



# Eutrophication

An Introduction to Water Pollution from Fertilisers

## Keys Terms:

Fertilisers, photosynthesis, pollution

[canalrivertrust.org.uk/stem](https://canalrivertrust.org.uk/stem)

Canal & River Trust charity number: 1146792

## Objectives

- Understand what fertilisers are and why they are used.
- Learn how fertilisers can enter canals and rivers.
- Explore the impact of fertilizers on ecosystems and the environment.

## What do plants need to help them grow and thrive?

- Water
- Light
- Carbon dioxide
- Nutrients/minerals



## Why do farmers use fertilisers?

- Fertilisers provide extra nutrients needed by plants to grow well, such as **nitrogen**, **phosphorus** and **potassium**.
- They can make crops grow *faster* and **bigger** so that yields are increased.



## What's the problem with fertilisers?

- Fertilisers can get washed off the land by rain.
- The fertilisers can then enter the nearby canals and rivers and pollute the water.
- Increased levels of nitrates and phosphates in the water cause **eutrophication.**



## Eutrophication: **Algae**

- High levels of nutrients encourage algae growth which **blooms** over the water surface.
- Algae blooms prevent sunlight from reaching other water plants below.



## Eutrophication: Ecosystems

- Submerged plants die because they cannot carry out photosynthesis.
- Bacteria feed on the dead plants and use up the oxygen in the water.
- The resulting low levels of oxygen make it difficult for aquatic life to survive.
- Water without oxygen is called **Anoxic**.



Watch this  
[animated micro-lesson](#)

## Eutrophication: Persuade

- Write a balanced letter to a local farmer, explaining the impact that fertilisers are having on canals and rivers.
- Use the following key words and sentence starters to help you...





## Key words:

fertilisers  
nitrates  
phosphates  
algae blooms  
nutrients  
sunlight  
eutrophication  
photosynthesis  
anoxic



## Sentence starters:

- I am writing to inform you...
- I am sure you will be shocked to learn...
- You will surely be concerned to know that...
- You should consider the impact of...



## Eutrophication: Discuss

- How could eutrophication in canals and rivers be reduced?
- What ideas can you think of **BIG** or small.

