

Enrich

Describing Matter

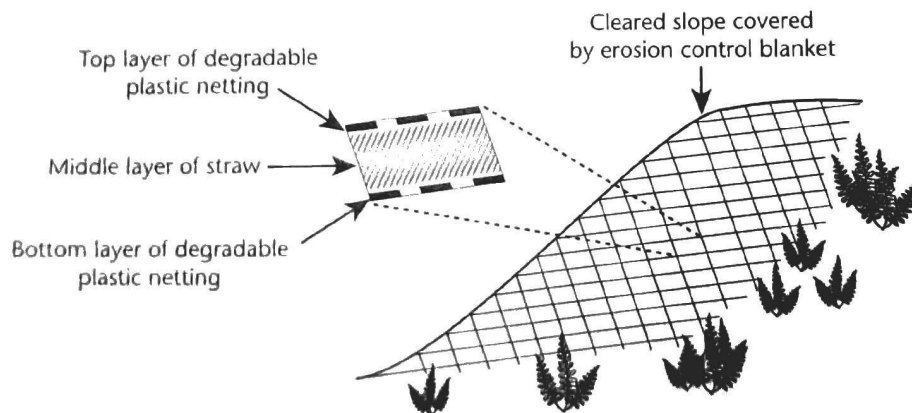
Read the passage and study the diagram below it. Then use a separate sheet of paper to answer the questions that follow.

Degradable Plastics

A chemical property is a characteristic of a substance that describes its ability to change into different substances. One way in which substances are changed is to be broken down into simpler substances. Materials that are *degradable* can be broken down easily in the environment. Most plastics are not degradable, remaining in the environment for a long time. But Today there are two main types of plastics that are degradable: photodegradable (*photo*-means "light") and biodegradable (*bio*- means "life").

Photodegradable plastics break down into smaller pieces after exposure to a certain amount of sunlight. *Biodegradable* plastics contain natural substances in addition to the plastic. The most common additive is cornstarch. Cornstarch is made up of sugar that is broken down by microorganisms. When this happens, the plastic breaks down into smaller pieces.

One area in which degradable plastics are being used today involves erosion control. In places where land has been cleared, such as during highway construction, erosion control blankets made with layers of degradable plastic and straw can be placed on the soil. The blanket keeps the soil from being washed away until new plants have a chance to grow. Once the blanket has broken down, the plants' roots will be able to keep the soil in place.



1. Do you think photodegradable plastic that is buried in a landfill will break down quickly? Explain.
2. Most landfills contain very little air and moisture, which many microorganisms need to survive. How do you think these conditions affect biodegradable plastic buried in a landfill?
3. Why do you think it is important that an erosion control blanket break down after a few weeks or months?