

Making Meaning Through Art

Grade: 6-8

Discipline: Science

Length: About 1-2 weeks depending on length of classes

Target:

MS-ESS3-4	Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems
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Essential Question(s):

1. How does my personal water use impact the health of our local watershed?
2. How can art be used to communicate the importance of conserving water and protecting our watershed?

Objective: Students will analyze their personal water footprint, explore its impact on the local watershed, and create a piece of visual art to communicate the importance of water conservation.

Culminating Project: After engaging in some watercolor activities, students will create a collaborative mural in the shape of their subbasin (or a giant Brook Trout if you are raising Brook Trout).

Materials/Resources:

- [A Drop In A Bucket Activity](#)
- [water footprint calculator](#)
- Watercolor palettes for classroom
- paintbrushes
- [18 x 24 watercolor paper for partner painting activity](#)
- [watercolor paper roll \(check measurements based on where you will display art\)](#)
- Cups for water for painting
- [Example Project Statement](#) to display with mural

Lesson Summary:

Students will learn about their direct and indirect water footprint and calculate how many gallons of water each day they are using. Students will do mini lessons on watercolor technique and learn about the artist, Alma Thoms, who used “marks” to create art. They will take this number and create a visual representation of their water footprint as an entire class by creating “marks” that will show how many gallons a day they use in one large class mural.

Outline of Lesson

Day 1

- Students will participate in a [A drop In A Bucket Activity](#) and watch the video on slide 2
- Click on the link on Slide 3- [Growing Tomatoes](#) - (go the bottom of the page and there are 2 video links to also play for the students(they are relatively short clips)
- Discuss what exactly is a water footprint (slide 4)

Day 2

- Students calculate their water footprint using this <https://watercalculator.org/>
- Use a 5 gallon bucket if you have one to talk about how much water they are using daily- (I take their number and divide it by 5 and tell them how many buckets a day they are using- and how we probably couldn't even fit all the buckets in our classroom for everyone's usage.)
- They will use this number (divided by 50) to determine how many watercolor marks they will make for the project

Day 3

- Start with asking students “what is the most interesting thing you learned about water this year?” (you can do think/pair/share, or have some students share out)
- Play the Alma Thomas video on Slide 6
 - This is where I talk about how you view yourself as an artist and how everyone is an artist in their own right, but it doesn't matter if you think you are a great artist or a “not so great” one, everyone can make a mark
- Introduce the partner painting activity on slide 7.
 - Each pair of students gets one large piece of watercolor paper between them, an array of brushes, watercolor palette, and some water
 - Demonstrate what a “mark” could look like and the rule that they cannot touch anyone else's mark on the paper but they can add to their or others -as long as they don't touch. Anywhere there is white space on paper they are free to make a mark
 - Have them try different techniques, angles, concentration of paint, or amount of water they use
 - As students start to play around with the water color, I will go around and check in and sometimes add a mark of my own the paper to show them a technique they maybe haven't tried yet
 - After about 10 minutes I have them rotate to a new paper/station and add on to the paper with some more marks.
 - Some students will struggle with this because they want to claim ownership of their art- which is completely understandable.
 - Part of this process is learning to make a collective mural and they will have to share a larger space with the whole grade in creating the mural.
 - Have them rotate every so often- some quicker rotations, some longer rotations
 - By the end of the class, each student should have a “mark” they want to use to represent their water usage

Day 4

- Discuss with students whether or not they want to create their marks in a giant subbasin map or in a giant Brook Trout (or any other way you want to have them illustrate their connection to what they are learning in science- ex. Huge water drop, an drawing of a river, Lake Champlain, etc).
 - We did a giant map of the Lamoille SubBasin with the Lamoille River running through it. This year, students want to do their marks in a giant Brook Trout
 - Have students work together to draw the image they want to add their marks to on the giant watercolor paper
- Students can start adding their marks (slide 9)
 - Each mark will represent 50 gallons of water (take their water footprint number and divide it by 50- this is how many marks each student will make)
 - marks cannot touch on the mural- respect each other's space
 - If students finish early, have them create a haiku about water or Brook Trout or an acrostic poem using the word WATER or TROUT
 - Have them decide where they can add this to the mural

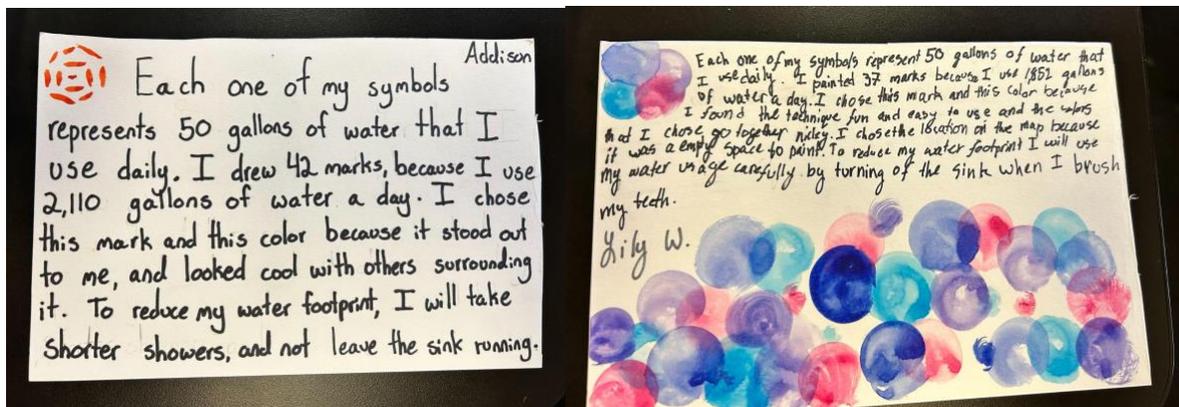
Day 5

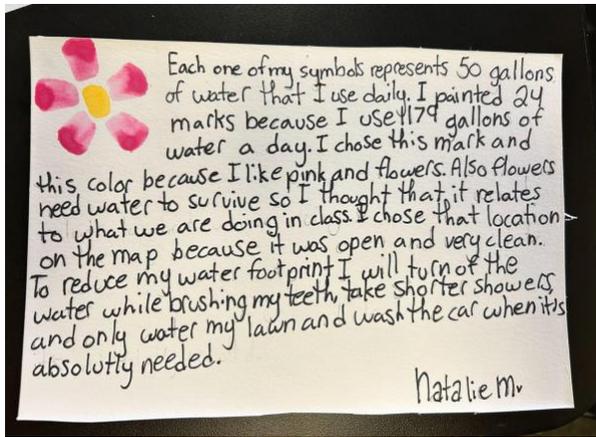
- Students can finish up their marks/ poems
- Students should also make an "artist key" with their name and mark these should be included on the key:
 - Their mark so someone can find it on the mural
 - How many marks they had to make
 - Their water footprint
 - Why they chose the mark they did
 - What they can do to reduce their water footprint

Day 6

- Hang up the mural! Find a public space where others can enjoy the artwork and learn about water usage and water footprints
- Include a statement about the art work so viewers understand what the art piece is about. (I also included a QR code on the statement so viewers can calculate their own footprint.)

Sample Artist Key Cards:





Finished Mural that was hung up at the Town offices:



Students working on the Mural in class:

