3rd course Plastics. **Surname Name Group**

WATCH THE VIDEO and DO TASKS.

1. **What was the primary use of natural plastics by the Olmecs in Mexico?**

A Making rubber balls
B Creating synthetic plastics
C Producing biodegradable products
D Extracting crude oil and natural gas

2. **Which of the following was not a key step in the modern production of synthetic plastics?**

A Refining crude oil and natural gas
B Cracking ethane and propane molecules
C Polymerizing ethylene and propylene
D Cultivating rubber tree latex

3. **What is the main purpose of the resin identification codes on plastic products?**

A To indicate the recycling process
B To show the manufacturing country
C To identify the specific plastic resin used
D To provide instructions for safe disposal

4. **Which of the following plastic products is considered the most environmentally damaging?**

A Biodegradable bioplastics
B Reusable plastic containers
C Plastic pellets (nurdles)
D Single-use plastic items

5. **Which organisms have been discovered to have the ability to break down plastic material?**

A Microbes and worms
B Rubber trees and plants
C Crude oil and natural gas
D Celluloid and bakelite

6. **What is one of the main advantages of using plant-based ingredients to produce plastics?**

A They are more durable than synthetic plastics
B They are more cost-effective to manufacture
C They are more environmentally friendly and biodegradable
D They have a higher resistance to heat and pressure

7. **What is the primary driver behind the exponential growth in global plastic production over the past decades?**

A Increased demand for single-use plastics
B Advancements in recycling technology
C Shift towards biodegradable bioplastics
D Abundance and low cost of fossil fuel sources

Task 2. Fill in the gaps in the sentences with the correct word.

1. Plastics originally came from _____ sources, like sap from gum trees used by ancient civilizations such as the Olmecs.
2. In the 19th and 20th centuries, synthetic plastics like _____ and Bakelite were developed and widely used.
3. Today's plastics are mostly _____, with crude oil and natural gas as the primary sources because they are cheaper than plant-based plastics.

4. At refineries, fossil fuels are converted into ethane (from crude oil) and _____ (from natural gas), which are then sent to a cracker plant.
5. A _____ is added to link the molecules, forming polymers called resins, such as polyethylene and polypropylene.

Task 3. Match the collocations with their definitions.

1. Extraction of crude oil	**A.** Processing fossil fuels in refineries to convert them into usable products like ethane and propane.
2. Refining process	**B.** Heating and shaping plastic pellets into finished products.
3. Polymerization process	**C.** The stage where nurdles are melted and molded into different types of plastic items.
4. Plastic pellets (nurdles)	**D.** The process of removing crude oil from the ground as the first step in plastic production.
5. Manufacturing products	**E.** The process by which bioplastics break down in the environment without causing harm.
6. Molecular level	**F.** The chemical reaction where ethylene and propylene molecules are linked together to form polymers (resins).
7. Resin creation	**G.** Natural resources that can be replenished, used in creating biodegradable bioplastics.
8. Mold the nurdles	**H.** Small preproduction plastic pellets created from melted and cooled resins, used by manufacturers to make various plastic products.
9. Renewable resources	**I.** Referring to the structure of plastics made up of long, flexible chains of chemical compounds (polymers).
10. Biodegrade naturally	**J.** Forming polymers called resins during the polymerization process.

Task 4. Match the beginning phrase (1-5) to its correct ending (A-E) to form a complete, logical sentence to complete the summary of the plastic production and environmental impact text.

1. _____ Plastics are mainly made from…
2. _____ The process of making plastics involves…
3. _____ Nurdles are small plastic pellets that…
4. _____ Single-use plastics often end up as…
5. _____ Some organisms, like wax worms, can…

Endings:

A. …extracting fossil fuels, refining them, and combining them with catalysts.
B. …fossil fuels such as crude oil and natural gas.
C. …decompose plastic materials faster than they would naturally.
D. …trash that pollutes natural habitats and harms wildlife.
E. …manufacturers mold into different plastic products.

Task 5. Put the steps of plastic production in the correct order by numbering them (1-5).

___ Refining fossil fuels to produce ethane and propane

___ Forming nurdles and sending them to manufacturers

___ Cracking ethane and propane into ethylene and propylene

___ Extracting crude oil and natural gas

___ Mixing a catalyst to form polymers

Task 6. State whether each statement is true or false.

1. ___ Bioplastics are created from fossil fuels and do not degrade.
2. ___ Plastic production has doubled every decade since the 1950s.
3. ___ Ethane and propane are combined to make plastic without further processing.
4. ___ Single-use plastics contribute significantly to plastic waste.
5. ___ Plastic identification codes reveal the type of chemicals used.