

A. Shared SL/HL questions

Write in a notebook or on separate paper. Check the answer only after your attempt.

SL + HL / Atmospheric CO₂ data / Suggested practice marks: 4

01. Use Figure 1. Describe the trend in atmospheric CO₂ concentration, calculate the increase from 2015 to 2025, and explain why the graph does not directly show annual CO₂ emissions.

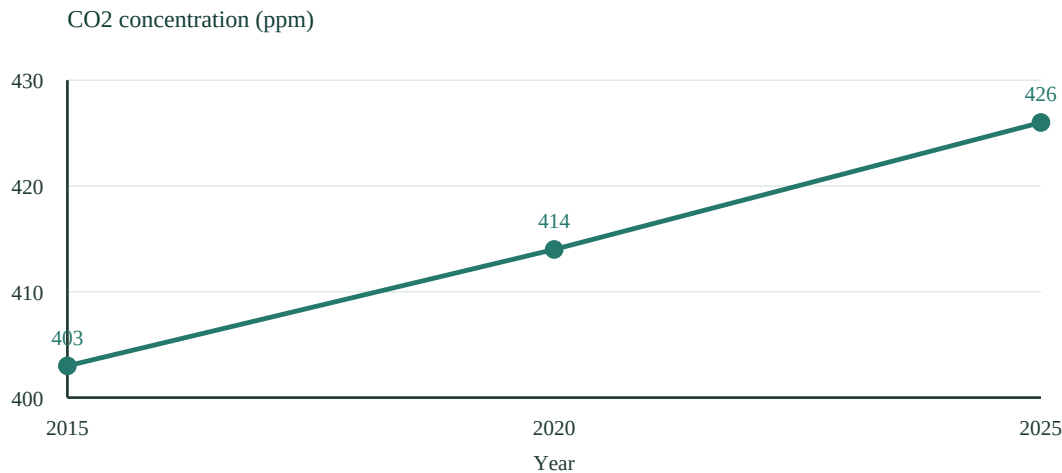


Figure 1. Illustrative atmospheric CO₂ concentrations.
Invented practice data, not observed measurements.

SL + HL / Systems and feedback / Suggested practice marks: 3

02. Explain one negative feedback that can help stabilize a population close to its carrying capacity.

SL + HL / Sustainability and indicators / Suggested practice marks: 4

03. A town reduces its annual territorial CO₂ emissions from 120,000 tonnes to 96,000 tonnes. Calculate the percentage reduction and explain one reason why this does not establish that the town is sustainable.

A. Shared SL/HL questions / continued

SL + HL / Perspectives / Suggested practice marks: 4

04. Explain how two different environmental perspectives could lead people to support the same wetland restoration project for different reasons.

SL + HL / Ecology and food webs / Suggested practice marks: 3

05. Use Figure 2. Predict one possible effect of a decline in frogs on snakes, and explain why the outcome cannot be predicted from this food web alone.



Figure 2. Simplified food web. Arrows indicate energy transfer from food to consumer.

SL + HL / Tiger abundance and conservation / Suggested practice marks: 4

06. Use Figure 3. Describe the changes in tiger abundance in the national park from 2015 to 2025 and explain one possible reason for an increase shown in the graph.

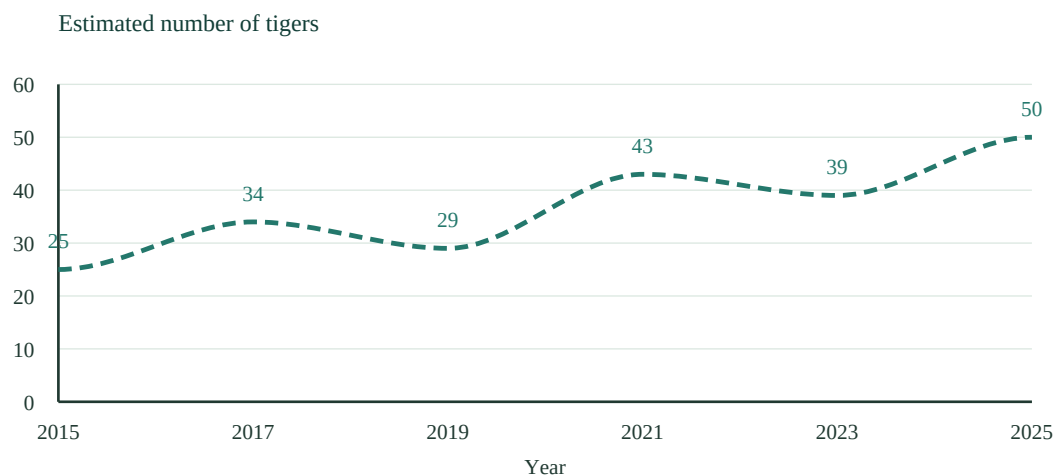


Figure 3. Illustrative tiger abundance in a national park.
Invented practice data, not observed measurements.

C. Essay questions

QUESTION 41 / SL + HL / Conservation and land use / Food and soil / Waste management

(a) Outline four ecosystem services that a restored wetland may provide. [4]

(b) Explain the benefits and management challenges of using cover crops on agricultural land. [7]

(c) Evaluate recycling as the main strategy for managing municipal solid waste. [9]

QUESTION 41 / Part (c)

(c) Waste management / 9 practice marks

Introduction

Recycling recovers secondary materials from waste and can reduce some demand for virgin resources. Its suitability as the main waste strategy should be assessed against prevention, reuse and other treatments using environmental outcomes and local feasibility.

Body paragraph 1

Recycling can reduce demand for virgin materials and disposal capacity, particularly for streams that can be recovered efficiently. It still requires collection, sorting and processing and cannot indefinitely preserve the quality of every material. Prevention and reuse can avoid upstream impacts, while suitable organic waste may be better treated separately. The quality and type of material matter. Recovering a clean, well-separated stream can be more useful than collecting a larger contaminated mixture. The environmental benefit also depends on whether secondary material actually replaces virgin production. Reliable reporting should follow material through sorting and processing, rather than assuming that all collected waste becomes a new product.

Body paragraph 2

Landfill and energy recovery involve different emissions and resource trade-offs. Local infrastructure, material composition and lifecycle evidence should guide decisions. Prevention and reuse can avoid manufacturing and packaging impacts before waste reaches the collection system. This does not make recycling irrelevant: many essential products still generate recoverable waste. The municipality needs services for different streams, public information and product-design cooperation. Policies should also consider who has access to convenient collection and who bears the burden of disposal facilities.

Conclusion

A defensible conclusion is that recycling should be a significant component of an integrated strategy, but treating it as the main answer can neglect prevention, design and consumption changes. Success is a reduction in overall resource demand and environmental harm, not simply a high collection statistic. Recycling is strongest when embedded in a strategy that also changes design, purchasing and avoidable waste.

Evaluation check: Judge actual recovery and displacement of virgin material, not merely the number of recycling bins.

The extended response is a model line of argument, not the only acceptable conclusion. Strengthen your own answer with accurate, relevant examples where the question allows.