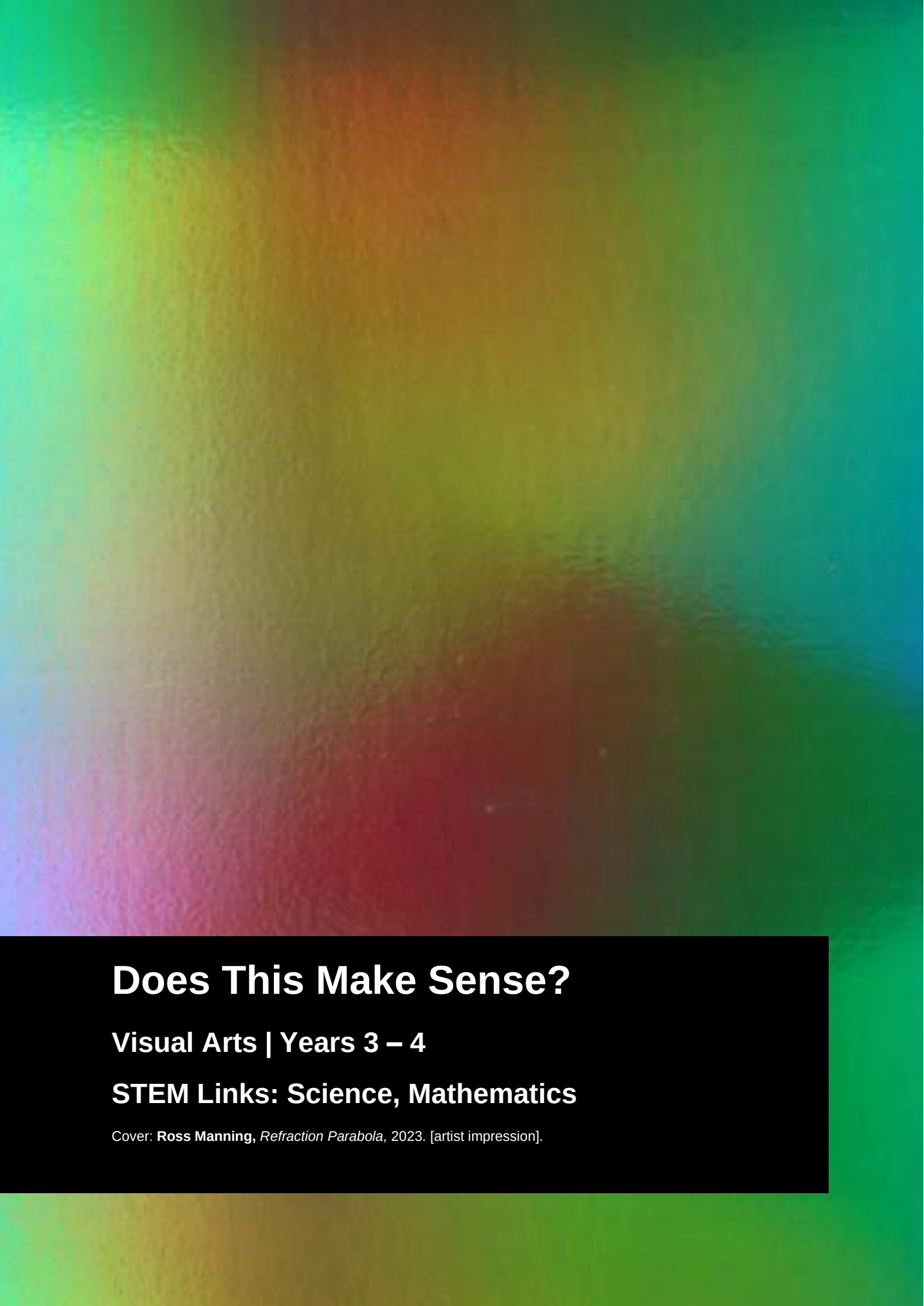


Does This Make Sense?

Visual Arts | Years 3 – 4

STEM Links: Science, Mathematics

Cover: **Ross Manning,** *Refraction Parabola,* 2023. [artist impression].

Contents

CURIOCITY BRISBANE

Did you notice the spelling mistake? *Curiocity* is actually a *portmanteau*, or a blended word made of two or more other words. Portmanteaus take on the meaning of the words they are made from, and the English language is full of them. Portmanteaus you might use include, *fortnight* (fourteen and night), *smog* (smoke and fog), *twerk* (twist and jerk), or *Pokémon* (pocket and monster).

What two words have been blended to make Curiocity, and why do you think World Science Festival Brisbane has used this portmanteau to name their public art program?

Putting things together to make something new is the definition of creativity. *Curiocity Brisbane* 2023 is jam-packed with multi-disciplinary artworks that blend science, technologies and art in creative and curious ways.

As you engage with these public artworks, what new things will you discover, and how will you respond in your own creative ways?

Does This Make Sense?

You use your five senses to help understand the world around you. Even without thinking about it, we see, smell, hear, taste or touch external stimulus (things outside of our body), and our brain uses this information to determine how things work, or what they might mean.

The *Curiocity Brisbane* artworks may have you in hysterics thinking about the smell of a sloth's intestinal gases, immersed in a visual scape of light and colour, or enjoying a symphony of mechanical music, but they are also designed to expose you to scientific and technological ideas.

We all sense or perceive external stimulus differently, which is why not everyone likes the same things, such as movies, food, perfume, music, or sensations. We absorb information through our senses but apply personal and unique filters when we respond.

As you observe your environment, pay attention to the information your senses are giving you. Can you make new connections between scientific inquiry, the five senses, and art-making?

Warning: Apply common sense before tasting things!

Featured artworks

SCRAPS. *Dr SCRAPS' Corporeal Symphonies*

Ross Manning. *Refraction Parabola*

Interactive Media Collective and Griffith University. *T.H.E.M.*

Curriculum links

This resource is aligned with Australian Curriculum[i], Visual Arts, Years 3-4 and includes reference to Australian Curriculum[ii], Science, Years 3-4, and Australian Curriculum[iii], Mathematics, Years 3-4.

Content descriptions

Visual Arts, Years 3 and 4	
ACAVAM111	Use materials, techniques and processes to explore visual conventions when making artworks
ACAVAM112	Present artworks and describe how they have used visual conventions to represent their ideas
ACAVAR113	Identify intended purposes and meanings of artworks using visual arts terminology to compare artworks, starting with visual artworks in Australia including visual artworks of Aboriginal and Torres Strait Islander Peoples

STEM links

Science, Years 3 and 4	
ACSHE051 ACSHE062	Science knowledge helps people to understand the effect of their actions
ACSIS053 ACSIS064	With guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge
ACSIS054 ACSIS065	With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment
ACSIS057 ACSIS068	Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends
ACSIS060 ACSIS071	Represent and communicate observations, ideas and findings using formal and informal representations
Mathematics, Years 3 and 4	
ACMMG063	Make models of three-dimensional objects and describe key features

ACMSP069	Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies
ACMSP070	Interpret and compare data displays
ACMMG091	Create symmetrical patterns, pictures and shapes with and without digital technologies
ACMSP095	Select and trial methods for data collection, including survey questions and recording sheets
ACMSP096	Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Includes tables, column graphs and picture graphs where one picture can represent many data values

General capabilities

Knowledge, skills, behaviours and dispositions:

- intercultural understanding
- critical and creative thinking
- personal and social capability
- information and communication technology (ICT) capability
- literacy
- numeracy

Learning objectives

Students are learning:

- to explore and experiment with various media, using the elements and principles of art
- how artists use the five senses to explore scientific and technological ideas
- how to consider their own and others' viewpoints and artistic intentions
- how artists use ideas and information to create artworks.

Success criteria

Students will be successful when they can:

- interpret and use colour, shape and tone in their own compositions
- discuss the purpose of the five senses and the use of visual arts elements, using vocabulary to label, categorise, describe and explain
- reflect on their ideas and make plans for artworks
- apply visual art-making conventions to create representations of 'sensed' objects.

Teaching notes

Timing

3 x 1-hour sessions

Materials

- A4 fine art paper, acrylic paints (white and primary colours), paint brushes (medium size flat is best), egg carton or palette, newspaper, HB pencils, coloured pencils and erasers
- class set of compressed charcoal or graphite sticks
- various natural materials with suitable textures and smells, such as living plants, shells, bark, animal skins, seeds, bones, feathers, corn chips, metal bolts, heat packs, etc. (these can be found on a nature walk, or brought into the classroom)
- whiteboard or large-format paper, projector, at least three different coloured whiteboard pens
- class set of magnifying glasses or hand lens magnifiers (your science department should have these)
- plastic sheets (A5-A4 in size), contact offcuts, mylar, OHTs, laminated paper, etc. Alternatively, students could paint onto a masked area on glass tables, or other glossy surfaces.

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 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, objects, events, fact sheets, images, learning resources, loan kits, etc.).

Suggested resources:

- Cobb+Co Colour Conquest Trail Learning Resource (Physics, Earth Space, Biology, Technology, Aboriginal and Torres Strait Islander Culture, Prep – Year 6)
- Colour My World Learning Resource (Physics, Technology, Years 5-6)
- Human Senses Loan Kits (Natural Environment, Early Years)
- Illuminating Colour Learning Resource (Physics, Year 5, Year 9)
- Looking Through Loan Kits (Natural Environment, Early Years)
- Sensing Light Loan Kits (Science, Years 1-2)
- Sensing Sound Loan Kits (Science, Years 1-2)
- Transforming Energy Learning Resource (Physics, Technology, History, Year 6, Year 8)

Learning activities

Lesson 1: Tasting and hearing

The five taste sensations react chemically with taste receptors (in taste buds), in different parts of our tongue. You could find and share a graphic representation of these 'taste areas' (there are plenty online), and have students think about how their tongue feels as they eat different foods. For example, sucking on a lemon would activate receptors on the left and right side of the tongue, sending information to your brain – *this is sour!*

Some students may find it difficult to determine the difference between *sour* and *bitter* taste sensations. A sour taste comes from highly acidic foods like lemons, limes or natural yoghurt, whereas bitter foods include dark chocolate, coffee, green tea, broccoli, kale or orange skin (peel).

Inquiry question

- How do the senses of taste and sound make us feel or think about different things?

Preparation

- Print a class set of the *Sound Bingo* activity (Appendix A) and the *Taste Sensation Sorter* (Appendix B).
- Project a still image or moving footage of Interactive Media Collective and Griffith University's *T.H.E.M.* in situ, for students to view as they enter the room.
- Be ready to project the *Taste Sensation Sorter* (Appendix B) onto a white board or large piece of paper. Alternatively, you can recreate the graphic organiser.
- Each student should have a HB pencil and access to an eraser.
- Stickers, stamps, or other reward for 'winning' bingo.

Introductory activity

- As a class, students reflect on their engagement with *T.H.E.M.* and discuss their experience. Use the following questions to prompt discussion:
    - Do you think this was a *real* artwork? Why, or why not?
    - What were the sculptures supposed to do, and how did they work?
    - Did you like the artwork? How could you improve it if you were the artist?

Learning activities

- Read the following context statement aloud:

    We use our five senses make sense of the world around us. Do you know what the five senses are? Even without thinking about it, when we see, smell, hear, taste or touch things, our brain uses information to understand how things work, or what they mean.

We have thought about and used our five senses as we have explored the Curiocity Brisbane artworks, but at the same time, we have learned about science and technology.

Over the next four lessons, we will need to pay attention to the information our senses are sending our brain, and today, we are starting with hearing and tasting.

- Hand out the *Sound Bingo* activity (Appendix A), ensuring students name their copy. Explain that throughout the lesson, students should fill in the boxes if they hear the associated sounds. To fill in a box, students draw a quick sketch that represents that sound, for example, if they hear a bird call, they should try to draw that bird in the square. By the end of the lesson, if they have completed three boxes in a row (vertical or horizontal), they win a reward of your choice. Students should keep playing, even after they 'win' bingo.
- As a class, sit quietly for five minutes and observe one of the *Sound Bingo* noises (if one doesn't occur naturally in this time, make the sound). Demonstrate or explain how to draw in the box.
- Project the *Taste Sensation Sorter* (Appendix B) onto a white board. Explain that there are five primary taste sensations: sweet, salty, sour, bitter and savoury (sometimes called *umami).*
- Have students raise their hands and call out their favourite foods or drinks. As a class, determine which of the taste sensations each food or drink belongs to, and list each item in the correct section. Which taste sensation has the most information listed? Which taste sensation is the class favourite? Second favourite?
- Have students raise their hands and call out their *least* favourite foods or drinks. As a class, determine which of the taste sensations each food or drink belongs to, and with a second coloured pen, list each item in the correct section. Which taste sensation has the most information listed? Which is the *least* favourite?
- With a third coloured pen, fill in each section with all the foods or drinks students can think of. You may need to explain the difference between *sour* and *bitter*. Which taste sensation has the most information listed? Why are so many foods and drinks in some sections?
- Hand out the *Taste Sensation Sorter* (Appendix B), ensuring students name their copy. Give students ten minutes to copy the foods and drinks from the board onto their own paper. They can draw or write their responses.
- Give students the remaining lesson time to sit quietly and complete the *Sound Bingo* activity, and reward students who 'win'.
- Collect the worksheets or glue them into workbooks.

Lesson 2: Finding sense in artworks

Inquiry question

- How do artists use and represent the five senses in their artworks?

Preparation

- Cover each desk with newspaper and provide primary colours (red, blue, yellow) and white acrylic paint. Each desk should also have a jar of water. Optional: Paper-towel or rags for cleaning brushes.
- Each student should have a plastic sheet (between A5-A4), apron and a paintbrush. Use Blu Tac to stick the plastic sheets in place, so they don't shift when painting.
- Prepare a spray bottle with water.
- Prepare an A4 piece of art paper with each student's name and class on the back, but do not hand these out yet.
- Project a still image or moving footage of Ross Manning's *Refraction Parabola* in situ, for students to view as they enter the room.

Introductory activity

- As a class, students reflect on their engagement with *Refraction Parabola* and discuss their experience. Use the following questions to prompt discussion:
    - Which of your five senses was working hardest as you observed this artwork?
    - How many colours could you see? Did they change when you walked around?
    - How do you feel standing still in the *parabolic curve*?
    - Do you think this was a *real* artwork? Why, or why not?

Learning activities

- Read the following information aloud:

    In the artwork, Refraction Parabola, the artist uses a curved, mirror-like sheet of metal to break up (refract) white light into the rainbow of colours we see. In physics, white light is a combination of all the colours.

    When it comes to paint, white is absent of colour (we call it a shade rather than a true colour) and we mix white with colours to make tints. The more white paint you add, the lighter the tint. Black is also a shade and is mixed with colours to make them darker.

    The word 'primary' means main, key, or original. Primary colours are red, yellow and blue – these are the original and key colours – you cannot make primary colours by mixing other colours, and they are the source of all colours.

    Today, we will use only primary colours and white paint, to see how many colours we can mix.

- Demonstrate the following basic skills:

    - how to wash brushes between colours, and gently dry excess water with newspaper or paper-towel
    - how to mix colours, adding small increments of colour so not to be wasteful – making secondary and tertiary colours and avoiding muddy or grey tones
    - how to load an appropriate amount of paint onto the brush (dipping the bristles half-way into the paint is plenty)
    - how to blend two or more colours, adding a little water to stretch and mix
    - brush techniques, including using the flat edge of the brush for lines and the corner for small details
    - how to create tone, using a small amount of white for paler colour.
- Assist children as they work, covering the plastic sheet with paint.
- When students have completed painting, demonstrate the following:
    - wash your hands
    - spray the plastic sheet with water (over the paint) – *you may not need to do this step if students have used too much paint*
    - carefully lay the art paper over the top of the plastic sheet by placing one short edge down and letting the paper fall
    - press firmly on the back of the paper to transfer the colour to the paper, rubbing your hands in one direction, rather than back and forth, which may tear or crease the paper
    - starting at one corner, lift the paper off the plastic sheet, and carefully place it flat on a clean table or drying rack.
- Allow at least ten minutes for students to assist with clean up, ensuring they carefully clean brushes, wipe benches while the paint is still wet, and dispose of any unused paint and rubbish responsibly.
- Leave paintings until they are completely dry and then mount and display.

Lesson 3: Seeing, smelling and touching

Dr SCRAPS' Corporeal Symphonies is a trail of 10 QR code-activated episodes, which include animations, images and stories focuses on the intestinal gases of mythical, prehistoric and everyday animals. Each episode is created by SCRAPS, aka electronic music and visual artist Laura Hill, who explores and questions corporeal matters, like the intestinal gas producing capabilities of ants, t-rex, sloth and dolphins.

Though SCRAPS' core medium is audio, students will explore this artwork in response to the sense of smell, discussing, imagining and potentially being grossed-out by the ideas referenced.

Determine a safe and context appropriate location for a nature walk. This could be a local park or nature strip/reserve, an agricultural area, neighbouring property or school garden. If students cannot leave the classroom, supply various natural materials with suitable textures and smells, such as living plants, shells, bark, animal skins, seeds, bones, feathers, corn chips, metal bolts, heat packs, etc.

Inquiry question

- How do the senses of sight, smell and touch make us feel or think about different things?

Preparation

- Print a class set of the *Sensing Nature* worksheet (Appendix C), making sure to add additional rows if required (add an additional row for every 10-minutes the class can spend on the nature walk). Ensure students write their name and class on the worksheet.
- Project a still image or moving footage of *Dr SCRAPS' Corporeal Symphonies* in situ, for students to view as they enter the room.
- Each student should have a HB pencil, eraser, and access to charcoal, coloured pencils and a magnifying glass or hand lens magnifier.

Introductory activity

- As a class, students reflect on their engagement with *Dr SCRAPS' Corporeal Symphonies* and discuss their experience. Use the following questions to prompt discussion:
    - What do you think intestinal gases smell like?
    - Which living thing do you think produces the *worst*-smelling intestinal gases, and why?
    - How does thinking about these smells make you feel?
    - Do you think this was a *real* artwork? Why, or why not?

Learning activities

- Hand out the *Sensing Nature* worksheets (Appendix C) and prepare students for a nature walk. Explain how to fill out the table:
    - 'sense' an object (natural or manmade)
    - circle or colour in the senses that are used when observing the object

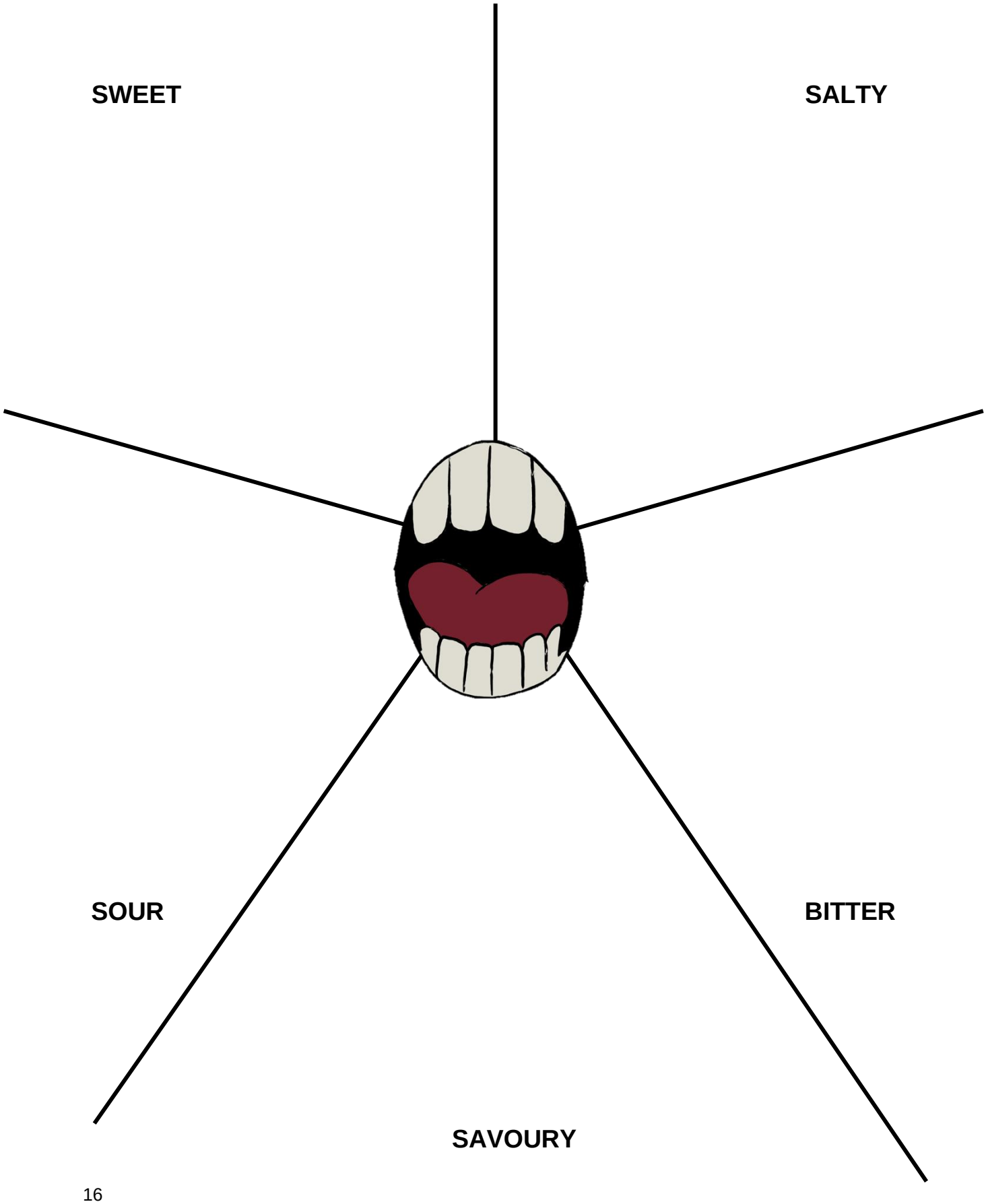
    - try using a magnifying glass or lens to look closer
    - react emotionally – how do you feel about the object – disgusted, excited, happy, bored, silly or scared? Draw how your face or body feels
    - write a list of adjectives (describing words), focusing on the physical form (e.g., tall), colour (e.g., bright, red), shape (e.g., straight), texture (e.g., rough) or composition (e.g., crumbly)
    - sketch the object or take a rubbing, by placing the paper over the object and using the charcoal to rub over the paper.
- Allow students to work independently to complete the worksheet, assisting by suggesting objects where necessary. Students who finish earlier can create extra rubbings or choose one object and draw a more detailed study.
- Allow time at the end of the lesson to demonstrate how to reflect and evaluate as an artist. Students choose at least one question to respond to in a full sentence, sharing their written, spoken or signed response with the class.
    - What is one new thing my senses have taught me about the world around me?
    - What sense am I more aware of now, and how did that happen?
    - Can artists make artworks that make us use senses apart from seeing? Why, or why not?

Appendices

Appendix A: Sound Bingo

BARKING DOG	**CLOCK TICKING**	**BIRD CALL**	**COUGH OR SNEEZE**
COMPUTER ALERT	**CAR OR TRUCK**	**AEROPLANE**	**WIND IN THE TREES**
SCHOOL INTERCOM	**TEACHER SPEAKING**	**LAUGHTER**	**SIREN OR ALARM**
DOOR CLOSING	**RUNNING TAP**	**RINGING PHONE**	**BUILDING OR CONSTRUCTION**

Appendix B: Taste Sensation Sorter



Appendix C: Sensing Nature

Which sense/s have you used?		**How do you feel about it?** *Draw an expression*	**How can you describe it?** *List a few adjectives*	**Make a mark!** *Sketch or take a rubbing*
				
				
What have you sensed?				

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, Mathematics (Version 8.4), 2019.* Available at: https://www.australiancurriculum.edu.au/f-10-curriculum/mathematics/