



# Painting with Organic Plant Matter

## Created by

Sophie Buchkowsky, Elizabeth Hunt, and Ashley Soares

## Grade and Subject Areas

Grade 5

Visual Art and Science

## Duration

Four 45-minute periods (minimum)

## Hope Statement

Our hope for students participating in this lesson is that they recognize the potential harm caused by some art supplies (e.g., acrylic paint resulting in harmful microplastics in our ecosystems) and learn about eco-conscious, accessible alternatives.

# Acknowledgements



This lesson was created by **teacher candidates in the Environmental Education concentration** of the Faculty of Education, Queen's University (2024-25), instructed by **Dr. Heather McGregor**. The lesson belongs to a set of lessons created by the class to demonstrate how teachers can be inspired in their climate teaching by youth-created art or stories. **The art and stories created by youth (grades 7-12)** and these lessons aim to help students imagine a positive future in the face of climate change—a future without the use of fossil fuels, where biodiversity is restored, and where humans live in caring communities. The art and stories in these lessons were created for the [Youth Imagine the Future](#) festival in Kingston, Ontario.

Thanks to **Jerri Jerreat and the Youth Imagine the Future team** for supporting this lesson plan initiative, and securing permission to use these art works and stories.

Thanks to **April McInnes** for designing the lesson plan template.

Thanks to the **Environmental Sustainability Committee of the Faculty of Education** for their support.

We hope teachers will be as inspired by young people's visions of the future as we are!



# Our Inspiration: *A Step In The Right Direction*



## **Artist Statement**

This art piece shows the simple solutions we can take to improve Kingston's environmental impact. You can see trees lining the edge of market square and a community garden on the roof in the right corner producing food native to North America (raspberries, cranberries, Missouri currants, and Saskatoon berries to feed people). There is a mix of new technology (solar panels on roofs) and old designs created before the high pollution of the industrial revolution (sail boats). Finally the road splits in half to provide more space for bikers and pedestrians, encouraging the reduction of car use. This piece imagines a more sustainable future for Kingston along with more future for Art! Besides the help of a green pencil crayon, this piece was made using natural or recycled materials. The blue and red tones are from old eyeliner pencils and the yellow tones are from dyes I made from water and marigold, turmeric, cornstarch, and paprika.

- *Charlie McGowan, Kingston*

# Lesson Context

## Guiding Question

How can we continue to enjoy the existing methods of creating visual art projects while choosing more sustainable practices and materials and positively interacting with our local environment?

## Curriculum Objectives

### Grade 5 Science

- C1.1: Assess the impacts on society and the environment of various processes used in the manufacture of common products
- C1.2: Assess how the use of specific materials in the manufacture of common products affects the environment and identify actions that society and individuals can take to mitigate negative impacts

### Grade 5 Art

- D1.1: Create two- and three-dimensional art works that express feelings and ideas inspired by their own and others' points of view
- D1.3: Use elements of design in art works to communicate ideas, messages, and understandings

(Ontario Ministry of Education, 2022)

## Our Environmental/Climate-focused Learning Outcome

We are learning how to connect science and art with sustainable practices using organic plant matter from our local environment to create a work of art.

## Preamble or Lesson Overview

Students will first use the research articles presented to them to complete a worksheet to begin a) thinking about sustainable practices and b) how simple materials in their daily lives could be replaced with natural or recyclable materials. Next, students will go outside and collect any organic materials they render useful in their local environment. Then, students will create paint with their organic materials and start creating their piece of art. Lastly, students will complete their art and choose whether they want to present it orally or if they would like to write an artist statement. Students will explain the reason for their creation and why they selected their chosen formats.



# Lesson #1

## (45 mins)

### Materials Required

- Research articles (see [Appendix A](#))
- Class set of worksheets (see [Appendix A](#))
- [“How it’s Made” Video](#)
- Pencils, pens, etc.

### Hook (10 mins)

Introduction to paints and microplastics and their connection to each other.

- Watch [“How it’s Made”](#) video about premier paints.
- Have a cup of dirty paint water in the class and ask students the following questions:
  1. Should I pour this cup down the drain or into the lake?
  2. Would that be good or bad for the environment? Why?

### Explain and Engage (30 mins)

Students will read the provided articles and answer the questions on the worksheet (see [Appendix A](#)).

- Encourage students to reflect on the articles and write clearly.
- Students will have the choice to work in pairs or individually. If working in pairs students are encouraged to discuss the information in the articles and think of answers to the worksheet questions. If a student chooses to work individually, they will read the articles quietly to themselves.
- While students are reading/discussing the articles, encourage students to highlight important information they find useful.
- While students are working, the teacher should circulate to support students in completing the worksheets.

Collect worksheets and have class discussions about what students learned. Examples of questions:

- What was the most surprising fact you learned?
- How does learning about microplastics make you think differently about everyday items?

### Conclusion (5 mins)

Ask students to share any other actions they know of that can re-use materials for art, recycle materials for art, or properly clean and dispose of materials in doing art.

# Lesson #2

## (45 mins)

### Materials Required

- Projector and device
- Chart paper
- Markers
- Charlie McGowan's painting, *A Step in the Right Direction*, and artist statement (see [Appendix B](#))
- Class set of Success Criteria Checklist (see [Appendix B](#))

### Hook (10 mins)

Introduce artist statements:

Put Charlie McGowan's painting, *A Step in the Right Direction*, on display for the class. Lead a think-aloud discussion:

- What do you notice about this painting?
- What kind of paint do you think was used?
- What kinds of natural materials do you think could be used for paint?
- What is the message of the painting?

Next, the class will discuss what the work may be about. McGowan's artist statement will then be posted and read aloud to the class. The class will then discuss if the artist statement has revealed any new information about the painting.

### Explain and Engage (20 mins)

What is an artist statement? Why are they important?

- In small groups, students will discuss what is important for audiences to know about an artwork. They will record their thoughts in point form on chart paper. If they are stuck, they can go to Charlie's artist statement and see what kinds of information is provided.
  - The teacher can expect students to include the following on their chart paper:
    - artist and background
    - medium and technique
    - subject matter
    - historical and cultural context
    - artistic style and movement
    - intended message
- The groups will come together as a class to consolidate their thoughts.
- The teacher will explain the guiding questions by leading a discussion regarding how an artist statement can help to explain why an artist made specific creative choices or included particular content in their work.

### Introducing Art Assignment (10 mins)

- Introduce and discuss the "Success Criteria Checklist" (see [Appendix B](#)).
- The teacher will connect McGowan's artist statement to the art project in the next lesson. They will explain that the class will be using paints made with natural and sustainable materials, like McGowan did with the marigold paint, to create a painting with an open theme. They will then be required to create an artist statement to explain their work.

**Conclusion (5 mins)**

## Exit Ticket

- Students will write or sketch an idea they are considering to feature in their painting (it can feature anything the student chooses, unless you would like to limit or define the subject matter as the teacher).
- Students will list what colours they would like to use in their paintings.



# Lesson #3

## (45 mins)

### Materials Required

- Identify a nearby natural area for easy access from your classroom
- Sketch books or paper and a clipboard or other surface
- Pencils
- Buckets or baskets for found natural materials (if applicable - OPTION 1)

### Prepare in Advance:

*Depending on the time of year or season, the location of your school, and the natural living things nearby, it maybe viable for you to pick or collect natural materials to make a natural dye in your classroom (e.g., blueberries, marigolds, spinach). If this is viable, follow OPTION 1 below. For others, you can still take your students outside to sketch, so follow OPTION 2, below.*

### Hook (10 mins)

Re-read with students the part of Charlie's artist statement that talks about the materials used.

- "Besides the help of a green pencil crayon, this piece was made using natural or recycled materials. The blue and red tones are from old eyeliner pencils and the yellow tones are from dyes I made from water and marigold, turmeric, cornstarch, and paprika."

With a peer, ask students to brainstorm things they might find around their house—like natural materials such as Charlie's spices, or recycled materials like old make-up—that they can imagine using to make a painting.

Make a list as a class.

### Explain and Engage (35 mins)

Prepare students to go outside together by reviewing your school's outdoor safety procedures, behaviour expectations, and distance boundaries.

Review with students what expectations you have for engaging with living things (plants), such as what it is acceptable to pick, and what it is not acceptable to pick.

**OPTION 1:** Teach your students how to collect the natural material that could be used to make natural dyes or paints. Provide time and containers to collect materials. If time allows, also do OPTION 2.

**OPTION 2:** Ask students to pick a "sit spot", or space by themselves to enjoy nature quietly. Using their sketchbook or paper and surface, instruct students to:

- sketch in detail what they want to feature in their painting
- write one or two notes about the message behind their painting

Return to the classroom and save the sketches and notes for next class.

# Lesson #4

## (45 mins + more time as needed)

### Materials Required

- Pre-made natural paints (see [Appendix C](#) for prep instructions)
- Regular paints available to class
- Paint brushes
- Rags
- Water cups
- Watercolour paper or mixed media paper

### Prepare in Advance:

*Pre-made natural paints (see [Appendix C](#) for prep instructions)*

### Prep (5 mins)

- Class will gather supplies required for their painting: watercolour paper or mixed media paper, paintbrushes, rags, water cups, pre-made natural paints, and regular paints.

### Explain (10 mins)

The teacher will explain how they created natural paints using items such as what students collected, berries, and/or edible powders to create environmentally friendly paints (see [Appendix C](#)). The teacher will re-introduce the art activity and encourage students to consider how the natural and regularly available paints perform and look in comparison to each other.

### Engage (30 mins + as much time as needed)

- Students will create paintings using the variety of natural and regular paints available to the class.
- Once students have completed their artwork, they will begin working on their artist statements, either written or oral.
- Encourage students to review the Success Criteria Checklist to assess the effectiveness of their statements and art.

### Next Steps (Optional)

When the paintings and statements are complete, the instructor displays them around the classroom for a gallery walk. Then the students will tour the classroom and have a chance to talk about their art and view the art completed by their peers. Students with orally presented artist statements have the opportunity to share them with peers as they move around the room.

# Assessment and Accommodation

## Assessment Description

The worksheet (included in [Appendix A](#)) will both check students' knowledge of microplastics and organic plant-based paint as well as encourage critical thinking about mainstream practices for paint creation and its environmental drawbacks. This will act as assessment *for* learning, allowing the teacher to see how well students can critically reflect on research and highlight key points.

Students will create an artwork and then write or present an artist statement that asks them to explain their creative process and what informed their work. These components of the lesson act as assessment *of* learning.

## Accommodation Suggestion

Students will have a choice of whether they want present their artist statement in oral or written form.

Sentence starters for artist statements are available for students to help guide their thinking and demonstrate effective organization of writing.

Teachers should be mindful in selecting an accessible route during the outdoor walk so the entire class can participate in the nature walk/collecting of natural materials.



# Appendix A

## Lesson 1 - Student Research Materials and Worksheet

### Student-Led Research Articles

Link:

[Microplastics - National Geographic Article \(Lesson 1\)](#) (National Geographic Society, 2023)

Link:

[Environmental Impact of Artists Paint and Microplastics: How to Help](#) (Fergus, 2023)

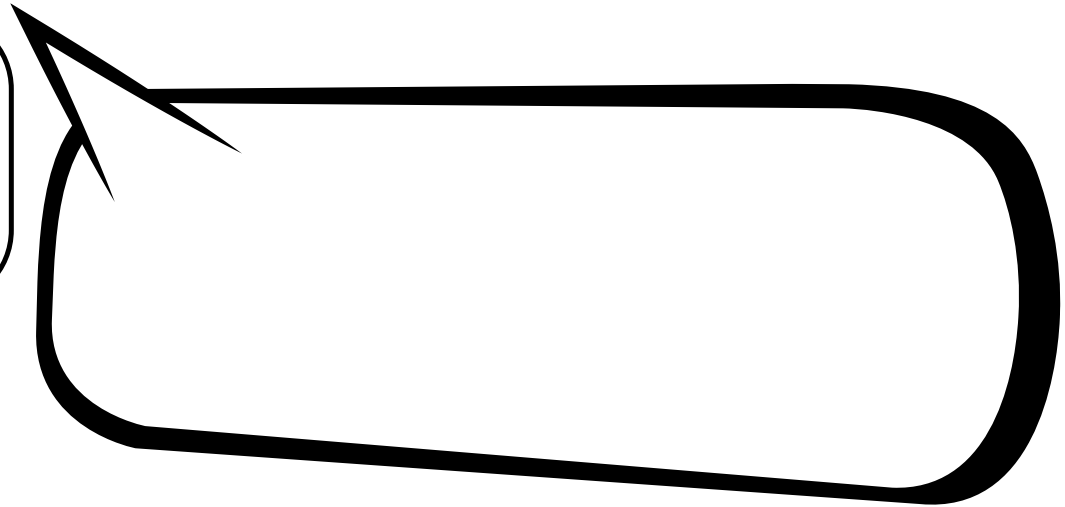
### “How It’s Made” Video

Link:

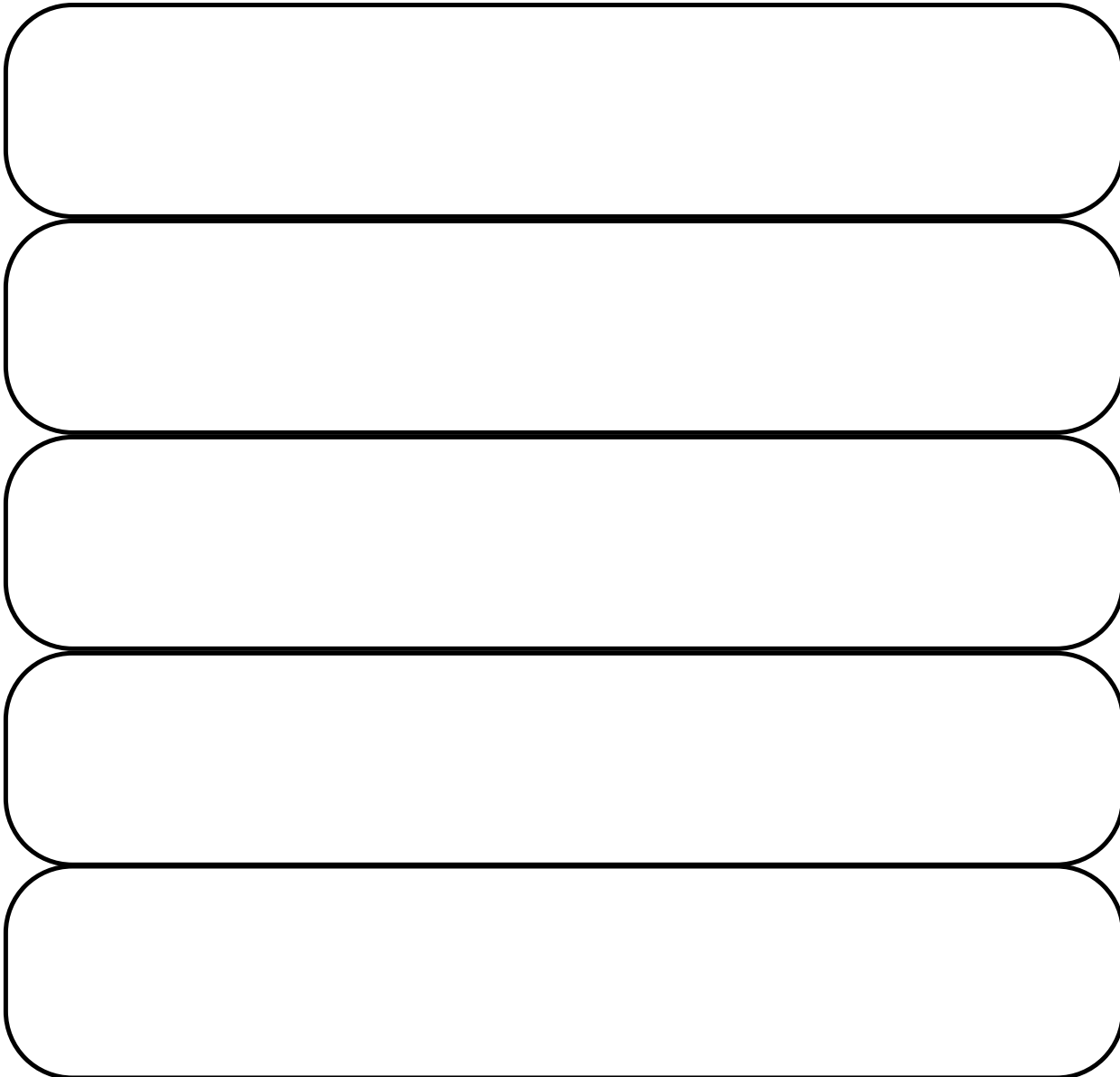
[How It’s Made: Paint](#) (Yushi Components, 2016)

# Microplastics and Eco-Friendly Paint - Worksheet

Describe some attributes of microplastics in a way that makes sense to you - this can be in point form or full sentences.



Organize the different paint options listed in the “How To Help” article from least to most environmentally friendly. Briefly justify your reasoning for each.



**Most**



**Least**

# Microplastics and Eco-Friendly Paint - Worksheet

Brainstorm some reasons to reduce the amount of microplastics in our water.  
What might be the impact on humans or animals of excessive microplastics?



# Appendix B

## Lesson 2 - Inspiration Artwork and Artist Statements

### Charlie McGowan - A Step in the Right Direction



#### Artist Statement

This art piece shows the simple solutions we can take to improve Kingston's environmental impact. You can see **trees lining the edge of market square** and a **community garden on the roof** in the right corner. Both **producing food native to North America (raspberries, cranberries, Missouri currants, and Saskatoon berries to feed people)**. There is a mix of new technology (**solar panels on roofs**) and old designs created before the high pollution of the industrial revolution (sail boats). Finally the **road splits in half to provide more space for bikers and pedestrians**, encouraging the reduction of car use. Also in this piece it imagines a more sustainable future for Kingston along with a more future for Art! Besides the help of a green pencil crayon, this piece was made using natural or recycled materials. The **blue and red tones are from old eyeliner pencils and the yellow tones are from dyes I made from water and marigold, tumeric, cornstarch, and paprika.** -Charlie McGowan, Kingston

# Success Criteria

	I can clearly describe what inspired my painting.
	I can describe my creative process, including details about the materials, techniques, and steps used to create the artwork.
	I can explain the meaning of the artwork to my peers.
	I can write in complete sentences using clear and descriptive language.
	I can reflect on what I learned and any challenges I had to overcome during the process of creating my artwork.

## Artist Statement Sentence Starters

**My art piece shows...**

**I used (insert material) because...**

**The colours I used represent...**

**Using (insert material) helps my audience understand (theme or idea) because...**

**My artwork is inspired by...**

**My creative process started with...**

**The message I want my artwork to convey is...**

# Appendix C

## Lesson 3 - Art Creation and Artist Statement

### Link:

[How to Make Plant Paints: Zero Waste Art](#)

\*Arrowroot powder acts as a thickener in this artist's recipe to allow for a consistency closer to acrylic. This ingredient can be omitted from the paint recipe, this will likely result in a watercolour-like consistency.

### Reference:

IStorniolo, A. (2021, October 8). How to make plant paints; Zero waste art. Greenify Me. <https://www.greenify-me.com/2021/10/plant-paints-zero-waste-art.html>



# References

- Fergus, C. (2023, October 21). Environmental Impact of Artists Paint and Microplastics: How to Help. Collette.co.  
<https://www.collette.co.nz/blog/Environmental-Impact-of-Artists-Paint-and-Microplastics>
- National Geographic Society. (2023, October 31). Microplastics. National Geographic.  
<https://education.nationalgeographic.org/resource/microplastics/>
- Ontario Ministry of Education. (2022). *Science and Technology* (Grade 5). Curriculum and resources.  
<https://www.dcp.edu.gov.on.ca/en/curriculum/science-technology/grades/grade-5/c/c1>
- Ontario Ministry of Education (2009). *The Ontario Curriculum, Grades 1-8: The Arts* (Grade 5).  
<https://www.edu.gov.on.ca/eng/curriculum/elementary/arts18b09curr.pdf>
- Storniolo, A. (2021, October 8). How to make plant paints; Zero waste art. Greenify Me. <https://www.greenify-me.com/2021/10/plant-paints-zero-waste-art.html>
- [Yushi Components]. (2016, February 7). How it's Made Paint [Video]. YouTube.  
<https://www.youtube.com/watch?v=gOpJdB-mMVU>