8 Water pollution and biomagnification – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	**Write it 3 times** (English)		
eutrophication			
Thermal pollution			
Bioaccumulation			
Biomagnification			

Recall

You already know water can be polluted:

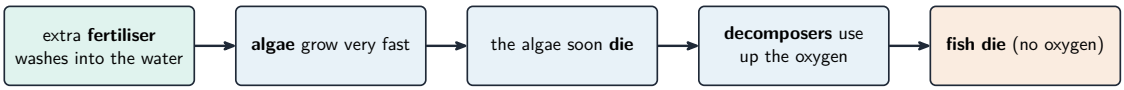
- Sewage, fertilizer, and factory waste can enter rivers and seas.
- Too much fertilizer can cause a green bloom of algae in a pond.
- Some poisons build up in animals over time.

This sheet lines up water pollution. Each idea has a short worked example.

New ideas

1 Eutrophication

When extra nutrients (from fertilizer or sewage) enter water, they cause **eutrophication** : algae bloom, then die and rot, using up the oxygen, which suffocates fish.



2 Thermal pollution

Thermal pollution is warm water released by power plants; warm water holds less oxygen, stressing aquatic life.

3 Bioaccumulation and biomagnification

Bioaccumulation is the build-up of a toxin **inside one organism** over its life. **Biomagnification** is the increase in concentration **up the food chain**, so top predators end up with the most.

4 Biomagnification in numbers

Worked example. If water holds a toxin at 0.01 ppm, plankton might reach 0.5 ppm, small fish 2 ppm, and a top predator 25 ppm – about 2500 times the level in the water.

Watch out: because toxins **biomagnify**, a top predator (like an eagle or a large fish) can be poisoned even when the water itself is only lightly polluted.

Practice

Try these in order. The methods are all above.

2.1 Explain the steps of eutrophication, from fertilizer runoff to dead fish. [3]

2.2 State why warm water from power plants harms aquatic life. [2]

2.3 State the difference between bioaccumulation and biomagnification. [2]

2.4 A toxin is 0.02 ppm in water and 40 ppm in a top predator. Find how many times more concentrated it is in the predator. [2]

2.5 Explain why top predators are most affected by biomagnification. [2]