Decomposition

© 2020, SimBio. All Rights Reserved.

Contents

Section 1: Decomposition: A Key to Life

Why the process of decomposition is important to ecosystem function. Introduction to an ecological toolkit based around decomposition. Introduction to hemlock woolly adelgids at Coweeta.

- · Life from Death
- The Hemlock Woolly Adelgid
- The Nature of Decomposition
- Ask Your Instructor

Section 2: Decomposition Rates

Introduction to environmental drivers of decomposition. The decomposition rate constant, k. How climate affects decomposition rates. Decomposition rates on land vs. in freshwater.

- Measuring Decomposition Rates
- The Decomposition Constant
- Decomposition Rates in Different Climates
- LIDET Decomposition Experiment
- Composite Climate Indices
- Decomposition Rates in Water vs. on Land
- Forensic Investigations and Decomposition
- Section Summary
- Ask Your Instructor

Section 3: The Chemistry of Decomposition

Carbon, oxygen, and energy flow. Aerobic and anaerobic decomposition. Litter quality. C:N ratios.

- Decomposition Is Chemical Transformation
- Decomposition and the Carbon Cycle
- Aerobic vs. Anaerobic Decomposition
- You Rot What You Eat
- Decomposition of Different Litter Species
- C:N Ratio
- Litter Quality
- · Hemlocks and Litter Quality
- Body Clocks
- · Litter as Food
- Section Summary
- Ask Your Instructor

Section 4: Decomposer Organisms

Palatability and feeding preferences. Succession. Classification systems. Terrestrial vs. aquatic decomposers.

- · Stages of Decay
- Decomposer Food Preferences
- A Succession of Decomposers
- A Who's Who of the Forest Floor
- Arthropod-Microbe Interactions

- Hemlock Forests and Decomposers
- Freshwater Decomposers
- Body Bugs
- Section Summary
- Ask Your Instructor

Section 5: Fossil Fuels, Peat, and Climate Change

Decomposition dynamics in peat bogs, productivity, and the impacts of global warming.

- Climate Change and Peat Bogs
- Changes in Decomposition and Productivity
- Section Summary
- Ask Your Instructor