



Project Title

From Dino Pee to Your Sweet Tea

Grade Level(s):

8

The Project's Big Rocks

Learning Targets of this Project: *Specific Academic Standards and Goals:*

8.E.1.3 Predict the safety and potability of water supplies in North Carolina based on physical and biological factors, including: Temperature Dissolved oxygen pH Nitrates and phosphates Turbidity Bio-indicators

8.E.1.4 Conclude that the good health of humans requires: Monitoring of the hydrosphere Water quality standards Methods of water treatment Maintaining safe water quality Stewardship

Critical Success Skills addressed in this project *(Collaboration, Critical Thinking, Problem Solving, Communication, Public Speaking, etc.)*

- students will collaborate with visiting partners via zoom to identify community water sources.
- students will utilize probes to assess the water quality of their potable water and water collected from neighborhood creeks.
- data will be collected, recorded and shared amongst

What prerequisite knowledge might be required? *Foundational skills students will need for success and how it will be addressed.*

The Hook: *How will the project be kicked-off (i.e. Entry Event) to generate curiosity, excitement, & engagement?*

Gallery walk of news about water quality (<https://www.pblworks.org/video-water-quality-project>)

6 stations: two from world, two from US, two from NC

1. World: Water works (Ms. Smoot via zoom)
2. **Walk with gallons of water and reflect**
3. World: <https://www.youtube.com/watch?v=s--3ORv8mXc>
4. US:
5. US: Flint
6. NC: West- Jason from Mainspring via zoom
7. **NC: Macro invertebrates to check out**
8. **Urban water quality vs. Rural water quality**
9. **Ground water vs. surface water**

Graphic Organizer to encourage deep investigation of each station
What's the problem? What's the solution? How can you be a solution?

Reflection: Understanding of value of clean water

- Why do we need to study water and understand it?
- Who- we all need clean water
- Where- access is different
- When- scarcity vs. quality

Culture of Collaboration: *How will the project enable students to work in teams to complete complex tasks, become effective team members and leaders, and collaborate with adult mentors & experts?*

Students work in teams of 4- two from each school. They brainstorm a topic, work together on research, and determine the best way to present their persuasive product.

What's the Story of this Project? *Provide an elevator pitch for this project. Think about what will make students remember it in 30 years.*

Students from different communities in NC will work together to learn about where their drinking water comes from and measure drinking water quality. They will develop a campaign to teach others about clean drinking water. They will work with community stakeholders and present their campaigns locally.

Deep Learning & Student Engagement Essential Questions

Driving Question: *What overarching question drives student inquiry over the course of this project? What sub-questions might be needed at key points to sustain student engagement & inquiry?*

Where does our drinking water come from in NC? How is it treated? How can we, as students, teach people to protect their drinking water supply?

Student Voice, Choice, & Agency: *How will this project enable students to become empowered owners and co-designers of their learning? What are specific ways students can exercise their voice and agency when managing this project?*

- Role they want to play:
- Have roles as suggestions (with descriptions)
- Individual expectations and group expectations

Choice of team:

1. Entry event
2. Research on topic
3. What angle do you want to cover for your campaign? Use the media campaign for formative assessment: use as pieces of the milestones.
4. Group kids according to their ideas

Critique, Revision, & Reflection: *In what ways will students have routine opportunities throughout the project to reflect on their learning (ideally daily), critique their work and that of their peers, and make continuous improvement of their work and their individual/team project goals?*

Critical Friends protocol in last week

Public Product: *Describe how you will deprivatize the student work so that they can share it beyond the classroom and school. Where possible, think about ways the project will make a real connection and difference in the local community or beyond.*

- TIKTOK (videos accessible via website)
- Social Media Awareness Campaign (on school sites)
- Commercial/Infographic

Exhibition:

Zoom: Practice run with both whole classes

In-person when we meet? Invite community stakeholders

Other things we're thinking about

- <https://www.catawbariverkeeper.org/>
- <https://www.mainspringconserves.org/>
- Exchange trips: May
- WNC: Well drilling, extraction, spring boxes
- CLT: water treatment facility

Check Points: *Think about the learning and growth at each key stage of the project, from entry event to final exhibition:*

Key Project Milestones	Key Learning Goals (Academic and Success Skill) students should demonstrate at each milestone:	Scaffolding needed to help individual students develop and reinforce the skills, knowledge, and dispositions needed at each milestone:	Formative assessments needed at each milestone to verify student learning and project product progress:
Entry event: drinking water news...		EMPATHY: How does this project help you think outside yourself? (whole child)	https://docs.google.com/document/d/1qhliGqUem24oFo1Q6VafxlvPkOPBCutDxP-2QvyJAbI/edit?usp=sharing https://jamboard.google.com/d/1SlzFMGJt81d6IHzdBHtZDOF0eeuhzvhZyflAhsG8uFE/edit?usp=sharing
set goals, collect surface water and drinking water information	8.E.1.3 and group skills	One media piece for the presentation	https://docs.google.com/document/d/1ZFqfLSvmKY_LCCD9LckUZIU DLXqN8NYIEtvYR5kF4CY/edit?usp=sharing
research/labs/answers finished	8E14 group collaboration, project management	second media piece for the presentation	
practice in-house (end of 3rd week)	giving presentations, giving and receiving feedback	third media piece for the presentation	
Presentation(s) to stakeholders	comparison of urban and rural watershed issues: Show lab data to compare water issues	recommendation to stakeholders or solution based on their learning	

Managing & Facilitating the Project: *Think about the time, space, resources, supplies, funding, equipment, and other logistical details that you have available to you or that you will need for making each stage of this project successful per its desired outcomes:*

Stage I - Early Phase	Stage II - Messy Middle	Stage III - Project Wrap up
<p>Planned Duration: 5 days April 19-22 Guiding DOCUMENT</p>	<p>Planned Duration: 5 days April 25</p>	<p>Planned Duration: 5 days May 2</p>
<p>Stage I Goals:</p> <ul style="list-style-type: none"> • Understand why clean water is important • Terminology that describes WQ (turbidity, DO, bioindicator) • Meet and greet groups • point source vs non point source pollution/ eutrication 	<p>Stage II Goals:</p> <ul style="list-style-type: none"> • Measure water quality (using probes etc.) • Group goals and managing work • Individual research on clean water availability in NC/ USA/World 	<p>Stage III Goals:</p> <ul style="list-style-type: none"> • Develop a product to convince people to conserve clean water • Present it/ revise/ present it • Exchange field trips
<p>Outline of Activities T: ENTRY EVENT W: Entry Event. Why is clean water important? 12:45 zoom breakout rooms with small groups (make a zoom script– use entry event reflections) th. How do we Measure clean water? f. Measuring clean water</p>	<p>Outline of Activities m. Measuring clean water t. 12:45 or 2:30 meet w. th. f.</p>	<p>Outline of Activities m. t. Druid Hills to Sylva w. th. Catamount School to CLT f.</p>

Reflect on your Plan:

- Is this the best, most authentic and appropriate way for the students to showcase the skills, knowledge, and dispositions you are looking for?
- What ways have you verified that this project is engaging and relevant to things students care about?
- In what ways have you made sure that students clearly understand what they are expected to do at each stage of the project, including clear and specific final product details (rubrics, specification sheets, checklists, etc.)?
- Have you provided ample time and conditions for just-in-time feedback and scaffolding to amplify individual student growth throughout each stage of the project?
- How have you built-in time, space, and resources for re-work and remediation during (and after, if needed) the project?
- Do the planned assessments authentically reflect the success skills and academic learning targets you want students to master through this project?
- How have you addressed alternative methods of assessment for the specific needs and assets of each student, especially extreme users?
- Do you have all the supporting systems and resources needed for every student to be successful?

Other Notes:

