

UNIT 10

Choose the correct word to complete each sentence.

1. The scientists _____ that deforestation was the main factor in the reduction in numbers of orangutans.
 - a. grasped
 - b. eliminated
 - c. concluded

2. The coastal path is now closed to the public because of soil _____.
 - a. extinction
 - b. preservation
 - c. erosion

3. The study of _____ allows us to understand the processes that have shaped the Earth's crust.
 - a. criteria
 - b. geology
 - c. irony

4. Due to advances in DNA and cloning science, the _____ of some animals may not mean the end of that species.
 - a. preservation
 - b. extinction
 - c. erosion

5. I find the idea that there may be species in the deepest parts of the ocean that haven't been discovered yet very _____.
 - a. intriguing
 - b. irony
 - c. subtle

LEVEL 4 Assessment

Complete the sentences with the correct words.

criteria	eliminating	irony	preservation	profound
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6. The _____ of the environment is essential if we are to prevent rising sea levels.
7. It is hard to believe some people still question the _____ impact that cars have on urban pollution.
8. The selection _____ for identifying endangered species includes factors such as habitat destruction, diet changes, and population size.
9. When the boat carrying the environmental protesters sank and caused an oil leak, everyone could see the _____.
10. The goal of _____ carbon dioxide from industrial processes is completely unrealistic.

Match the words to the definitions.

- | | | |
|------------------|---|---|
| 11. anthropology | ● | ● a. the study of human history and artifacts |
| 12. archeology | ● | ● b. the study of the human mind and emotions |
| 13. psychology | ● | ● c. the study of human culture and behavior |

Match the words to the sentences.

- | | | |
|------------|---|---|
| 14. effect | ● | ● a. We need to take dramatic _____ or we will never resolve this problem. |
| 15. moment | ● | ● b. There was a dramatic _____ when the minister stormed out of the conference in anger. |
| 16. action | ● | ● c. The heat wave had a dramatic _____ on the number of people admitted to hospital. |

LEVEL 4 Assessment

Read the passage.**The Human Age (by Elizabeth Kolbert)**

Human beings have altered the planet so much in just the past century or two that we are now in a new epoch: the Anthropocene.

- A** The word Anthropocene was coined by Dutch chemist Paul Crutzen in 2002. Crutzen, who shared a Nobel Prize for discovering the effects of ozone-depleting compounds, was sitting at a scientific conference one day. The conference chairman kept referring to the Holocene, the epoch that began 11,500 years ago, at the end of the last ice age, and that—officially, at least—continues to this day.
- B** “Let’s stop it,” Crutzen recalls blurting out. “We are no longer in the Holocene. We are in the Anthropocene.” It was quiet in the room for a while. When the group took a coffee break, the Anthropocene was the main topic of conversation.
- C** Way back in the 1870s, an Italian geologist named Antonio Stoppani proposed that people had introduced a new era, which he labeled the Anthropozoic. Stoppani’s proposal was ignored; other scientists found it unscientific. The Anthropocene, by contrast, struck a chord. The human impact on the world had become a lot more obvious since Stoppani’s day, in part because the size of the population had roughly quadrupled, to nearly seven billion.
- D** When Crutzen wrote up the Anthropocene idea in the journal *Nature*, the concept was immediately picked up by researchers working in a wide range of disciplines. Soon, it began to appear regularly in the scientific press. At first, most of the scientists using the new geologic term were not geologists. Jan Zalasiewicz, a British geologist, found the discussions intriguing. “I noticed that Crutzen’s term was appearing in the serious literature, without quotation marks and without a sense of irony,” he says.
- E** In 2007, Zalasiewicz was serving as chairman of the Geological Society of London’s Stratigraphy Commission. At a meeting, he decided to ask his fellow stratigraphers what they thought of the Anthropocene. Twenty-one of twenty-two thought the concept had merit. The group agreed to look at it as a formal problem in geology. Would the Anthropocene satisfy the criteria used for naming a new epoch?
- F** The rock record of the present doesn’t exist yet, of course. So the question was: When it does, will human impacts show up as “stratigraphically significant”? The answer, Zalasiewicz’s group decided, is yes—though not necessarily for the reasons you would expect.
- G** Probably the most obvious way humans are altering the planet is by building cities, which are essentially vast stretches of man-made materials—steel, glass, concrete, and brick. But it turns out most cities are not good candidates for long-term preservation: they’re built on land, and on land, the forces of erosion tend to win out over those of sedimentation. From a geologic perspective, the most plainly visible human effects on the landscape today “may in some ways be the most transient,” Zalasiewicz observes.
- H** Humans have also transformed the world through farming; more than half of the planet’s habitable land is now devoted to agriculture. Here again, some of the effects that seem most significant today—runoff from the use of fertilizers on fields, for example—will leave behind only subtle traces at best. Future geologists are

LEVEL 4 Assessment

most likely to grasp the scale of 21st-century industrial agriculture from the pollen record— from the monochrome stretches of corn, wheat, and soy pollen that will have replaced the varied record left behind by rainforests or prairies.

- I The leveling of the world's forests will send at least two coded signals to future stratigraphers, though deciphering the first may be tricky. Massive soil erosion is causing increasing sedimentation in some parts of the world—but at the same time, the dams we've built on most of the world's major rivers are holding back sediment that would otherwise be washed to sea. The second signal of deforestation should come through clearer. Loss of forest habitat is a major cause of extinctions, which are now happening at a rate hundreds or even thousands of times higher than during most of the past half billion years. If current trends continue, the rate may soon be tens of thousands of times higher.

Choose the correct answers.

17. How does the idea of the Anthropocene differ from previous epochs?
- It is the only epoch in which humans have lived.
 - It is the only epoch which cannot already be clearly seen in the rock layers of the Earth.
 - It is the only epoch named by a geologist, and not a chemist.
18. What was the initial response to Paul Crutzen's suggestion of the name "Anthropocene" at the conference?
- A few scientists at the conference demanded that the word only be used with quotation marks.
 - The majority of geologists at the conference preferred the term "Anthropozoic".
 - The participants at the conference were shocked at first, but then intrigued.
19. What will the impact of cities be on the planet in the long term?
- Man-made materials from cities will be the major cause of soil erosion in this epoch.
 - They will leave only minimal traces behind.
 - The concrete from buildings will remain in the sediment for tens of thousands of years.
20. How will geologists in the future most clearly be able to see evidence of the 21st century in the rocks?
- They will be able to tell when a large number of trees were cut down.
 - They will see the outlines of man-made dams.
 - They will be able to find the bones from extinct animals.
21. In the third sentence of paragraph I, the word *signal* is closest in meaning to _____.
- gesture
 - prompt
 - indicator

LEVEL 4 Assessment

Read the passage.**Rising Seas**

- A** Hurricane Ian, which hit the Caribbean, the Gulf of Mexico, and the U.S. in September 2022, was the fifth Category 5 Atlantic hurricane to make landfall in as many years. It resulted in 161 fatalities and caused an estimated \$113 billion in damage due to flooding. And yet, outside of the affected areas, few people even remember the name of this storm as hurricanes of this magnitude are unfortunately becoming almost commonplace.
- B** The vast majority of scientists agree that the recent increase in the number and strength of hurricanes is caused predominantly by climate change resulting from human activities. But storms and hurricanes are only the start. Sea level rise is likely to pose much more serious problems. By studying sediment cores, scientists have determined that sea levels have remained stable for most of the last 2,000 years. Since the rise of industrialization in the late 19th century, however, the Earth has started to warm, melting polar ice and causing sea levels to rise. At current rates, sea levels could go up by more than one meter this century. The damage this would cause would be unfathomable: By 2070, as many as 150 million people could be displaced and \$35 trillion in property worldwide could be destroyed by coastal flooding.
- C** How will cities cope with this? For guidance, many cities around the world are turning to the Netherlands—a country that had to face and overcome the problem of rising seas some 70 years ago when the country was confronted with its own coastal catastrophe.
- D** On the night of January 31, 1953, the country was met by a storm that roared in from the North Sea. Ria Geluk—the founder of the Netherlands Watersnoodmuseum, or “flood museum”—was just six years old at the time, living on an island in the Dutch province of Zeeland. She remembers a neighbor knocking on her family’s door in the middle of the night to tell them the flood wall had failed. Later in the day, the whole family climbed to the roof. Geluk’s grandparents lived just across the road, but water poured into the village with such force that they were trapped in their home. Sadly, their house collapsed, and they died inside. In total, the disaster killed 1,836 people, including a baby born on the night of the storm.
- E** After the storm, the Dutch began an ambitious program of flood wall and barrier construction called the Delta Works. The program lasted more than four decades and cost the Netherlands more than \$6 billion. One crucial part of the project was the construction of an eight-kilometer barrier, built to defend Zeeland’s coast from the sea. The final component of the Delta Works program was finished in 1997. It was a moveable barrier protecting Rotterdam Harbor and some 1.5 million people. Like all the other sea barriers built in the Netherlands, it was built to withstand a 1-in-10,000-year storm—the strictest standard for sea barriers worldwide.
- F** Today, the Netherlands’ sea barriers still stand strong. However, an inscription on the side of a storm-surge barrier in Zeeland carries a message that has perhaps become a little outdated: “*Hier gaan over het tij, de maan, de wind, en wij*”—Here the tide is ruled by the moon, the wind, and us. It reflects the confidence of a generation that assumed a reasonably stable world, something we can no longer afford to do. “We have to

LEVEL 4 Assessment

understand that we are not ruling the world,” says Jan Mulder of Deltares, a Dutch coastal management firm. “We need to adapt.”

- G** Even if we radically reduce our emissions of heat-trapping greenhouse gases tomorrow, oceans will likely continue to rise as it will take some time for Earth to adjust. It is therefore too late to prevent rising sea levels: cities will instead have to learn to cope with it. Among the most vulnerable cities is Miami. “I cannot envision southeastern Florida having many people at the end of this century,” says Hal Wanless of the University of Miami’s Department of Geological Science. “We think Miami has always been here and will always be here. How do you get people to realize that Miami—or London—will not always be there?”

Choose the correct answers.

22. What would be a good alternative title for this reading?
- The Devastation of Hurricane Ian
 - How to Slow Global Warming
 - Can Our Coasts Be Saved?
23. What key lesson does the Netherlands offer to deal with rising sea levels?
- They have shown how to deal with flooding at a fraction of the cost of other methods.
 - They have shown the importance of proactive coastal management strategies.
 - They have created the strictest flood resistance building standards for homes.
24. What Delta Works project was completed last?
- An 8-km wall around an island.
 - A storm-surge barrier that can harness wave power.
 - A moveable wall to stop flooding in a harbor.
25. What does the inscription on the storm-surge barrier in Zeeland say?
- It commemorates the 1,836 victims of the North Sea storm of 1953.
 - It states that humans are able to control nature.
 - It warns that nature is unpredictable and dangerous.
26. What does Hal Wanless predict about the future of coastal cities?
- He thinks there will be significant population decline.
 - He hopes that cities like Miami will be relocated inland.
 - He believes that they will implement advanced engineering solutions to reduce the number of storms.

LEVEL 4 Assessment

27. What is the rhetorical purpose of the statistics given in paragraph **A**?
 - a. The author is trying to blame the authorities for not being prepared for the hurricane.
 - b. The author is trying to show how people are becoming desensitized to serious disasters.
 - c. The author is trying to build excitement for the rest of the passage.
28. What is the rhetorical purpose of the inscription quoted in paragraph **F**?
 - a. The author wants to show that we are not as powerful as we sometimes think we are.
 - b. The author wants to show that humans can achieve anything if they have confidence.
 - c. The author wants to show how outdated the technology used in the storm-surge barrier has become.

Read each sentence. Decide if it is simple, compound, or complex. Choose the correct answer.

29. Even if we reduce emissions now, seas will continue to rise.
 - a. Simple
 - b. Compound
 - c. Complex
30. The powerful storm roared in from the North Sea on the night of January 31, 1953.
 - a. Simple
 - b. Compound
 - c. Complex
31. Sea levels were stable for 2000 years, but they began rising 200 years ago.
 - a. Simple
 - b. Compound
 - c. Complex
32. The city approved funds for a storm-surge barrier, but it may be too late.
 - a. Simple
 - b. Compound
 - c. Complex
33. When Hurricane Ian hit the coast, winds were as strong as 260kph.
 - a. Simple
 - b. Compound
 - c. Complex

LEVEL 4 Assessment

34. The most crucial part of the project was the eight-kilometer steel wall built.
- Simple
 - Compound
 - Complex

Read each essay prompt. Choose the best thesis statement.

35. What strategies can be employed to lessen the impact of humans on resource consumption?
- Resource depletion is a serious issue that needs to be dealt with soon, before the situation becomes permanent.
 - By reducing waste, using resources more efficiently, and cooperating globally, we can make current resources last longer.
36. What are the main ways in which human actions are destroying ecosystems?
- Ecosystems that have been destroyed include marine ecosystems like oceans, freshwater ecosystems like rivers, and terrestrial ecosystems like deserts.
 - Pollution, the rapid growth of cities, and destruction of habitats all damage our planet.
37. Examine the role of human activities in driving climate change and global warming.
- There is still some debate about how much climate change is a result of human activity and how much it is due to natural climate patterns.
 - Climate change is happening due to human activities, but there could be other factors involved as well.
38. What challenges arise from the population growth that we have seen in the past 50 years?
- More people on the planet means more strain on food and land resources.
 - In just 200 years, the global population has risen about 1% every year, increasing from 1 billion to almost 8 billion.

LEVEL 4 Assessment

39. What strategies can be implemented to ensure sustainable water management?
- Plastics are breaking down into tiny pieces, and these microscopic fragments are finding their way into our water supply.
 - We need public awareness campaigns, limits on water use, and new farming techniques to make sure we have enough water in the future.

Read the sentence from an essay about why we need to prevent ocean temperatures from rising. Decide if the sentence belongs in the introduction, body, or conclusion of an essay. Choose the correct answer.

40. One reason to fight climate change and prevent our oceans from heating up is to protect the world's coral reefs, which play a vital role in protecting our coastlines.
- Introduction
 - Body
 - Conclusion

Read the sentences from an essay. Decide if the sentence belongs in the introduction, body, or conclusion of an essay. Choose the correct answer.

41. The final reason to keep our oceans cool is that warmer oceans will result in more intense and frequent storms, which will cost many lives and billions of dollars in damage.
- Introduction
 - Body
 - Conclusion
42. It may be too late to prevent our oceans' temperatures from rising to worrying levels, but if we do nothing, what will future generations think of us?
- Introduction
 - Body
 - Conclusion

LEVEL 4 Assessment

43. We need to keep ocean temperatures low in order to protect coral reefs, prevent rising tides, and reduce the intensity of tropical storms.

- a. Introduction
- b. Body
- c. Conclusion

44. Former U.S. President John F. Kennedy once said, “We are tied to the ocean.” His words could not be more true. The oceans play a vital role in our survival as a species.

- a. Introduction
- b. Body
- c. Conclusion

You are going to write an essay based on the following topic.

45. **Describe how the actions of one of these topics is impacting the environment.**

Topic 1: What actions can ordinary people take in their daily lives to have a positive impact on the environment?

Topic 2: What actions can governments take to encourage companies to have a less negative impact on the environment?

A. OUTLINE Plan an outline for your essay.

Write notes for your introduction. Include a thesis statement that presents your position on the topic and lists the reasons for your position.

LEVEL 4 Assessment

Write out the topic sentence of each of your body paragraphs. Make sure the order of the paragraphs matches your thesis statement. Note down important details.

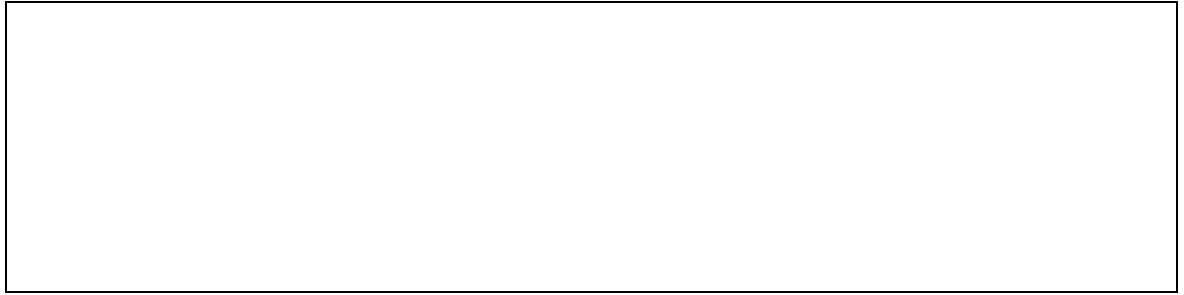
Write notes for your conclusion. Remember to restate your thesis statement and summarize your main points. Add a final thought.

B. Think of some words and phrases you can use in your essay. Write them in the box.

The words and phrases below can be useful when writing about how the actions of people or an organization can impact the environment.

- *To address this issue/problem ...*
- *One of the main actions we can take ...*
- *One important step is to ...*
- *... is crucial / essential.*
- *In conclusion ...*

LEVEL 4 Assessment



- C. Write your essay based on your outline. Use the model to help you. Remember to use the vocabulary you wrote down.

Model:

In today's world, environmental concerns have never been more pressing. The impact of human activities on the environment has raised alarms about the future of our planet. Fortunately, every individual has the power to make a positive contribution to improving the environment through their daily actions. To address this issue, we need to make conscious choices in the way we use resources, the amount of energy we use, and the businesses we support, so that we can work towards a greener world.

One of the most profound ways ordinary people can make a difference is by practicing the three Rs: Reduce, Reuse, and Recycle. Reducing consumption means buying fewer things, choosing products with minimal packaging, and avoiding single-use items like plastic bags and bottles. Reusing involves finding creative ways to use old items, such as turning old jars into storage containers. Recycling, on the other hand, involves separating waste materials, like paper, glass, and plastics, to be processed and transformed into new products. By adopting these practices, individuals can significantly decrease the amount of waste that ends up in landfills and avoid wasting resources.

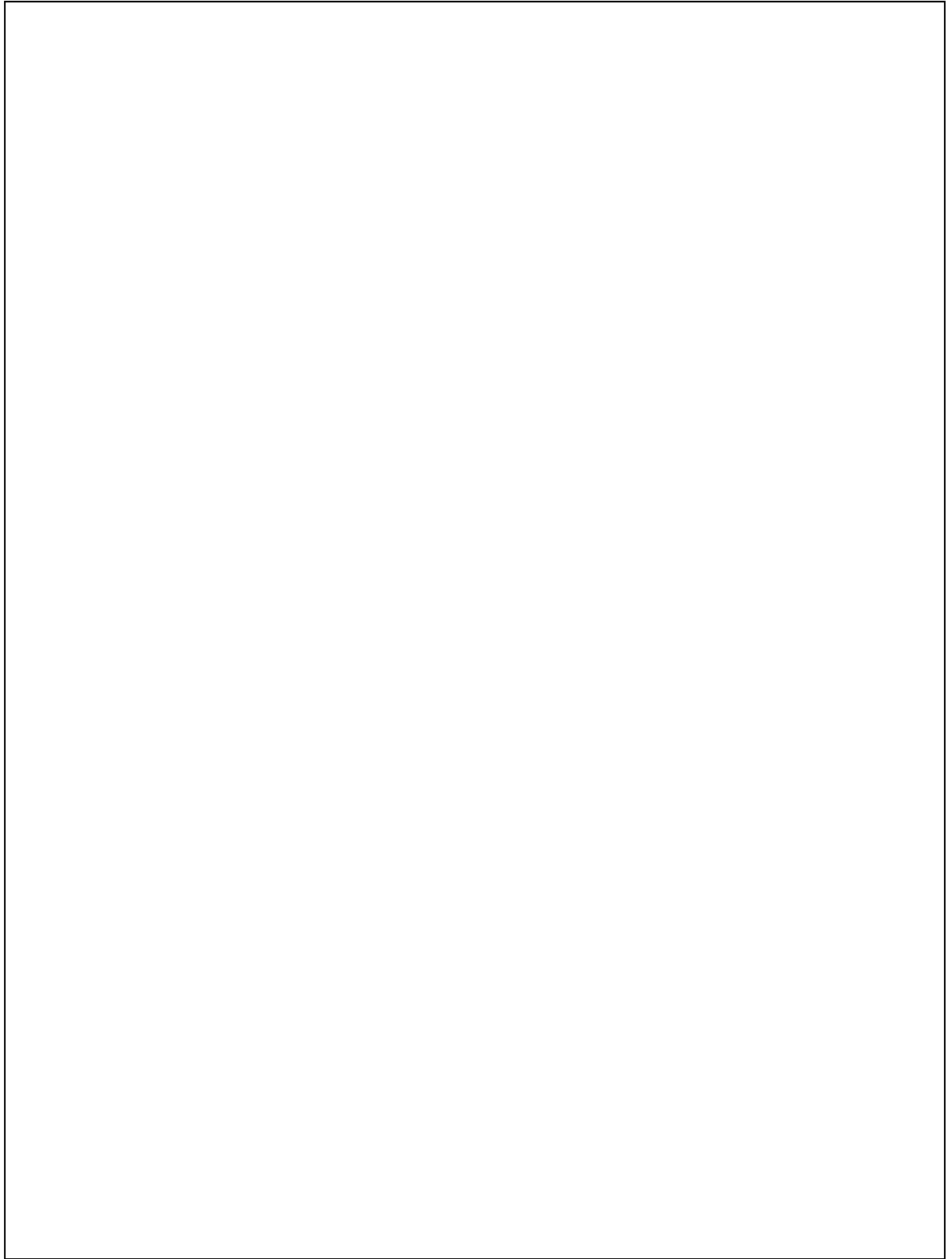
Another important action is promoting energy efficiency in our daily lives. Simple steps like turning off lights when not in use, unplugging electronic devices, and using energy-efficient appliances can lead to substantial reductions in energy consumption. Additionally, using public transportation, carpooling, or cycling instead of driving alone can significantly cut down on carbon emissions. By being more conscious of our energy consumption and transportation choices, we can help reduce our carbon footprint and fight climate change.

Choosing sustainable products and supporting eco-friendly businesses is a crucial step towards a greener planet. When purchasing goods, opt for those made from renewable materials, produced using ethical practices, and transported with minimal environmental impact. Supporting local farmers' markets and buying organic foods not only promotes healthy eating habits but also reduces the carbon footprint associated with long-distance transportation. By supporting businesses that have environmentally friendly policies, we can send a clear message that this is important.

LEVEL 4 Assessment

In conclusion, the path to a greener future lies in the hands of ordinary individuals who make mindful choices in their daily lives. By practicing the three Rs, thinking about how much energy we use, and supporting sustainable businesses, we can collectively contribute to the preservation of our planet's resources. Every small action adds up, and it is through our joint efforts that we can create a more sustainable world for ourselves and generations to come.

LEVEL 4 Assessment



(12 points)