

## SUGGESTED SKILL

 *Mathematical Routines*

## 6.B

Apply appropriate mathematical relationships to solve a problem, with work shown (e.g., dimensional analysis).



## AVAILABLE RESOURCES

- Classroom Resource > [AP Environmental Science Teacher's Guide](#)
- External Resource > [Environmental Literacy Council's AP Environmental Science Course Material](#)
- The Exam > Chief Reader Report (2018, Q3, 2017, Q1)
- The Exam > Samples and Commentary (2018, Q3, 2017, Q1)
- Classroom Resource > [Quantitative Skills in the AP Sciences \(2018\)](#)

## TOPIC 8.10

# Waste Reduction Methods

## Required Course Content

### ENDURING UNDERSTANDING

**STB-3**

Human activities, including the use of resources, have physical, chemical, and biological consequences for ecosystems.

### LEARNING OBJECTIVE

**STB-3.M**

Describe changes to current practices that could reduce the amount of generated waste and their associated benefits and drawbacks.

### ESSENTIAL KNOWLEDGE

**STB-3.M.1**

Recycling is a process by which certain solid waste materials are processed and converted into new products.

**STB-3.M.2**

Recycling is one way to reduce the current global demand on minerals, but this process is energy-intensive and can be costly.

**STB-3.M.3**

Composting is the process of organic matter such as food scraps, paper, and yard waste decomposing. The product of this decomposition can be used as fertilizer. Drawbacks to composting include odor and rodents.

**STB-3.M.4**

E-waste can be reduced by recycling and reuse. E-wastes may contain hazardous chemicals, including heavy metals such as lead and mercury, which can leach from landfills into groundwater if they are not disposed of properly.

**STB-3.M.5**

Landfill mitigation strategies range from burning waste for energy to restoring habitat on former landfills for use as parks.

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## LEARNING OBJECTIVE

**STB-3.M**

Describe changes to current practices that could reduce the amount of generated waste and their associated benefits and drawbacks.

## ESSENTIAL KNOWLEDGE

**STB-3.M.6**

The combustion of gases produced from decomposition of organic material in landfills can be used to turn turbines and generate electricity. This process reduces landfill volume.