QUEENSLAND MUSEUM NETWORK PRESENTS World Science Festival Brisbane

IT'S LIVE! in Queensland

TEACHER RESOURCE
YEAR 10
IMAGINED FUTURES

FEATURING

CITY BRISBANE | brisbane ECONOMIC DEVELOPMENT AGENCY BRISBANE CITY COUNCIL

QUEENSLAND MUSEUM NETWORK

Queensland Government

CONTENTS

Cover: Priscilla Bracks & Gavin Sade, *In The Air*. [artist impression].

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?

IMAGINED FUTURES

What do you imagine when you think about the future? The scientific community has been talking about climate change for decades*, but how much of what they say really sinks in? Do you feel personally responsible? Should you?

The critical nature of climate change means artists have joined in too. But while we all know that art has the power to inspire, disgust, challenge or provoke, how can artists be a meaningful part of the conversation? For one thing, artists communicate scientific ideas and concerns in accessible visual language. They make art that makes us feel something. Maybe it will even make us want to act.

How will you engage with ideas about our future and climate concerns, and what visual solutions will you create?

*In fact, the first theories of global warming were proposed in 1896, by a Swedish scientist called Svante Arrhenius

FEATURED ARTWORKS

Erik Griswold and Rebecca Cunningham. *Sounding Tides*

Priscilla Bracks and Gavin Sade. *In the Air*

David Burrow. *Mirage Project [iceberg]*

CURRICULUM LINKS

This resource is aligned with Australian Curriculum[i], Visual Arts, Year 10 and includes reference to Australian Curriculum[ii], Science, 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

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
ACAVAM128	Plan and design artworks that represent artistic intention
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

STEM LINKS

Science, Year 10	
ACSHE192	Advances in scientific understanding often rely on technological advances and are often linked to scientific discoveries
ACSHE230	Values and needs of contemporary society can influence the focus of scientific research
ACSIS204	Use knowledge of scientific concepts to draw conclusions that are consistent with evidence
ACSIS208	Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations

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


literacy

LEARNING OBJECTIVES

Students are learning:

- to manipulate media, techniques and processes to represent their ideas
- how artists use visual language, arts processes and techniques to explore ideas and concerns about climate change
- how artists create social commentary in their artworks
- how artists display artworks to emphasise meaning

SUCCESS CRITERIA

Students will be successful when they can:

- demonstrate selection and use of media to express characteristics of climate change
- discuss the purpose of visual conventions to communicate meaning and viewpoints, using vocabulary to label, categorise, describe and explain
- apply visual conventions to create artworks which comment on climate concerns
- increase engagement with their artworks through innovative display

TEACHING NOTES

TIMING

5 x 1-hour sessions

MATERIALS

- personal devices with basic editing and presentation software (PowerPoint or similar) and internet access
- devices for taking digital photographs
- student choice of paint, mixed-media or screen-printing media, as well as surfaces

ADDITIONAL INFORMATION

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

To enrich this experience, Queensland Museum learning resources may be used concurrently in other learning areas. 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 resources:

- Climate Change: Fact Sheet
- Changing Climates, Changing Waters: Learning Resource (Science, Technology, Years 7-10)
- Analysing Human Impact: Learning Resource (Biology, Geography, Years 4-12)

LEARNING ACTIVITIES

LESSON 1: CLIMATE CHANGE COMMUNICATION

Inquiry question

- How do ideas and concerns about climate change an artist's work?

Preparation

- Print A3 copies of Appendix A: Venn diagram (enough for one per pair) or provide students with a digital copy to complete (students can also create their own Venn diagram, in Microsoft Word, by selecting Insert > SmartArt > Relationship > Basic Venn).
- Project still or moving images of the feature artworks as students enter the classroom.

Introductory activity

- As a class, discuss the concept of climate change. Guiding questions may include:
  - What do students know, think or feel about climate change?
  - What messages have they heard from the media? What messages have they heard from institutions like Queensland Museum?
  - What questions do they have, or what things do they wish they knew about climate change?
- Students spend several minutes independently reading Queensland Museum's fact sheet on climate change and class representatives share their summaries.

Learning activities

- Students read the information provided by Erik Griswold & Rebecca Cunningham, Priscilla Bracks & Gavin Sade and David Burrows & Australian Antarctic Program.
- Read the following directions:

  A Venn diagram is a way of sorting information graphically. It assists you to see and understand relationships between different things at a glance. To complete this Venn diagram, write information unique to each artwork in the labelled circles and write information that they share in the overlapping segments (the centre segment contains information shared by all three artworks). Include the following information:
  - *artist and collaborator names*
  - *artwork date, media, size, location*
  - *arts processes or techniques used*
  - *ideas or themes that are obvious (observed using one of the five senses)*
  - *ideas or themes understood through further reading*
  - *symbols or motifs used to communicate ideas or concerns*
- In pairs, students complete the Venn diagram, examining the relationship between Griswold and Cunningham's *Sounding Tides*, Bracks and Sade's *In the Air* and Burrows' *Mirage Project [iceberg]*.

LEARNING ACTIVITIES

LESSON 2: CLIMATE CONCERNS

Inquiry question

- How can visual language, media, technologies and skills be used to communicate ideas or concerns about climate change?

Learning activities

- In small groups, students choose a concern around climate change that causes a challenge for the future. Some examples include rising sea level, higher temperatures, hotter and more frequent hot days, warmer and more acidic ocean, more frequent sea level extremes, harsher fire weather, more drought, more intense rainfall events. Guide students to choose a range of concerns.
- Groups investigate their chosen concern to prepare a presentation for the class, which includes at least five slides.
    1. What is the problem?
    2. What is the human impact?
    3. What is the impact on humans?
    4. Artworks made in response to this concern (include images and correct referencing)
    5. Symbols or motifs commonly used to discuss/ represent this concern
- Groups present to the class, allowing classmates to ask questions to clarify or challenge their ideas.
- Share presentations to a digital or online collaborative space or drive.

Further research

- Kuuki, *Distracted*, 2011
- Kalle Laar, *Calling the Glacier*, 2007-2009
- Eve Mosher, *HighWater Line*, 2007
- Futuresonic and ImaginationLancaster in collaboration with the Met Office and Natural History Museum, *Climate Bubbles*, 2009
- Tracey Moffatt, *Doomed*, 2007
- Antony Gormley and Peter Clegg, *Three Made Places*, 2005

LEARNING ACTIVITIES

LESSON 3 & 4: ART AS SOCIAL COMMENTARY

Inquiry question

- How do artists use artmaking as a form of social commentary?

Preparation

- Make a list of the climate concerns that were explored in the previous lesson on the whiteboard, and write the following question underneath: *What can you do?*
- Prepare a variety of paint, mixed-media or screen-printing materials, as well as surfaces. There are many online resources and tutorials to support students who wish to experiment with screen-printing, otherwise fabric paints and fabric mediums can produce satisfactory results when painting on fabrics.

Introductory activity

- As a class, discuss the way that art can be used as a form of social commentary. In what ways do the artworks viewed and discussed in previous lessons:
    - o inform about a problem,
    - o promote an action or change,
    - o appeal to the audience's sense of justice?

Learning activities

- Students choose a climate concern from those on the whiteboard. They may select their own, or another that they are drawn to. They create a design for a painting, mixed-media or screen-printed artwork, suitable for a banner, poster or wearable item (e.g., t-shirt).
- Assist students to work independently, resolving the design artwork. *Note: expect that the process of design and resolving the artwork may require several lessons to complete.*

LEARNING ACTIVITIES

LESSON 5: ART FOR CHANGE

Inquiry question

- How do artists work to promote or provoke audience response?

Preparation

- Provide charged devices for students to photograph their work.

Learning activities

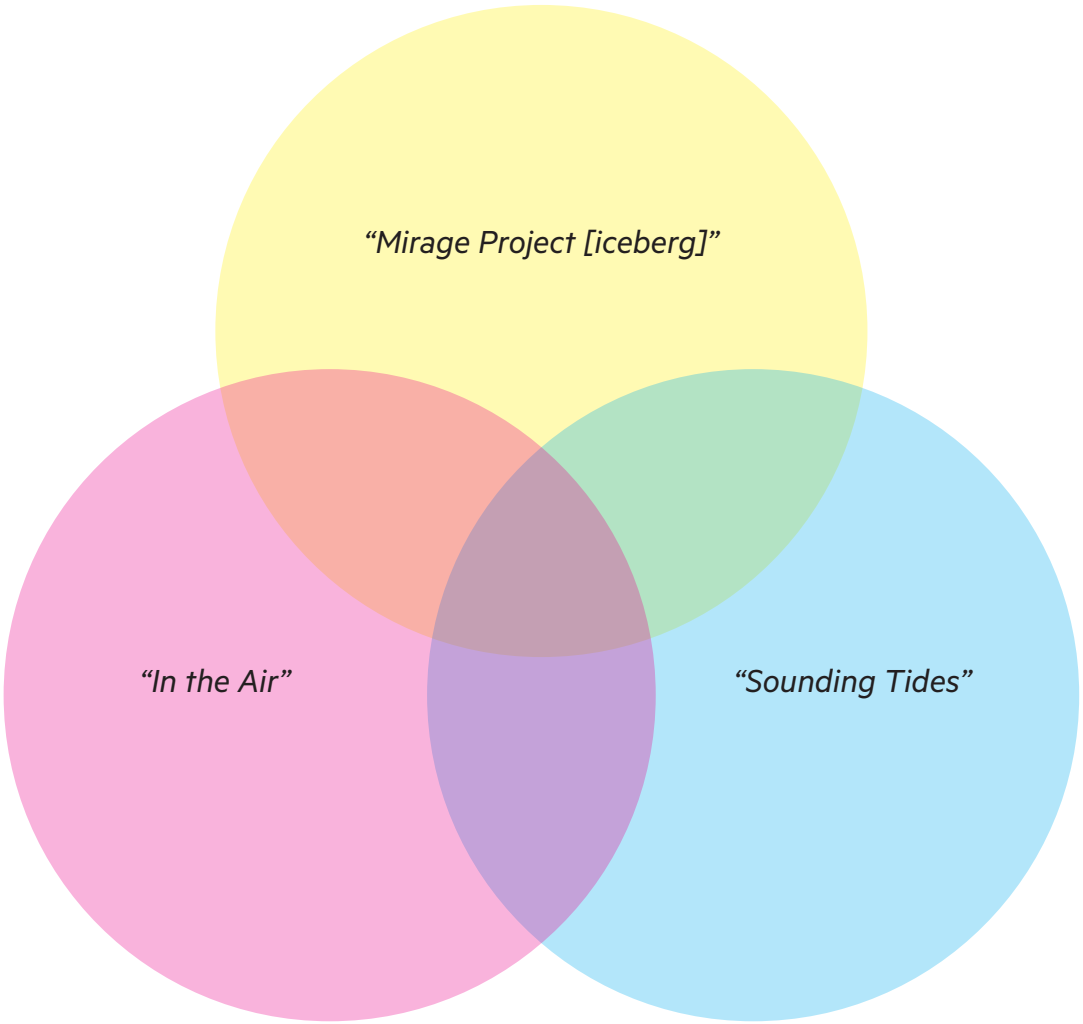
- Students temporarily place and photograph their banner, poster or wearable item in a public location, or being worn. They use this photograph to create a digital poster which includes annotations (labels) and text boxes that demonstrate:
    - o analysis of the chosen climate concern including possible solutions or mitigating actions
    - o their artistic intentions
    - o reflection and evaluation on the process, and their ability to represent the concern
    - o how/why the audience will engage with the artwork.

Extension activity

- Using the climate concern artwork (banner, poster or wearable item) as a graphic, create an educational factsheet or poster that can be displayed on the school campus or a local location, or create a digital artwork for social media. Choose appealing colours and layout that complement the existing work.

APPENDICES

APPENDIX A: VENN DIAGRAM



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/