



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2004 Volume IV: Energy, Engines, and the Environment

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## **Industrial Revolution in America: Exploring the Effects of the Heat Engine on the Growth of Cities**

Guide for Curriculum Unit 04.04.05  
by Judith S. Goodrich

I have developed this unit to help students learn to think critically and understand the complexity of historical developments. The unit requires students to connect an abstract notion of progress to a concrete body of evidence related to the Industrial Revolution in America. The unit focuses on how the introduction of heat engines into the local setting during the Industrial Revolution affected cities around America in the 19th and early 20th centuries. Students will explore the impact that mechanical innovation has had on the shaping of American society. Students will connect the harnessing of energy (water, steam, combustion and electricity) to the notion of progress and its good and ill effects on the environment and on patterns of urban growth in American history. Students will answer an essential question: *Is the history of the growth of a city a history of progress?*

Students will review the meaning of work, energy, heat, and engines; they will have the opportunity to make their own steam-powered engine; students will think about how heat engines fueled by steam, gas, and coal changed the urban environment; and finally students will research, digest and react to their gathered information by creating a PowerPoint presentation and by writing essays to demonstrate what they are thinking and what they have learned.

(Recommended for Social Studies, grade 8.)

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