

An Introduction to Water Pollution from Fertilisers

Keys Terms:

Fertilisers, photosynthesis, pollution

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.

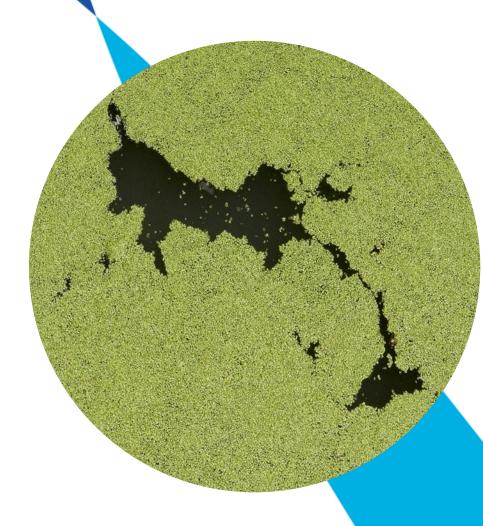




Eutrophication: Algae

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

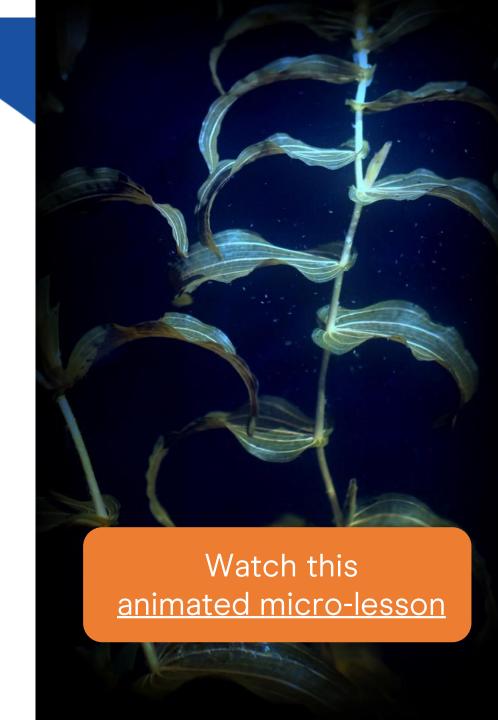
Eutrophication





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.





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.