



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2023 Volume IV: Energy and Environmental History of New Haven and the American City

Water, Air, Trees: Building Interest in Earth Space Science through Local Environmental History

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This curriculum unit comprises three mini-units focused on water, air, and trees, designed to build interest in an integrated science course, especially the environmental aspects of the course. In the water unit, we delve into the history of the Mill River in New Haven, CT. In the air unit, we look at environmental racism and environmental justice, using the two freeways in Oakland, CA, as a case study. One highway, which passes through affluent, predominantly white neighborhoods, prohibits medium and heavy-duty trucks, while the other, which runs through economically disadvantaged communities of color, permits such trucks, leading to uneven exposure to air pollutants and a resulting disparity in health conditions like asthma, heart attacks, and cancer. In our trees unit, we continue the theme of environmental justice by examining the red-lining map of New Haven from 1937, juxtaposing it with recent maps, including one showing current tree coverage in the city. We then discuss the urban heat island effect and strategies to mitigate it, with tree planting being a notable solution. For each mini-unit, students not only absorb the content but also engage in a small project to solidify their understanding.

(Developed for Integrated Science, grade 9; recommended for Integrated Science and PhyChem, grade 9)

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