

Exercise walk-through

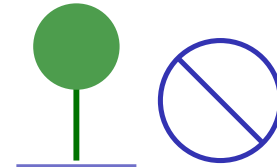
20.2

Habitat destruction

IGCSE Biology

What we will cover

- 1 Increasing food supply
- 2 Habitat destruction
- 3 Water pollution
- 4 Plastics & climate change
- 5 Conservation



protect, do not clear

conservation

Why species are lost, and why we conserve them

Why they are lost

Numbers fall through climate change, habitat destruction, **hunting**, **overharvesting**, pollution and **introduced species**.

What conservation keeps

Biodiversity, fewer extinctions, working ecosystems – and the functions they carry out: recycling nutrients, and providing food, **drugs**, fuel and useful **genes**.

How

Protected habitats, captive breeding and seed banks, controlled harvesting, and education.

The strongest exam answer names a *use* we would lose – a crop gene, a medicine – alongside the ethical case.

Water pollution, sustainability and conservation

untreated sewage	and excess fertiliser washed into rivers damage water ecosystems
the mechanism	nutrients cause algal growth, the algae die, decomposition by bacteria uses the oxygen, and fish suffocate – eutrophication
a sustainable source	re- one produced as fast as it is used up , so it never runs out
endangered	a species whose numbers fall through climate change, habitat loss, pollution, hunting or introduced species
how species are conserved	protected habitats, breeding programmes, education, and legal protection
seed banks	store seeds safely – cheap, compact, and they preserve the genes of crop plants and wild relatives

Conservation protects **genetic diversity**, not only individuals – which is why a seed bank is worth as much as a reserve for some species.

Exercises 2.1·2.2

2.1 Define biodiversity.

[1]

2.2 State one way humans destroy habitats.

[1]

Exercises 2.1·2.2

2.1 Define biodiversity.

[1]

2.1

- biodiversity is the **number of different species** living in an area
-

2.2 State one way humans destroy habitats.

[1]

2.2

- any **one** of: clearing land / mining / pollution

Exercise 3.1

3.1 Deforestation increases the amount of carbon dioxide in the air because: [1]

☐

A trees release it when cut

B fewer trees take it in by photosynthesis

C soil makes it

D rivers flood

Exercise 3.1

3.1 Deforestation increases the amount of carbon dioxide in the air because: [1]

☐

A trees release it when cut

B fewer trees take it in by photosynthesis

C soil makes it

D rivers flood

3.1 B

- fewer trees take in less CO₂ by **photosynthesis**
- A is not the main reason; C and D are unrelated

Exercise 3.2 (a)

3.2 A large area of forest is cleared.

(a) State two effects of this deforestation.

[2]

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3.2 A large area of forest is cleared.

(a) State two effects of this deforestation.

[2]

(a)

- any **two** of: lower biodiversity / soil loss / flooding / more CO₂

Exercise 3.2 (b)

3.2 A large area of forest is cleared.

(b) Explain why removing the trees leads to soil being washed away.

[2]

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3.2 A large area of forest is cleared.

(b) Explain why removing the trees leads to soil being washed away.

[2]

(b)

- tree roots no longer **hold the soil**
- so rain **washes it away**

Exercise 3.3 (a)

3.3 A large area of tropical rainforest is cleared for cattle farming.

(a) State what is meant by *biodiversity*.

[2]

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3.3 A large area of tropical rainforest is cleared for cattle farming.

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[2]

(a)

- the number of **different species**
- and how many individuals of **each**

Exercise 3.3 (b)

3.3 A large area of tropical rainforest is cleared for cattle farming.

(b) Describe **four** effects of deforestation on the environment, explaining each.

[8]

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(b) Describe **four** effects of deforestation on the environment, explaining each.

[8]

(b)

- **loss of habitat:** food, shelter and breeding sites gone
- **soil erosion:** roots no longer bind the soil
- **flooding:** less water taken up, so more runs into rivers
- **more CO₂:** fewer trees photosynthesise, and burning releases more

Exercise 3.3 (c)

3.3 A large area of tropical rainforest is cleared for cattle farming.

(c) Explain why species that live only in that forest are at risk of extinction.

[2]

Exercise 3.3 (c)

3.3 A large area of tropical rainforest is cleared for cattle farming.

(c) Explain why species that live only in that forest are at risk of extinction.

[2]

(c)

- a species found nowhere else has **no other population**
- once its only habitat is destroyed it becomes **extinct**

Exercise 3.3 (d)

3.3 A large area of tropical rainforest is cleared for cattle farming.

(d) Suggest **two** ways of reducing the impact of using forest land.

[2]

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3.3 A large area of tropical rainforest is cleared for cattle farming.

(d) Suggest **two** ways of reducing the impact of using forest land.

[2]

(d)

- **replant** after felling, or fell in rotation
- **protect reserves** and use already-cleared land more productively