Plan for Teaching

Title of lesson: BYOB – Build Your Own Bacteria

Day/Time: Wednesday April, 14th 9:30 – 10:55am

Grade/Age Level/s: 9th-12th Grade, Drawing & Painting I-III

Collaborators: Alaina Sanford, Ellis Eilering, Laura Porras

Big Idea: Invisible Worlds

Looking Closer

Details

Snapshot of the lesson*:*

After a brief overview on the invisible world of bacteria and the artists who work with them, students will use watercolor and ink to create their own bacteria filled petri-dishes.

Relevance:

This project is relevant for learners because it forces students to stop and examine something they usually overlook or dismiss. Yet it also allows them to be loose and expressive with the actual project, giving them space to explore and experiment without fear of doing it wrong.

Key Understandings:

- Art does not have to be pretty, neat or predictable.
- Art and science are inherently linked.

Essential Question(s):

- How can we find beauty in the “ugly?”

- How does bacteria impact our daily lives?
- By magnifying the microscopic, how are we changing its meaning and value?

Lesson Standards:

National Visual Arts Standards

VA:Cr2.1.Ia: Engage in making a work of art or design without having a preconceived plan.

VA:Re.7.1.Ia: Hypothesize ways in which art influences perception and understanding of human experiences

Georgia Visual Arts Standards

VAHSPA.CR.1: Visualize and generate ideas for creating works of art.

VAHSVA.RE.1: Reflect on the context of personal works of art in relation to community, culture and the world.

Objectives:

- The learner will be able to create a watercolor painting that resembles, but does not exactly replicate, a petri-dish full of bacteria.

- The learner will be able to formulate a unique science inspired name for their bacteria.

- The learner will be able to examine their watercolor painting, and through that examination find the best places to add details.

Differentiation:

In our class we have a student who attends with a para-professional and a service dog. She is an active and enthusiastic participant in class; however, she does not stay for the full 90 minutes. For our lesson we will encourage her

to do the watercolor painting portion, knowing that she will most likely not finish the ink detailing and naming parts of the assignment.

Important Key Vocabulary: List key vocabulary that will be taught during the lesson

- **Petri-Dish** – A small round dish with a cover that is used to grow and examine cells and microorganisms.

- **Bacteria** – single-cell microorganisms that inhabit all environments. Though some may cause illness, most are harmless with some being beneficial.

- **Wet-on-Wet** (watercolor technique) – Applying paint to an already wet paper which allows colors to spread and blend.

- **Wet-on-Dry** (watercolor technique) – Applying paint onto a dry paper.

- **Dry Brush** (watercolor technique) – Applying paint with a moderately dry paintbrush with lots of pigment to dry paper to create a scratchy texture.

- **Limited Color Palette** – Painting with a restricted number of colors which can help create mood and improve cohesiveness.

- **Detailing** – Adding small and complex elements to a work.

Resources and Materials:

- Watercolor Paper – Marked with a circle
- Black Construction paper
- Watercolor paints
- Paintbrushes
- Water to clean brushes
- Scissors
- Rulers

- White Gel Pens
- Fine-tip Sharpies
- Salt
- Sponge Paint Dabbers
- Glue Sticks

A photo of what was on each table at the beginning of class.



Preparation:

- Mark each student's watercolor paper with the circle that will be their final petri-dish. Students can use the area outside the circle to test and experiment.

- Cut down black construction paper to fit the final work so that there is room for both the cut out watercolor painting and the scientific name.

- Make sure that every table has multiple paintbrushes per person so that they can use multiple painting techniques.

- Place as many of the need materials on the table before class starts.

- Check smart board and presentation before class begins.

Instruction (Activities and Procedures).

- **Introduction of artist**:

Link to presentation:
https://docs.google.com/presentation/d/1wU-gGwQ6yG56ap-HFOp2kbRGcnBv2evlnIQsBf8U5v4/edit?usp=sharing

We will start with our presentation on Craig Ward and his subway bacteria swabs. We will start with a very close up photo of one of the petri-dishes. “Who can give a guess as to what we’re looking at here? Can you describe what you’re seeing?”

We will then zoom out to reveal the petri-dish framing. “So this is a piece by a contemporary artist named Craig Ward and what you are looking at is a petri-dish full of bacteria that he collected on the NYC subway.” The next slide will be the full subway alphabet lines. “Here are more of his pieces. Do you notice anything about them? Each one is a letter or a number that represents the subway line it was made from.”

We will then watch the short video on his work.

- **Tapping into prior knowledge:**

“How many of you have ridden public transit or used a public water fountain? Or touched a handrail on a flight of stairs?”

“How does it feel to know that there are millions of microscopic organisms around us at all times?”

“Do you think that bacteria, which is often viewed as ugly or gross, can be transformed into art as Craig Ward has done?”

- **Overview of lesson**:
  "Ok so that leads us to today's project – BYOB, Build Your Own Bacteria. Don't worry we're not using real bacteria, but you are going to create your own petri-dish like those by Craig Ward. We are going to use watercolor paints and fine point sharpies to paint, detail and name your own petri-dish full of made-up bacteria. These don't have to look like real bacteria that you would see under the microscope. Instead, we want you to experiment with different textures and blending techniques. Will you use a limited color palette or see what happens all the colors blend together?"

Art making activity:

"You each will get a sheet of watercolor paper that has a circle drawn on it, that is your petri-dish, and we will cut it out once we're done painting. Feel free to use the paper around the circle to try out some different techniques. You will want to have a variety of textures on your petri-dish. How does wet-on-wet differ from wet-on-dry? Try playing with salt by sprinkling on some flakes while your paint is still wet. You will want your circle to be filled with color but do be mindful that the wetter your paper is the harder it will be to add ink detailing."

Once we are done with painting we will give them a few minutes to dry while we brainstorm some science inspired names. On the board we will have this diagram of different kinds of bacteria and the common naming conventions.

"What does your bacteria say about you? Is it fun like "lifeoftheparty-itis" or hopeful like "there'salwaystomorrow-coli." Have fun but please remember to be appropriate. We will hand you another sheet of paper if your name is out of line. Once you have a name you will use the white gel pens on the table to label the black paper with Fig. 1 and your title underneath it. This should go in the bottom quarter of the page so there is room for the petri dish."

"Now that your petri-dish is dry, we will add some detailing using fine-tip sharpies. Follow your painted marks and colors to create organic shapes. Give your bacteria life! Again, there is no wrong way to do this and feel free to come look at our samples for inspiration."

> “Finally, we will cut out the circles and glue them onto the labeled black paper and voila, you will have your very own microscopic world.”

Monitoring of students:
We will walk around the classroom and offer help and assistance. At a certain point we will announce to the class that they should be wrapping up the painting portion of the assignment to be sure to leave time for drying and adding details. We will offer help with the naming of the bacteria in case students are stuck. We will encourage experimentation and remind them that there is no wrong way to do this.

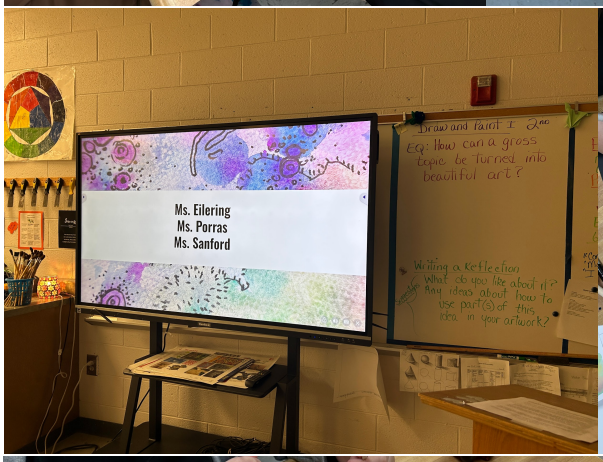
Clean-up Procedures:
Students will be responsible for cleaning the paintbrushes they used at the sinks and rinsing out their paint water. They will be responsible for returning the scissors, rulers and glue sticks to their bins. All pens and pencils should be returned to the small baskets on each table. Watercolor palettes should be cleaned and closed. One student from each table will return the paints to their proper place.

Formative Assessment:
Students will fill out a short exit assessment sheet that focuses on what they thought about the project. What aspects did they enjoy, what were the challenges? Do they think differently about the relationship between science and art?

Students will also complete a rubric to self-assess. Their responses on this rubric will be considered in their final grade.






Ms. Eilering
Ms. Porras
Ms. Sanford
Draw and Paint I 2nd
EQ: How can a gross topic be turned into beautiful art?
Writing a Reflection
What do you like about it?
Any ideas about how to use part(s) of this idea in your artwork?





FINAL PIECES BY STUDENTS

