

Cross-Disciplinary

Plastics

Read the following paragraphs, and complete the exercises below.

Polymers are large molecules that are made of many smaller units. Many polymers, such as wood and rubber, occur naturally. Other polymers are artificial—they are created by scientists in laboratories or factories. One artificial polymer that has had an enormous effect on our society is plastic.

A VARIETY OF USES FOR PLASTICS

Plastics are used in a variety of ways. Many food items are packaged in plastic. Because plastic helps keep food items fresher, they are less likely to spoil and to be wasted. In fact, packaging experts report that each kilogram of plastic packaging can save up to 1.7 kg of food from being wasted.

Plastics have many other uses. Plastic exterior panels on cars can bounce back from dents. Plastic parts help keep laptop computers fairly light and portable. Plastic parts and insulation in air conditioners and refrigerators have helped improve their energy efficiency by 30 to 50 percent since the early 1970s.

DESIGNING PLASTICS TO BREAK DOWN

Although plastic's durability usually keeps it from breaking down after it is thrown away, some new plastics have been designed to break down more easily. Surgeons can stitch up internal organs with plastic sutures that eventually dissolve on their own in the body, and mail-order companies cushion their shipments with a starch-based packaging material that dissolves in water.

EXERCISES

1. What do plastic and wood have in common?

2. Explain how plastic can help reduce food waste.

3. Explain how plastic benefits and harms the environment.
