

CODE 220**Draft Outline of Project Ideas**

Group # 9

Names: Alexandra Guerrero, Payton Plummer, Tamiria Dixon

General Project Theme:

Water conservation education

Project Idea 1:

Our project idea is to incorporate water conservation in school education in a different way. Some ideas we have include experiments, lessons, or school habits related to water sustainability.

Proposed Research Question: (stated as a testable question)

How can schools develop water conservation programs that lead to improvement and raise public awareness of environmental impacts?

What is the relationship between x and y**Proposed Hypotheses:** (stated as mutually exclusive answers to your research question)

If school districts implement water conservation programs that aim to enhance learning for K-8 students, then students will gain a strong understanding of the principles of water sustainability while contributing to their communities.

Keywords:

Curriculum, water, conservation, environment, school, program,
Aquifer, runoff, infiltration, wastewater

Found Review Articles: (list the citation and what it says about your topic)

EL-Nasany, Rabab I, Ibrahim Maarouf, and Waled Abd el-Aal. "Water Management as a Vital Factor for a Sustainable School." *Alexandria engineering journal* 58.1 (2019): 303–313. Web.

[Water management as a vital factor for a sustainable school](#)

This article discusses the importance of water sustainability in schools. With that, they demonstrate that there are numerous benefits to water and the economy, including saving water and money, as well as additional opportunities for education. The information discussed in this article relates to our topic, illustrating how water conservation and sustainability benefit schools more than we might think.

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Found Research Articles: (list the citation and what it says about your topic)

Melinda G. Miller, et al. “Learning about and Taking Action for the Environment: Child and Teacher Experiences in a Preschool Water Education Program.” *Children, Youth and Environments*, vol. 24, no. 3, 2014, pp. 43–57. *JSTOR*, <https://doi.org/10.7721/chilyoutenvi.24.3.0043>. Accessed 6 Sept. 2025.

This article was more focused on our topic and research on taking action and determining what works when it comes to curriculum for kids that teachers, students, and parents can learn from. They saw that teaching students about conservation had a positive impact on adults because the kids showed their practices to adults.

Found SciComm Articles: (list the citation and what it says about your topic)

Bodas, A., Chlebuch, N., & Weisberg, D. S. (2025). Water woes: The effects of children’s science media on conservation knowledge, self-efficacy, and environmental worry in the United States of America. *Journal of Children and Media*, 1–21. <https://doi.org/10.1080/17482798.2025.2472666>

This article employs various methods that could aid us in our research topic of finding ways to create fun and educational experiences. Some of the techniques they use include interviews with teachers, observation of school facilities, small-group discussions, and tracking of student behavior. We could utilize this in our overall project to gain a better understanding of water conservation and education systems.

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Project Idea 2:

For our project idea

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For our project idea, we want to find or modify education lessons on water conservation and why it's essential for us to have knowledge on taking care of what we have, being grateful, and finding ways in our everyday lives to be sustainable.

Proposed Research Question: (stated as a testable question)

What are the benefits of teaching environmental education from a young age, and how does that improve sustainable practices in the kids' homes?

Proposed Hypotheses: (stated as mutually exclusive answers to your research question)

If students are taught environmental education from a young age, then they will bring that knowledge into their community to make a difference.

Keywords:

Community, students, kids, environment, sustainability, climate resilience
Clean water access

Found Review Articles: (list the citation and what it says about your topic)

[‘Water is life’: developing community participation for clean water in rural South Africa | BMJ Global Health](#) -

Hove J, D'Ambruoso L, Mabetha D, Merwe MVD, Byass P, Kahn K, et al. ‘Water is life’: developing community participation for clean water in rural South Africa. BMJ Global Health. 2019;4:e001377. <https://doi.org/10.1136/bmjgh-2018-001377>

This addresses the poor water quality and flooding that we can relate back to our community. In our research team, we are talking with Zach, an educator from JJK, who expresses the importance of community in youth education.

Found Research Articles: (list the citation and what it says about your topic)

Sarva Mangala Praveena (2022) *Exploring Water Conservation Awareness Level Among Primary School Children From Melaka (Malaysia)*, *Malaysian Journal of Medicine and Health*

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Sciences. Available at:

https://www.academia.edu/79571304/Exploring_Water_Conservation_Awareness_Level_Among_Primary_School_Children_From_Melaka_Malaysia (Accessed: 6 September 2025).

https://www.academia.edu/79571304/Exploring_Water_Conservation_Awareness_Level_Among_Primary_School_Children_From_Melaka_Malaysia

This tells us what topics could be integrated into schools to influence them to participate in better water practices.

Oana, I., Claudia, T., Panainte-Lehadus Mirela, Dana, C., Florin, N., Narcis, B., . . .

Diana, M. (2025). Understanding primary school students' knowledge and attitudes towards water management: Insights from environmental education. *Societies*, 15(4), 109.

doi:<https://doi.org/10.3390/soc15040109>

This article effectively explains the attitudes and knowledge that urban students in Romania have regarding water sustainability. It can be said that this experiment works to investigate the level of knowledge and behaviors of students as it pertains to water education. From reading the results, the professors used statistics to prove how much students improved after the implementation of the program. One of the main factors was curriculum changes, which were found through the research method of a survey. Surveys were a vital part of this research because they helped assess the student's applications on concepts as far as understanding water sustainability practices.

GuruFocus.com: Cal water launches new water education programs to teach kids about conservation (2014). . Chatham: Newstex.

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<https://www.proquest.com/blogs-podcasts-websites/gurufocus-com-cal-water-launches-new-education/docview/1642950064/se-2>

In this article the state of California is working to implement a water education program through the North American Association for Environmental Education. Since California experiences many environmental disasters, such as droughts, educators believe that it's imperative to provide students with knowledge regarding water sustainability. The program utilizes organizations such as the WestEd K-12 alliance to develop a system that involves STEM related activities. More specifically, the program's duration will be divided up by 4-8 weeks as it provides students with the opportunity to engage in engineering and research oriented activities. Ultimately, it can be said this study demonstrates the impact of water sustainability education as it regards the environmental challenges that the state of California faces.