

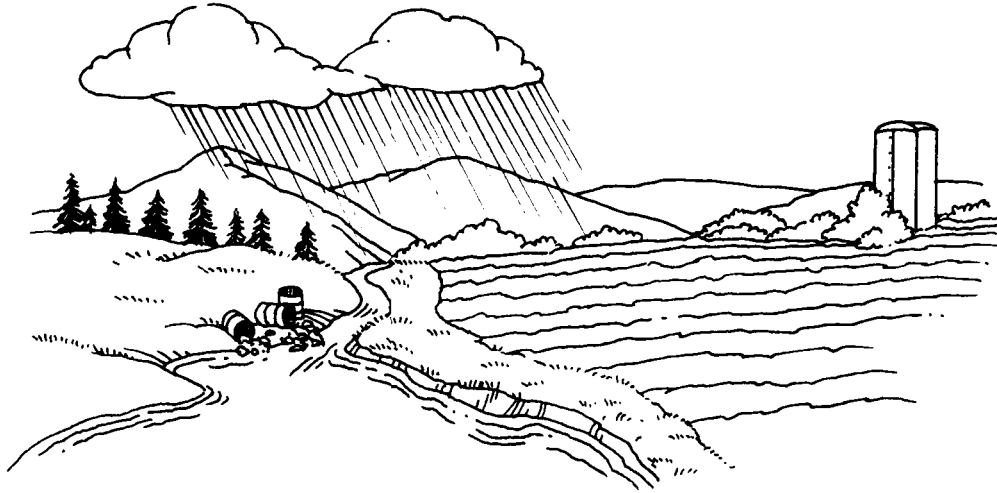
## Chapter 4

Use with Section 3

## ENRICHMENT

## ● Water

## The Effect of Pollution on the Life Cycle of a Lake



Runoff from sewage, industrial waste, and fertilizers drains into the lake. The lake becomes clogged by an overgrowth of plants and algae. Fish die from lack of oxygen.

Lakes and ponds go through definite life cycles. When a lake first forms, it contains pure freshwater and little life. Plants and animals begin to live in the lake as it grows older. The organic matter from the plants and animals provides nutrients for other life to grow. A healthy lake has a balance of nutrients and organisms.

Throughout its life cycle, a lake naturally becomes smaller as sediments and decayed plants fill its bottom. Plants grow in from the edges, eventually filling the lake. After a length of time—ranging from a few decades to several thousands of years—the lake disappears.

However, this process is greatly accelerated by runoff containing sewage, industrial waste, and fertilizers feeding into a lake. The lake becomes clogged by plants and algae that feed on the nutrients in these pollutants. When the plants and algae die, bacteria in the lake use oxygen to break them down. The more plants that grow, the more that die, resulting in more bacteria and less oxygen. Fish and other organisms eventually die from this lack of oxygen. The lake dies due to the effects of the pollution.

1. How are lakes affected by pollution?

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2. If lakes are already going to disappear when their life cycle is complete anyway, why is pollution such a problem?

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