COURSE DESCRIPTION

Students learn about the solid waste stream, including its major sources and disposal methods. They explore how the four Rs (rethink, reduce, reuse, recycle) can help achieve a more sustainable society, including the practices for managing materials and resources in buildings from design to retrofit. The hands-on audit gives students the tools to assess the school’s solid waste stream by auditing their own personal trash generation. They also examine the impact of building materials choices by auditing the resources used to maintain the materials in their building and discussing the economic, environmental, and health impacts.

Lesson 1: Trek Through Trash

In this lesson, students learn about the three types of solid waste: municipal trash, construction/demolition waste, and discarded electronics and appliances. Students list the types of waste they discard and discuss how personal activities and behaviors contribute to the amount of waste they generate.

Lesson 2: Where Does Our Trash Go?

In this lesson, students learn about landfills, which is where more than half of the municipal solid waste generated in the United States ultimately ends. They trace a timeline of landfills in order to examine how and why landfills have changed over time. Finally, they brainstorm designs that address the environmental problems associated with today’s landfills.

Lesson 3: Construction and Demolition Materials

In this lesson, students learn about the sources and disposal of construction and demolition (C&D) materials. They discuss the environmental issues associated with this type of waste, and then research disposal and recovery options for C&D materials that are available in their own communities.

Lesson 4: Hazardous Waste

In this lesson, students learn about the environmental and health impacts of hazardous waste. They explore the Love Canal case study and write an individual blog post discussing the lessons learned from this well-known environmental disaster.

Lesson 5: The Future Starts Here

In this lesson, students calculate the amount of trash their school community generates in an academic year. They evaluate their role in contributing to this waste stream, and brainstorm ways they can minimize that contribution by using the four R’s (rethink, reduce, reuse, recycle).
Materials and Resources
Table of Contents

**Lesson 6: Building Blocks**

In this lesson, students learn about the use and impact of conventional and green building materials. They assess the benefits and drawbacks of these materials to better understand the complex choices facing today’s builders.

**Lesson 7: Reverse-Engineer Your Classroom**

In this lesson, students gain a more intimate knowledge of the materials that make up a building by investigating the built structure of their classroom. They will research the various materials used to construct their classroom and assess the sustainability of these materials in a “report card.”

**Lesson 8: Adopt a Chunk**

In this lesson, students learn about the use and impact of conventional and green building materials. They assess the benefits and drawbacks of these materials to better understand the complex choices facing today’s builders.

**Lesson 9: Designed By Nature: Earth as Architect**

In this lesson, students are introduced to the concept of “designed-by-nature” by examining ancient desert cliff dwellings and modern green homes. They discuss how this strategy is a more sustainable approach to materials and resource management, and then design an earth-inspired home for their region.

**Lesson 10: Green Building in Action**

In this lesson, students examine a case study of a school district utilizing green building design, materials, and resource management. They will identify the ways that the district addressed its needs while also building sustainably, and discuss the green strategies that might be applied in their school.

**Lesson 11: School Materials and Resources Audit**

In this lesson, students conduct an observational audit to identify the materials used to build their school. They interview school facilities personnel to evaluate the environmental, health, and financial costs of maintaining these materials, and develop recommendations for a more sustainable methods and strategies.