First Nations communities. Are they agricultural communities, filled with young professionals, ethnic groups or large families? Are there significant characteristics, motifs, objects or behaviours within these communities? Having knowledge of common stories, rituals, rules, language, etc. will aid in facilitating class discussion. Queensland Museum may also be able to assist with queries regarding people and history.

Introductory activity

- Students reflect on the previous lesson, discussing their challenges and solutions when creating their community profile. Record popular challenges and innovative solutions on the whiteboard.

Learning activities

- Project a still-image or digital recording of Seth Ellis and Michelle Vine's, *The Wandering Birds Have Returned to the River (Even Bernice)*.
- Ask students to read the answers they completed after engaging with Ellis and Vine's artwork.
- Pose the question below and ask students to *Think-Pair-Share*.

  How is the idea of community evident in this artwork?

  - *Think* – spend three minutes considering your own response to the question and write or draw this in your visual diary
  - *Pair* – spend five minutes discussing your responses with your elbow partner and listening to their response. Copy down ideas your partner had that you did not.
  - *Share* – with your partner, decide which responses are most valid or important and raise your hand to share these with the class. As you listen to responses from the class, write down any more ideas you like.
- Pose the question below and ask students to *Think-Pair-Share* with a new elbow partner.

  How do the artwork's features of interactivity, multi-sensory experience, storytelling and play emphasise the representation of community?
- Project a still-image or digital recording of Peter Thiedeke's, *Communing with robots*. As a class, discuss the ways that definitions of community have changed, and continue to change. Is it possible that communities exist between people that have never met? Can communities exist between people and AI? What are the social benefits of belonging to a community? Do these benefits still exist in hybrid or digital communities?
- All communities have common stories, rituals, rules, language, etc. As a class, discuss your local community groups and the characteristics that community members share.
- Students reflect on the community profile they began to build in the previous lesson and list things common to their community. For example, an online gaming community may have a unique common language, using words that only they understand (*e.g., Bot, Camping, Nerf*).
- Alongside this list, students add symbols or motifs that represent their community, including drawn or printed images, photographs, text or other visual elements.
- Assist students as they work – you may choose to let students who share a community sit together.

LEARNING ACTIVITIES

LESSON 3: MASKS

Inquiry question

- How are masks significant to community groups?

Preparation

- Encourage students to bring any small items or objects relevant to their community to school, to use as a stimulus.
- Borrow, digitally display, or print images of cultural masks and headdresses (see collection items for examples).

Learning activities

- As a class, discuss the reasons for wearing masks. Discussion could include the following purposes:
    - For protection (surgical or industrial masks, or face masks worn during the pandemic)
    - Social masking to blend in with others (suppressing 'atypical' behaviours)
    - As a disguise (e.g., superheroes)
    - To signify allegiance or belonging to a community
- Share cultural masks with the class, allowing time for them to view and consider.
- In small groups, students choose one cultural mask, and answer the following questions:
    - What community or cultural group would wear this mask?
    - What are the construction materials, and why have these been chosen?
    - What shapes, colours, symbols and/or motifs are used within the mask and why?
    - How much of the face and head is covered by the mask? What do you think this signifies?
    - To what effect is scale used in the construction?
- Explain that students will be creating a digital mask and/or headdress which can be projected or digitally edited over a photograph of a face (theirs, or a classmate's). Masks do not have to be stable or functional, as they will be superimposed digitally. Any 3-dimensional or hand drawn/painted elements can be photographed and incorporated into the artwork.
- Students revisit their community profiles and begin to design a mask to represent its members. Firstly, students should note:
    - At least three elements (media, scale, mood, symmetry, technique, symbology, etc.) they liked, and will borrow from the mask/ headdress they viewed
    - At least two elements they did not like and will adapt, improve or avoid.
- Independently, students begin to design their mask, creating thumbnail sketches and design notes in their visual diary.

LEARNING ACTIVITIES

LESSON 4 & 5: DIGITAL MASK MAKING

Inquiry question

- How can our lifestyle (like our family, hobbies, jobs and other special interests) communicate what we value?

Preparation

- Students should have access to a device with editing software, as well as assorted media.
- Charged digital device for taking photographs.
- Take or source a photograph of each student, ensuring that they are looking directly at the camera, and that their full head and shoulders are visible and straight. These should be accessible for students to have digitally.

Introductory activity

- Give each student the opportunity to share their mask/headdress design (show preliminary sketches, explain the community represented and the chosen features). Invite classmates to engage in *TAG* peer feedback (feedback could also be given using colour-coordinated post-it notes or via digital/online comment).
    - *T* – tell your classmate something you like about the artwork
    - *A* – ask for clarity about something
    - *G* – give a suggestion

Learning activities

- Depending on confidence and ability, mask components can be made using mixed-media (photographed afterwards), or entirely using digital editing software. Demonstrate the following, basic skills using editing software:
    - Create a new image file that is at least 2480 x 3508 pixels (this can be printed at A4, and will be suitable for sharing digitally too).
    - Organise artwork by layers that can be edited separately and re-ordered. Use the photograph of your face as the bottom layer, ensuring there is space above and around the head for the mask components.
    - Use a 'lasso' tool and magic-wand selection (or equivalent) to trace around the edge of and select areas.
    - Cut, copy, paste and transform (scale, rotate, skew, etc.) layers.
    - Resize and move components while retaining scale (generally by holding down the *Shift* key as you click and drag).
    - Export or save final image with a transparent background (generally as a PNG or GIF if students have animated features). This is so that once complete, masks can be superimposed over any face.
- Students work independently to create digital masks, assisted by the teacher.
- As a class, come to a consensus on how best to display the masks so that others can engage with the represented communities. Consider the ways that Pinn, Ellis and Vine invited engagement with their artworks. Some display options include:
    - projecting the masks so that people can move in front of the projection (the task could be extended to include audio or other sensory elements)
    - sharing masks online to be used as a filter or avatar on a social media platform
    - each student choosing several masks and animating a slideshow of themselves wearing the masks
    - printing the masks, reinforcing them with cardboard and adding a handle so that people can wear them.
- Students write an artist statement (50-100 words) which explains their intentions and inspiration, and evaluates the success (strengths and limitations) of their displayed mask and its ability to communicate a chosen community.

ENDNOTES

[i] Australian Curriculum, Assessment and Reporting Authority (ACARA) (2019). Australian Curriculum, Visual Arts, 2019. Available at: https://www.australiancurriculum.edu.au/f-10-curriculum/the-arts/visual-arts/

[ii] Australian Curriculum, Assessment and Reporting Authority (ACARA) (2019). Australian Curriculum, Science (Version 8.4), 2019. Available at: https://www.australiancurriculum.edu.au/f-10-curriculum/science/

[iii] Australian Curriculum, Assessment and Reporting Authority (ACARA) (2019). Australian Curriculum, Digital Technologies (Version 8.4), 2019. Available at: https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/digital-technologies/