Environmental Scientist

Community Helpers

Grade Levels:
Grades K-3

Subject Areas:

Social Studies
U.S. Geography & Cultures
U.S. History

Synopsis:

An environmental scientist providing clean water to the city of Philadelphia explains how this water is used to fight fires and to provide water for our homes, parks, and swimming pools. He shows us that river water provided by rain and runoff from farms is dirty and needs to be purified before human beings can use it. In a visit to the Fairmount Water Works he explains the mechanics of how water is brought to plants, purified and sent on to our homes and factories and recalls the extraordinary achievement represented by this historical water purification plant. The episode closes with reasons for all of us to care for the health of our rivers.

Learning Objectives: Students will:

Understand that environmental scientists are responsible for providing us with clean water.

Appreciate the need to protect our rivers and lakes from pollution.

Understand that city water purification plants are linked to a network of pipes, pumps and waterwheels.

Understand that sources of clean water are essential for the health of the planet.

Vocabulary:
water purification, water purification plant, pollution, trash, water wheels, fire hydrant, water cycle, algae, natural resource, water works, environment

Pre-Viewing Discussion:

What kind of a scientist would be involved with providing sources of clean water for our community?

Why do we need clean water? What might happen if we were to cook with dirty water or drink dirty water?

How does water get into our rivers and lakes? How does it get from there to our cities?

What is a water treatment plant? Why would our water need to be purified?

Post-Viewing Discussion:

Why is the fire department dependent on the work of environmental scientists?

Why are we all dependent on the work of environmental scientists?

What makes the water in rivers and lakes dirty? Why does water need to be purified?

How does water get from our rivers to water purification plants?

Why was the Fairmount Waterworks so famous when it was first constructed? Why is it so famous now?

How can we help to keep our rivers and lakes clean?

Further Activities:

Find out how water is transported from water purification plants to fire hydrants. Also, how is the water pumped from the hydrant through the firefighter's hose?

If you participate in recreational activities on our rivers or streams, investigate the health of these waterways. Do they appear to be polluted? How can you tell if they are clean?

If possible, visit a water treatment plant to observe how water is purified before it is sent to your home.

Make a list of all the ways you can help to keep our water pure.

Find out what other jobs environmental scientists do for the community.

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