



Date: 4/8/2026

Your Name: John Duplinsky

Your School: Kingswood Regional High School

Grade Level(s): 11-12

Course(s) Taught: Environmental Science

Number of Students Involved (Total): 73

Name of your scientist partner and their institution, and any other partners (other partners can include, but are not limited to, collaborations within the school, community groups, non-profit organizations such as the YMCA, or stand out family or friend mentors that helped your project succeed):

Amy Hudnor, NHDES

Teacher Profile: A brief biography of yourself. How long have you been teaching? What did you study in school? What are you passionate about inside and outside the classroom? Why are you interested in the All About Arsenic+ project? How long have you been participating in SEPA and how were you recruited to participate?

I have been teaching for 16 years and primarily have taught Biology during that time. I have also taught courses in Earth Science, Physical Sciences and Anatomy and Physiology. This is my first year teaching Environmental Science and third year at Kingswood Regional High School. In school I studied to be a Biology teacher and after some years teaching completed an M.Ed. Degree program. I was interested in participating in this program because we are a regional school district that encompasses a large area of NH that is mostly rural, so most of my students use private wells for drinking/household water. I know that many wells are not regularly tested and believe that educating students on well water testing and contaminants will help them in the future as they will likely become homeowners in the future. This is my first year in the SEPA program and I found out about it through an email communication and decided it apply. It seems like a great program for schools to participate in to help provide education and a service to the community.

Abstract: Provide a 500-word summary of your project. Describe the **curriculum**. How was drinking water sampling, **data analysis**, and **science communication** integrated into that curriculum? Provide specifics (number of samples collected, what the samples were analyzed for, how Tuva was used, what opportunities students had to talk about their data through some public outreach, etc...). Did students use the **Science Communication Toolkit** and/or Solutionaries Framework to prepare for this outreach event or guide their participation in SEPA this school year? Did students participate in an **Intergenerational Learning** activity (pH exercise etc.)? Please include anecdotes or stories in this section!

During my environmental science courses this semester, students completed a learning unit on water resources. The curriculum learning goals are to understand where water resources are on our planet, what types of water resources are available, how humans interact and impact those water resources, and what can be done to conserve those resources. Students learn about the differences between fresh water and salt water and that fresh water is a limited resource particularly in some areas of the planet. In learning about fresh water we focus on understanding watersheds, mapping watersheds, and how pollution might move through a watershed. Students also learn about aquifers, their makeup and how water moves underground. Part of this curriculum includes a field trip to a local river to do a water quality assessment. Students test for various chemical indicators using chemical kits. Some of those indicators are pH, Dissolved Oxygen, Nitrites and Nitrates. We also complete a sampling of macroinvertebrates in the river to assess the water quality using indicator organisms.

This well water sampling program fits into that curriculum during the time we are learning about various water contaminants, both naturally occurring and anthropogenic and general water resources and their availability for human consumption. Students in my class completed research projects on water contamination and chose a particular contaminant to research. They produced a slideshow and presented their research to the class. Although this was not directly tied to the well water data a number of contaminants they researched were tested for in the SEPA program. During the first semester this year I did have one class complete well water testing during the water unit, but we did not use TUVA or do much analysis of the well water data. I communicated with parents and students about their samples either via email or in person. We also had Amy Hudnor (my scientist partner from NHDES) join the class to give a guest lesson on well water quality and filtration systems to help students better understand their results. Currently I am in the middle of the water unit and the test results are in. At this point in the semester students are completing their watershed map project for their midterm grades and then after the midterm we will discuss aquifers and I will use Tuva for a classroom activity. I plan on having students look at the well water data we collected and will design a project for them to communicate information about well water contaminants to the school community.

The students did not complete an intergenerational learning activity this year and I am not sure I will have time for that. I am looking forward to improving my curriculum and participation in this program next year as I become more comfortable teaching this new course. I was happy that I was able to get almost every student to submit a water sample for the program. Most of these samples were from the students' homes, but some were from community members that were mostly faculty at the school. I communicated the goals of the program to the faculty through an email and was able to generate a list of many volunteers to submit water samples. I directed any students who were on town water to these faculty members so they could obtain a water sample like the rest of their classmates.

Details

Did you...

	No	Yes	If yes, how many?
Collaborate with your Scientist Partner? - If so, how? Communicated via email on some occasions and she came for a classroom visit and we will plan one more classroom visit.	☐	Yes	6-8 times
Use the Science Communication Toolkit? - If so, how? I have not used this yet, but may use it during the next few weeks as we design a project	No	☐	_____
Use the Solutionaries Framework? - If so, how?	No	☐	_____
Use any Intergenerational Activities? - If so, how?	No	☐	_____
Collaborate with any other teachers in your school? - If so, who and what do they teach?	No	☐	_____
Conduct any experiments? - If so, what kinds of questions did students ask?	☐	☐	_____
Go on any field trips? - If so, where and why? To the Smith River in Wolfeboro NH to complete a water quality study of the river.	☐	Yes	_____
Have any guests visit your classroom? - If so, who and why? What did the guest do? Two guest speakers joined. Larry Gil from the Mirror Lake Association and Amy Hudnor from NHDES.	☐	Yes	_____
Have a Community Meeting? - If so, where was it, what did the students do, how many people attended, etc...?	No	☐	_____
Have other Outreach Events? - If so, where were they, what did the students do, how many people attended, etc...?	No	☐	_____

Use your stipend to purchase anything for your classroom? - If so, what, and how did you use it? Purchased supplies for water sample kits.	☐	Yes	\$_____

Describe the student, or group of students, whose work most exemplified the All About Arsenic+ project this school year. What were they excited about? How did that facilitate their learning? Please include anecdotes and stories here.

Reflect on your students' primary learning outcomes/gains with reference to data literacy, science communication, and using data visualizations in communication. What are they getting out of their involvement in this project? Please include anecdotes and stories here.

If you are a teacher who has participated in both SEPA grants, how have you shifted your teaching to include the additional goals of science communication and intergenerational learning?

How did you use our Tuva drinking water dataset? Did you use the software for teaching, was it a tool students used to create data visualizations? What about other Tuva data activities? Did you use them in your teaching? Did students build skills using those activities? Please include stories that illustrate students understanding the link between data visualization and literacy and science communication. If you are a teacher who has participated in both SEPA grants, how have you shifted your data literacy focus to include this grant's science communication goal?

What challenges did your students have with Tuva, the website, the datasheet, Anecdata, anything related to the project process.

If you did not use Tuva this year, how did you analyze drinking water data? Please explain why you did not use Tuva. What challenges and successes did students experience with your chosen data analysis/visualization tool?

How did you enhance *your own* Data Visualization and Science Communication skills As an educator or scientist partner?

Science Communication Outreach

What kinds of science communication outreach products did your students produce?

Did your students work with the Science Communication Toolkit this year? Yes ☐ No ☐

If yes, please describe how it went. What worked best? What improvements could be made?

Please include anecdotes or stories here. If you did not use the Science Communication Toolkit, why not? What other resources and activities did you use to teach or facilitate science communication? Did the science communication skill building inspire outreach or build capacity in your students in ways not directly associated with the SEPA project?

Don't forget to add all final student products to your teacher folder on the shared google folder! (Feel free to add additional products that led to the final products. Simply create a separate folder under your teacher folder.)

Intergenerational Learning

Did you send an intergenerational activity home to parents? Yes ☐ No ☐

If yes, please describe the activity. What are stories and anecdotes you can include about student participation in intergenerational learning activities?

If no, please describe why. What other resources or activities did you use to teach about or facilitate intergenerational learning?

What worked best? What improvements could be made?

Did the intergenerational activity go home at the same time as the drinking water samples? Yes ☐ No ☐
Please explain.

What feedback did you hear about the activity?

Solutionaries Framework

Did you use the Solutionaries Framework in your class? Yes ☐ No ☐

If yes, please describe.

What worked best? What improvements could be made?

If no, why not? Please include other activities or resources you used to teach about or facilitate systems thinking, placed-based discovery, or project-based learning.

Did you attend the Institute for Humane Education series on the solutionaries framework in your class?

Yes ☐ No ☐

Which aspects of this Communicating Data project will you repeat next year?

Which aspects of this project will you change next year?

List and describe the resources that helped your students the most this year.

Provide a list, and links, if applicable, to specific curricular items such as online worksheets, articles, books, YouTube videos, and labs.

Add addendums such as stories and anecdotes, photos, student assessments, testimonials from parents/students, etc.

What were gaps or barriers you experienced this year?

What are the anticipated needs for the 2025-2026 school year?

Acknowledgments: The work reported in this publication was supported by the National Institute of Nursing Research of the National Institutes of Health under Award Number **1R25NR021077**. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. [Acknowledge any other sources of support/funding/people or organizations involved and explain their role]