

infosheet

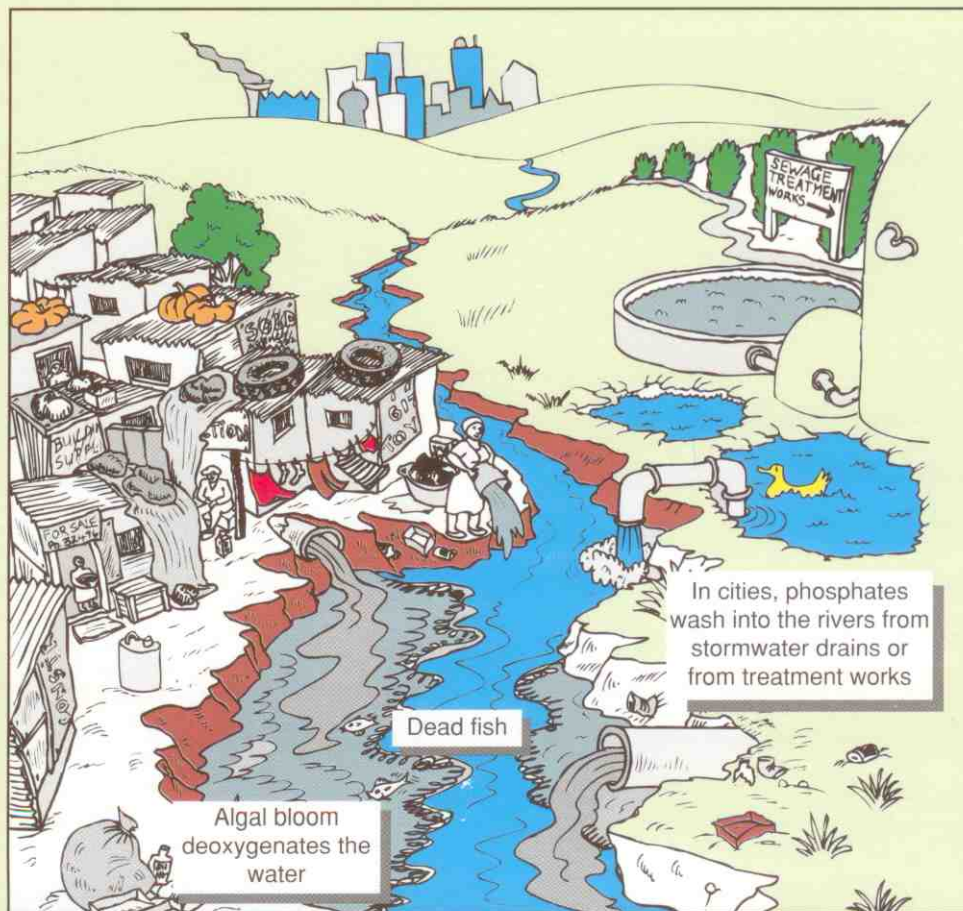
WASHING POWDERS AND DEAD FISH

Phosphates are chemicals used in many household cleaning products including washing powder and shampoo. They soften the water so that the cleaning product can dissolve more easily and break up dirt. They are also used in fertilisers on farms because they help plants to grow faster.



Did you know?
when algae spreads
over large areas of
water they are
called algal bloom.

When phosphate-rich sewage washes into the rivers or sea, it acts as a fertiliser speeding up the growth of tiny water plants, called algae. When the algae die, they are broken down by bacteria. As they work, the bacteria use up oxygen in the water. If they use too much oxygen, the fish and other small creatures can die. This can upset the ecology of the river. Phosphates also encourage fast growth in larger plants such as water-weeds, often leading to the same impact as an algal bloom. Communities should always report sudden increases in the numbers of dead fish in nearby streams, rivers or dams to their local Council



In cities, phosphates
wash into the rivers from
stormwater drains or
from treatment works

it's a fact!
about 25% of
phosphates
found in fresh
water come from
household
detergents.



SHOPPING SURVEY TO SAVE OUR RIVERS



• Using the infosheet (*Washing Powders and Dead Fish*), present a lesson on the effects of overfertilisation of rivers to discuss why it is important not to upset the ecology of rivers.

• Ask learners to visit their local supermarket to investigate the contents of household cleaning products. They will need to read the labels carefully. It may be useful for learners to draw up a chart like the one below.

BRAND NAME	LISTED INGREDIENTS	WORDS USED TO SELL THE PRODUCT	ENVIRONMENTAL INFORMATION ON THE LABEL	PRICE per kg
Omo Washing Powder	<p>< 5% Polycarboxylates</p> <p>5-15% Silicates (Soda Ash)</p> <p>15-30% Anionic Surfactant (Phosphates)</p> <p>Enzymes</p> <p>Perfume</p> <p>Optical - Brightener</p>	<p>• New improved power foam</p> <p>• Longer lasting (use less)</p> <p>• Recommended by leading manufacturers</p> <p>• Cold water</p>	<p>• Made with concern for the environment</p> <p>• Surface active ingredients are biodegradable</p> <p>• 80% of the box is made from recycled paper</p> <p>• use in cold water (saves electricity)</p>	R9,95



• Ask learners to identify products that are more 'environmentally friendly' than others. It would be interesting for learners to discuss whether they would be prepared to use those products above others and to explain why or why not.



MAKING THE ALGAE BLOOM:

•Ask the learners to do the following:

1. Fill five clean jamjars with the same amount of either rain water or clean pond water.
2. Stand the jars on a sunny window-sill.
3. After a few days the water will go green. This is because tiny plants called algae grow in it. Similar algae grow in ponds, rivers, streams, dams and the sea.
4. Into the first jar put a small amount of oil, into the second a small amount of washing powder, into the third a small amount of washing-up liquid, and into the fourth a small amount of vinegar. Leave the fifth jar as it is. Label the jars.
5. Watch what happens over the next few days. Record your findings.

•Ask learners to discuss how oils, household cleaning products and foodstuffs get into the streams, rivers, dams and sea.

•Ask the learners to discuss and describe the effects of these substances on water plants and animals.

•Ask learners to think of ways of preventing these substances from washing into our rivers.

