

Land use

4.7.3.3 · Ecology · revision notes

Humans use land for building, quarrying, farming and dumping waste, leaving less for other species. You also need the example of peat bogs: why destroying them reduces biodiversity and releases carbon dioxide.

Key facts

- Land is used for building, quarrying, farming and dumping waste
- Less land for other species → lower biodiversity
- Peat = partly decayed plant material that forms very slowly in waterlogged bogs
- Peat is dug up to produce garden compost
- Destroying peat bogs → less habitat → lower biodiversity
- Burning or decay of peat → releases CO₂
- Peat-free compost helps protect peat bogs

Notes

How humans use land

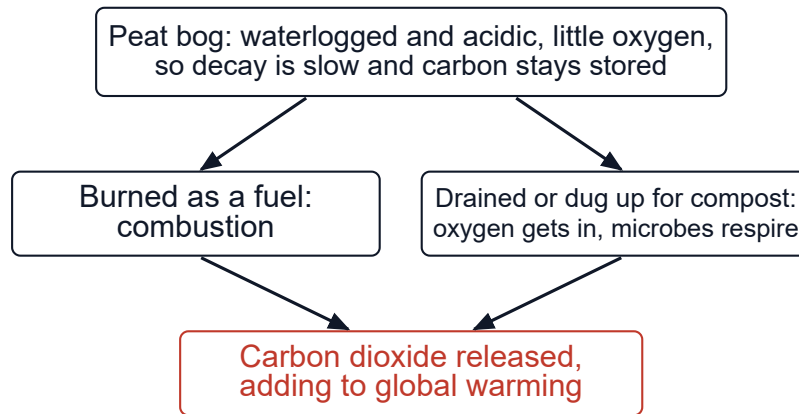
- Building, quarrying, farming and dumping waste** all take up land, leaving less for other plants and animals.
- As the human population grows, more land is needed for houses, roads, factories and food.
- Destroying habitats leaves less space, food and shelter for other species, so biodiversity falls.
- Farming large areas of one crop replaces many species with just one.

Peat bogs

- Peat** is made of partly decayed plant material. It forms in bogs, which are waterlogged and acidic, so there is little oxygen and decay is very slow.
- Peat builds up extremely slowly, so it is used up far faster than it forms.
- Peat bogs are the habitat of a particular range of plants, animals and microorganisms, many of them rare.
- Digging peat out of bogs to sell as garden compost shrinks this habitat, so fewer of its plant, animal and microorganism species can survive: biodiversity falls.

Peat and carbon dioxide

- Peat is a store of carbon, locked up in plant material that has not decayed.
- When peat is **burned** as a fuel, combustion releases carbon dioxide.
- When peat is drained or dug up and spread as compost, oxygen reaches it, so microorganisms decay it and their respiration releases carbon dioxide.
- This adds to the carbon dioxide in the atmosphere, which contributes to global warming.



Two ways that using peat releases the carbon stored in it.

- Using **peat-free compost** (e.g. made from garden waste, bark or coconut fibre) helps protect peat bogs.

How to answer each type of question

Recall: how humans reduce land for other species

2 marks

Grade 3

1. Give two from: building, quarrying, farming, dumping waste (landfill).
2. Be specific: 'building houses' rather than 'using land'.

Example. Give **two** human activities that leave less land for wild plants and animals.

Model answer. Any two from: building (1); quarrying (1); farming (1); dumping waste / landfill (1)

Don't lose marks

- ✗ Giving only one of the two problems with using peat. Most questions want both: loss of habitat (biodiversity) and release of carbon dioxide.
- ✗ Saying peat releases carbon dioxide 'naturally' without the process: combustion, or respiration by microorganisms.
- ✗ Saying land use 'kills animals' without explaining habitat loss: less food, space and shelter.

More tips

Memory tricks

- Land use, BQFW: Building, Quarrying, Farming, Waste.
- Peat is a carbon bank: burn it or let it decay and the carbon comes back out as carbon dioxide.
- Waterlogged means little oxygen, so decay is slow and peat builds up.

Exam technique

- For peat questions, cover both biodiversity and carbon dioxide unless told otherwise.
- In 'evaluate' questions, give points on both sides and a justified conclusion.
- Use the terms habitat, biodiversity, respiration and combustion.

What each grade needs

What you need to be able to do, from the first marks up to the top grade.

Grade 3

Name ways humans use land

Building, quarrying, farming and dumping waste.

Grade 4

Explain how land use reduces biodiversity

Habitats are destroyed, so there is less space, food and shelter for other plants and animals.

Grade 5

State why peat bogs are destroyed

Peat is dug up to produce garden compost.

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