

Experimental Retreats Lesson Plan

SAS Fall 2020

Lead Teacher: Cassidy Sullivan

Unit Title: eARTh Explorations

Lesson Title: Experimental Retreats

Grade Level: 3rd-5th

Number of Students: 17

I. UNIT OVERVIEW (RATIONALE)

In the wake of a global climate crisis, it has never been more imperative for students to learn about the environment and how to create in a more sustainable way that serves to improve society and our Earth. *eARTh Explorations* is a curriculum based on environmental and sustainable concepts and is important because these issues will be a fundamental and significant part of the students' futures.

II-A. LESSON OVERVIEW (RATIONALE)

For this lesson, students will experiment by creating paint and brushes with natural materials! This lesson relates to the sustainable guideline of responsible production and consumption by producing materials in an environmentally friendly way. Students will create watercolors by mixing various provided food powders with water. They will also experiment with creating brushes by attaching nature materials to sticks with rubber bands. Students will also be encouraged to use materials outdoors and around their kitchens to experiment with creating their own materials not supplied within their kits. After their materials are created, students will have sketchbook time to experiment with their pigments and brushes to figure out what works best for them. Afterwards, students will paint a watercolor landscape of one of their favorite outdoor locations. Painting these can lead to a discussion about how they can keep their favorite outdoor places beautiful by fighting climate change and choosing to participate in sustainable production and consumption.

II-B. ESSENTIAL QUESTIONS:

- Why is sustainable production and consumption important?
- How does this lesson connect to these topics?
- How can they preserve the spaces they love through sustainable production and consumption?

III-A. LEARNER OBJECTIVES/OUTCOMES

What will students learn throughout this lesson? What specific knowledge, skills, and/or attitudes should students gain or develop throughout this lesson?

- Students will learn how to create pigments and brushes from natural materials.
- Students will learn the importance of sustainable production and consumption.
- Students will connect their personal lives to these ideas through discussion and painting their favorite locations.

III-B. NATIONAL ART STANDARDS

Creating Anchor Standard 1:

- VA:Cr1.1.3a: Elaborate on imaginative idea
- VA:Cr1.1.4a: Brainstorm multiple approaches to a creative or design problem
- VA:Cr1.1.5a: Combine idea to generate an innovative idea for art-making

Creating Anchor Standard 2:

- VA:Cr2.1.4a: Explore and invent art-making techniques and approaches

III-C. PENNSYLVANIA DEPARTMENT OF EDUCATION STANDARDS

- 9.1 A: Know and use the elements and principles of each art form to create works in the arts and humanities
- 9.4.3 C: Recognize that the environment of the observer influences individual aesthetic responses to works in the arts
- 9.1.5H: Use and maintain materials, equipment and tools safely at work and performance spaces

IV. ART / ARTIST(S) OF RELEVANCE:

The Cave of Hands, Argentina: 5000 B.C.

- One of the earliest recorded applications of natural pigments
- Used natural pigments made of iron and other minerals



Nicole Stjernsward:

- Invented a system that turns plant, fruit, and vegetable waste into natural pigments

- “Paints can release petrochemicals into the air long after they have dried, causing respiratory problems and harming the ozone layer”
- Synthetic dyes leach into water system
- <https://krishijagran.com/news/natural-pigments-from-fruit-and-vegetable-waste/>



Natural brushes:



Teacher Example:



V. PREREQUISITES:

- Students can follow instructions
- Students can use a brush to create paintings
- Students can handle powdered materials responsibly

VI. INTERDISCIPLINARY CONNECTIONS:

Science: This lesson involves science because students will conduct their own “science experiments” when creating paints and brushes. They will experiment with what materials work best as pigments and which do not. Additionally, students will learn about sustainable consumption / production and its connection to the environment.

Language Arts: Students will verbally answer reflective questions about art and about sustainability, connecting these concepts to their personal lives

Reading: Students will read information from the shared PowerPoint, containing information and vocabulary about sustainable production and consumption.

VII. MATERIALS NEEDED FOR LESSON

List all materials you anticipate needing for this particular lesson, including technological components.

- Pigment powders: spinach, beet root, turmeric, and butterfly pea powder
- Rubber bands
- Multimedia paper
- Water
- Popsicle stick
- Sticks: (find outside)
- Grass or other “bristles” (find outside)
- Students encouraged to use other materials around their houses
- Paint pallet (egg carton)
- Scissors
- Laptop / computer

VIII. SAFETY HAZARDS:

Ensuring students do not have any allergies to the food we are creating with:

- Today we will be working with spinach, turmeric, beet root, and butterfly pea powder. If anyone has any allergies or sensitivities to these foods, please let me know so we can ensure you do not handle that powder.”

Inhaling powders:

- “Be careful when you are opening and using the powders and avoid directly inhaling them. Avoid touching your face or eyes when using the powders.”

IX. TEACHER ACTIONS / EXPECTED LEARNER ACTIONS

Time	Teacher Actions	Expected Learner Actions
10:05-10:10	<p>Greet students</p> <p>While waiting for all students to arrive, give students an opportunity to talk and share about their previous projects (they love to share)</p> <p>Resend and remind about photo submissions and resend link</p>	<p>Students greet me and each other</p> <p>Students share about their projects</p> <p>Students take note about the submissions and open link</p>
10:10-10:15	<p>Introduce Lesson</p> <ul style="list-style-type: none"> • Discuss objectives and relevance • Show art through history that uses natural pigments (PowerPoint) 	<p>Students listen to lesson</p>
10:15-10:20	<p>Natural watercolor demo: have students follow along step by step</p> <ul style="list-style-type: none"> • Add water to pigment and mix with popsicle sticks to form a thick pigment <p>Encourage experimenting with other kitchen / outdoor materials to create different pigments</p> <ul style="list-style-type: none"> • “Does anyone have any ideas for other sorts of natural materials could be used to create paints?” 	<p>Students listen to the demo and follow along step by step</p> <p>Students experiment with other materials</p>
10:20-10:30	<p>Creating natural brushes:</p> <ul style="list-style-type: none"> • Have students go outside to find sticks, grass, or other materials to make brushes with • Instruct how to turn these materials into brushes by attaching with a rubber band 	<p>Students go outside to collect natural materials</p> <p>Students experiment with creating their own brushes</p>

10:30-10:55	<p>Instruct students to create a landscape painting of their favorite outdoor location using their natural watercolors and brushes</p> <p>Leave tips throughout, answer questions, and have discussions with students</p>	<p>Students create their landscape paintings</p> <p>Students ask questions / talk about what they are creating</p>
10:55-11	<p>Students hold up their work to camera</p> <p>Reflection:</p> <ul style="list-style-type: none"> Why is sustainable production and consumption important in order to keep their favorite locations beautiful? <p>Other possible reflection questions:</p> <ul style="list-style-type: none"> How do these paints compare to traditional watercolors? What do you like and dislike about them? What are other ways you can create your own materials sustainably rather than purchasing them? 	<p>Students show their work</p> <p>Students raise their hands and participate in reflection</p> <p>Students raise their hands and participate in reflection</p>

X. ENDING THE LESSON

X-A. Closure of Lesson:

- Have students hold up their work
- Remind students to photograph their art
- Reflective questions: How do these paints compare to traditional watercolors? What do you like and dislike about them? What are other ways you can create your own materials sustainably rather than purchasing them?

X-B. Transition to Next Lesson:

Instruct students to save / collect trash / recycling items for the recycled materials lesson. This lesson further supports the idea learned this week of sustainable production and consumption by repurposing the materials we consume.

XI. REFERENCES TO MATERIALS CONSULTED

<https://www.invaluable.com/blog/natural-pigments/>

<https://krishijagran.com/news/natural-pigments-from-fruit-and-vegetable-waste/>