Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2018 Volume II: Engineering Solutions to 21st Century Environmental Problems

Environmental Engineering for Elementary Learners

Guide for Curriculum Unit 18.02.07
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This four week curriculum is for elementary learners to explore environmental engineering in urban environments. The unit starts with a broad question of “how can we make our community more sustainable?”, the unit will cover what the field of environmental engineering is, what predictability, mitigation and sustainability are, and how they relate to each other. These principles will be taught as vocabulary and will be supported with the use of anchor charts; students will be expected to use them during discussions. The unit will teach about urban infrastructure and the phenomenon of the Urban Heat Island effect. Students will then learn about and explore the possibilities of alternative energy sources and cities that already implementing green engineering. Students will explore how they can answer the question that was presented to them at the beginning of the unit. Following the engineering design process students will plan changes that they would make to their own city (in our case New Haven, Connecticut). Students will act as environmental engineers to come up with potential solutions to answer the broad question posed at the beginning of the unit.

(Developed for Science/Magnet/STEM in my general education classroom, grade 1; recommended for Science/STEM, grades K-2)