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Additional Participants: Watt, Kesseru

School Name: Crossroads Community Day School

Grade Level(s): 7th-9th

Course: Alt Ed Math, Science, Study Skills, English, Art, History, HI

Name of Watershed Classroom Unit/Project: Each One Matters

Integrated Academic Disciplines: Science, Art, HI, Study Skills, ELA, History, Math

Implementation Timeline: January through May, 2017 for the entire curriculum.

At least one field trip each month: January 15th, February 15th, March 15th, April 15th, May 15th.

Key Learning Objectives: Students will learn about the interactions of the varied environments in their community and beyond, will learn about how daily living impacts the environment, and learn how they can lessen that impact and reduce their carbon footprint. Students will understand how small adjustments in our everyday choices can reduce negative outcomes for in our community's environment.

Provide a brief (50 word max.) description of this curriculum proposal, including the essential question.: Does the Crossroad's campus make a positive or negative contribution to the Petaluma Watershed environment? Students will examine the Petaluma River Watershed through an increasingly focused lens - going from identification of the watershed area down to their immediate environment. Their culminating activity will be to design and begin to implement a landscaped area of the campus that incorporates positive environmental practices.

Provide a brief description (100 words max.) of how this coursework will integrate the core concepts of Geoliteracy: Interactions, Interconnections and Implications: Student will learn how most everything they (and others) do has some type of impact on the environment. They will learn what it takes to make a successful and vibrant environment. They will discover how what happens in one area can and most likely will affect the area just down stream. And, they will find out how all these factors come together to decide the health and viability of any environment.

Describe the fieldwork activities involving the Petaluma River/Wetlands. Curriculum must include a minimum of three outdoor watershed educational experiences.: We will do water testing to investigate contaminants in our creeks and streams and how they affect the environment. We may visit a sustainable farm to investigate sustainable techniques that we could use in our school garden. We will explore native plants, cataloging and journaling in preparation for the garden planning.

Describe any other hands-on learning activities: Students should learn how to better manage water resources through rain water gathering and use gravity to create drip systems to irrigate the schools planter boxes. Students will complete a solar village plan, each with their own home utilizing passive solar design. They will explore the possible effects that the location of their village will have on the Petaluma Watershed. Future projects will extend this project with soil building activities and the student garden will eventually include a solar fountain.

Content Standards addressed: Alg 1: 25.0: Students use the properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.

Alg 1.0: Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable.

Alg 1.1: Students use properties of numbers to demonstrate whether assertions are true or false.

Geo 8.0: Students know, derive, and solve problems involving the perimeter, circumference, area, volume, and surface area of common geometric figures.

NGSS:

MS ESS3

MS ETS1-1,2,3

MS ESS2-1

MS PS1

MS LS2-1,4,5

Common Core:
numerous reading and writing standards for Science and Technology

Reading Tasks: What primary documents and informational texts will be read/analyzed?: Water quality parameter reference materials
International Drinking Water guidelines
Silent Spring by Rachel Carson
Watershed maps and Google Earth
EPA website data

Writing Tasks: What kinds of writing tasks (Arguments and Drawing Evidence) will be required?: Evaluation from evidence

Concept Mapping

Procedures

Compare and Contrast

Describing

Presentations

Summarizing

Students could write commercials/PSA's informing the public on safe water practices.

Students could write letters to the editor proposing conservation efforts.

Students could use data and articles to draw conclusions and support arguments that could be submitted to city planners.

Students will keep a science notebook that documents all lessons.

Collaboration: How will students collaborate, communicate and organize together (Speaking and Listening/Discussion): Group Writing

Discuss Evidence

Design Groups

Students will work together to share thoughts and understanding to create different ways to communicate this information to their fellow students and the community at large. This could be PSA's, posters, and maybe a radio spot.

Integration of Media Sources and Skills: How will students use technology for research, communication, documentation and or presentation purposes?: Web search for data

Presentation of design ideas

Students will use their iPads to create PSA's on pollutants and/or water conservation. Students could create electronic posters using an app such as Explain Everything.

CA Core Standards-based Assessments: How will students demonstrate their acquisition of new knowledge and skills?: Students will interpret data, relate their findings, and form reasonable conclusions. Students will keep a notebook with drawings, diagrams, and tables.

Presentation of Knowledge/Student Public Forum: We would hope to present our project through our school website and FB page.

We might create PSA's or a radio spot.

Evaluation of Knowledge Mastery & Attitude Changes: For the 2015-16 school year we have added a pre- and post-assessment for students to take online before and after curriculum implementation. How will you integrate this evaluation into your implementation plan?: The pre-assessment would give us a baseline on student understanding of the topics which will guide teaching focus. Post-assessment will give us the data to compare to the pre-assessment to gauge student learning.

Other Comments: Thank you so much for this generous offer of help to make such a relevant and timely unit accessible to the students of Crossroads.

(Sent via [Watershed Classroom](#))