

Material cycles

Why must materials be cycled in an ecosystem?

Material cycles

What are the abiotic and biotic components of an ecosystem?

Material cycles

Which process removes carbon dioxide from the air?

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Which processes return carbon dioxide to the air?

Material cycles

What do decomposers do?

Material cycles

Name the main processes in the water cycle.

Material cycles

What is potable water?

Material cycles

What is desalination and what is its disadvantage?

Abiotic: air, water, soil. Biotic: the living organisms.

The supply is limited, so materials are returned to the environment for new organisms to use.

Respiration, decay by decomposers, and combustion.

Photosynthesis.

Evaporation, transpiration, condensation and precipitation.

Microorganisms (bacteria and fungi) that break down dead material and waste and release carbon dioxide by respiration.

Removing salt from sea water to make potable water. It needs a lot of energy so is expensive.

Water that is safe to drink.

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Why do plants need nitrates?

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What do nitrogen-fixing bacteria do?

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What do nitrifying bacteria do?

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What do denitrifying bacteria do?

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**How do fertilisers and crop rotation
help plants get nitrates?**

Convert nitrogen gas from the air into nitrogen compounds, which become nitrates. Some live in legume root nodules.

To make amino acids and proteins.

Convert nitrates in the soil into nitrogen gas, reducing soil fertility.

Convert ammonium ions in the soil into nitrates.

Fertilisers add nitrates. In crop rotation, a legume crop adds nitrates through nitrogen-fixing bacteria.