Arts Integration Lesson

Physics Garden by Molly Hatch

Adapted from High Museum of Art Curriculum Connections Plan
Word Wall

**Arts Vocabulary**
- Installation
- Mixed-media
- Scale
- Technique
- Monochromatic

**Math Vocabulary**
- Coordinate plane
- Graph
- Length
- Width
- Area
- Perimeter
- Diameter
- Ordered pair

**Both/Other Vocabulary**
- Comprised/comprised of
- Grid
- Similarities
- Differences
- Process
- Preparation
- Indicate
Physics Garden by Molly Hatch

This installation was created by the artist Molly Hatch and is on display at the High Museum of Art in Atlanta.

The term installation is used to describe a large-scale, often mixed-media construction that is sometimes displayed temporarily.

What do you notice about this installation?

What do you wonder?
Physics Garden by Molly Hatch

Physic Garden is a two-story, hand-painted “plate painting” installed in the Margaretta Taylor Lobby of the Museum’s Wieland Pavilion. The plate painting *comprises* 456 dinner plates featuring an original design inspired by two ca. 1755 Chelsea Factory plates from the High’s Frances and Emory Cocke Collection of English Ceramics (below).
Physic Garden is a two-story, hand-painted “plate painting” installed in the Margaretta Taylor Lobby of the Museum’s Wieland Pavilion. The plate painting comprises 456 dinner plates featuring an original design inspired by two ca. 1755 Chelsea Factory plates from the High’s Frances and Emory Cocke Collection of English Ceramics (below).

Using context clues, what do you think the word comprises means? If you cover up the word comprises and substitute another word in its place, what other word would make sense there?

Tip: That’s one way you can determine the meaning of unknown words!
Physics Garden by Molly Hatch

This is a photograph of upside-down plates during the installation of Hatch’s artwork.

What do you think the numbers and letters on the back of the plates might indicate?

How might the artist have used a coordinate plane or a graph to organize this work of art?
Physics Garden by Molly Hatch

Artists sometimes use a coordinate plane, graph, or the grid method to plan installations or large pieces of art (like the sidewalk art at Chalktober Fest!)

The grid method is when you take a reference image and draw a grid of squares on top, then you create the same grid on a larger surface to recreate the image one square at a time so that it looks the same.
Here’s another Molly Hatch piece.

What are some similarities to Physics Garden?

What are some differences?

Do you think she used a similar technique?
Physics Garden by Molly Hatch

Let’s take another look at the numbers and letters on the back of the plates.

Look at “Physics Garden” again. If each column of plates was labeled A–S across the top, and each row was labeled 1–24 along the left side, which ordered pair (E,9 or H,8) do you think could represent a section with a blue flower?

Which ordered pair do you think might represent a leaf?

Watch a video of one of Molly Hatch’s installations here.
Physics Garden by Molly Hatch

After watching a snippet of Molly Hatch’s installation process, what were some things you noticed about the process?

What preparation do you think went into hanging the plates?

How would this process or the final result have been different if the artist hadn’t assigned each plate a letter and number?
Part Two!
Math Connections

How can you determine how many plates are on the wall without counting each plate?

Each plate is 9 inches in diameter. What is the length of the piece?

What is the height of the piece?
Math Connections

What is the **area** of the installation?

What is the **perimeter** of the piece?

Imagine each plate had a 20-inch **diameter**. What would the dimensions of the installation be?
Other Molly Hatch Pieces
What do you think the artist is doing here? What tool is she using? Have you seen this tool used anywhere else?
How is this piece different than some of Molly Hatch’s other pieces?
This piece is **monochromatic**.

*Mono* means one/alone.

*Chrome* is derived from a Greek word that means “color”.

What do you think the word **monochromatic** means?
Part Three!
How can you create a Molly Hatch inspired piece using uniform white paper circles (instead of plates) and construction paper for a background (instead of ceramic plates on a wall)?
Materials:

- White paper circles (from template)
- Solid construction paper (9”x12”)
- Pencils
- Colored pencils, crayons, or oil pastels
- Gluesticks
- Scissors
Imagine, Plan, Create

Using the circle template provided to you, draw and color an image that spans the page (fills the circles from top to bottom, left to right. (Draw right on top of the circles)
Imagine, Plan, Create

Before you cut out your circles, think critically about how you will arrange the circles in the correct order on your background. You might use a numbering system (similar to Molly Hatch’s system), or you may think of a different creative solution. Glue your pieces neatly to your background page, aligning them as you go.
Imagine, Plan, Create
Examples
Reflect and Improve

What went well?

What would you change?

What was your system for keeping your circles in order? Did you use ordered pairs or another numbering system? If so, was it helpful?
Standards

**MGSE4.OA.1**—Understand that a multiplicative comparison is a situation in which one quantity is multiplied by a specified number to get another quantity.

**MGSE4.NBT.5**—Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers. Illustrate and explain the calculation using equations, rectangular arrays, and/or area models.

**MGSE4.MD.3**—Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

**ELAGSE.4.L.4**—Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
  a. Use context as a clue to the meaning of a word or phrase.
  b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word.

**VA4.CR.3** Understand and apply media, techniques, processes, and concepts of two-dimensional art. Apply understanding of multiple color schemes to create works of art (e.g. monochromatic, analogous, neutral, complementary).