4

Science Standard 4.2.c.

Teacher's Edition

California Education and the Environment Initiative

Life and Death with Decomposers

California's Environmental Principles

■■■

The State of California's Environmental Principles and Concepts were approved in 2004 under a law referred to as the California Education and the Environment Initiative (EEI). The law called for the development of Environmental Principles and Concepts that are compatible with the State's academic content standards and, as such, would become a formal part of California's K-12 education system. The EEI Curriculum, which this unit is part of, is designed to help students simultaneously achieve mastery of selected academic content standards and California's Environmental Principles and Concepts.

Principle I

People Depend on Natural Systems

The continuation and health of individual human lives
and of human communities and societies
depend on the health of the natural systems that provide essential goods
and ecosystem services.

Principle II

People Influence Natural Systems

The long-term functioning and health of terrestrial, freshwater, coastal and marine ecosystems
are influenced by their relationships with human societies.

Principle III

Natural Systems Change in Ways that People Benefit from and Can Influence

Natural systems proceed through cycles

that humans depend upon, benefit from and can alter.

Principle IV

There are no Permanent or Impermeable Boundaries that Prevent Matter from Flowing Between Systems

The exchange of matter between natural systems and human societies
affects the long-term functioning of both.

Principle V

Decisions Affecting Resources and Natural Systems are Complex and Involve Many Factors

Decisions affecting resources and natural systems
are based on a wide range of considerations
and decision-making processes.

DRAFT
for discussion purposes only

California Education and the Environment Initiative

ACKNOWLEDGEMENTS

The EEI Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency
California Integrated Waste Management Board
National Geographic Society
State Education and Environment Roundtable
California Department of Education
California State Board of Education
Office of the Secretary of Education
California Resources Agency

Project Managers for the Education and the Environment Initiative:

Andrea Lewis, Assistant Secretary
Cal/EPA

Mindy Fox, Director
Office of Education and the Environment
California Integrated Waste Management Board

Funding for the development of this curriculum is provided through the generous support of the California Integrated Waste Management Board.
Additional funding is provided by:
California Energy Commission, Department of Conservation, Department of Toxic Substances Control, and State Water Resources Control Board.

CONTRIBUTORS

Author: **Becky Wike**
California Connections Author: **Bendan Blue**
Principal Consultant: **Dr. Gerald A. Lieberman**, Director, State Education and Environment Roundtable
Managing Editor: **Jennifer Rigby**, Director, The Acorn Group

Office of Education and the Environment
1001 I Street • Sacramento, California 95812 • (916) 341-6769
http://www.calepa.ca.gov/Education/EEI/

© Copyright 2008
By the California Integrated Waste Management Board (CIWMB)
All rights reserved. This publication, or parts thereof, may not be used or reproduced without permission from the CIWMB.
These materials may be reproduced by teachers for educational purposes.

printed on 30% recycled content paper

Contents

Overview 4

California Connections 6

Teacher's Background 10

Unit Planner 14

English Language Development 18

Differentiated Instruction 20

Traditional Unit Assessment 21

Alternative Unit Assessment 25

Extensions & Unit Resources 30

Lesson 1 Breaking It Down 32

Lesson 2 Decomposers and Scavengers 44

Lesson 3 A Big Job for a Tiny Crew 56

Lesson 4 Waste Not 70

Lesson 5 Down on the Farm 82

Lesson 6 The Benefits of Composting 92

Credits 101