

THE HISTORY CHANNEL CLASSROOM STUDY GUIDES

Modern Marvels

Plumbing: The Arteries of Civilization

Communities throughout history have needed to safely provide clean water. This documentary shows the resulting ingenuity of inventors, engineers and plumbers. They determined not only how to transport clean water, but also to solve the more important problem of treating wastewater. The growth of cities in the modern era added to the challenge of protecting health through water sanitation. Today's plumbing specialists address the future of the planet, which depends upon ever more efficient means of cleaning and using water. We encourage educators to select portions of this documentary that best serve their classes' needs.

Objectives

Students in history or government classes will understand the complexity of water provision and sanitation from the earliest civilizations to the 21st century. They will grasp the relationship between plumbing and major periods and events in history, deepening their knowledge of past life, future policy and the nature of municipal services.

- [Babylon](#)
- [Crete](#)
- [Indus Valley](#)
- [Mesopotamia](#)
- [Nebuchadnezzar](#)
- [aqueducts](#)
- [ceramic](#)
- [cholera](#)
- [cistern](#)
- [contamination](#)
- [counterweights](#)
- [fulcrum](#)
- [hygiene](#)
- [icons](#)
- [ingenuous](#)
- [irrigate](#)
- [potable](#)
- [reservoir](#)
- [sewage](#)
- [troughs](#)
- [typhoid](#)

Discussion Questions

1. How much water does the average American use? Does this quantity surprise you?
2. Why is sanitation, the disposal of dirty water, at least as important as the bringing of fresh water?
3. How did early civilizations, before the Romans, use plumbing? Which of these achievements impresses you the most, and why?
4. What made Roman baths so popular?
5. Why did the quality of plumbing decline with the end of the Roman Empire?
6. How can you explain the delay in the adoption of John Harrington's invention, a flushing toilet?
7. What was the first need for running water in cities?

8. Why was sanitation such a big problem when cities like London and Chicago grew larger?
9. What factors helped make indoor plumbing, toilets and bathtubs more popular?
10. Explain how Chicago's rainstorms made it difficult to keep its streets clean. How was this problem solved?
11. How did the needs of fighting World War II affect the materials used for plumbing?
12. Why does the 1992 Plumbing Products Efficiency Act limit how much water can be used by showerheads, toilets, and faucets?
13. What is so surprising about Santee's water system?

Extended Activities

1. Nineteenth century inventors showed great imagination in their design of showers. Draw a design of a shower or bath you would like to have available today.
2. Plumbing industry magazines in the the1920s distributed pamphlets advocating "a bath a day" so there would be more demand for bathtubs. Draw a poster or pamphlet that could be part of any effort to encourage safer water use.
3. Every municipality faces the challenge of water treatment. Investigate the water use issues that face your community and invite a member of the local water authority to visit your class to explain how problems are being solved.