

SAVE OUR SEAS

pH LEVELS (ACIDITY)

ACTIVITY 3: COMPARING PH LEVELS

Lesson Objective

- Compare the pH levels of tap water, distilled water and seawater.

You will need

- Distilled water
- Tap water
- Seawater (or water with salt in it)
- Blue litmus paper.

Important information

The acidity of water is measured on a scale of 0 to 14:

0 = very acid (like the acid in a battery)

7 = neutral

14 = not at all acid; the word we use is alkaline.

pH is a measure of the how acid or alkaline water is. Water with a pH of 7 is neutral; lower pH levels indicate increasing acidity; pH levels higher than 7 indicate increasingly alkaline water.

Acid rain is created by air pollution (power stations, factories and cars all burn fuels that produce polluting gases). Polluted air can be very acidic and can become part of rain clouds. The rain becomes acidic, can kill trees, and affect the environment in a negative way.

In river water or sea water, a change in the pH levels can be an indicator of increasing pollution and affects plants and animals that live in the water.

Pollution in rivers can increase the growth of algae. Algae reduce the amount of oxygen in the water so that other plant and animal life cannot live in the water.

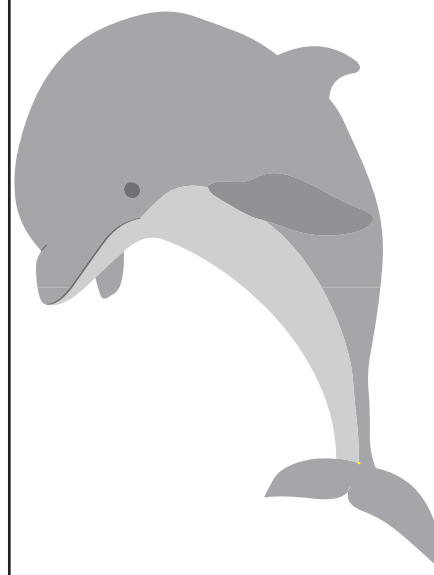
Duffy says,

"It's very useful to know how to filter materials from water. Sewage treatment plants use it to separate the yucky stuff from waste water.

"A modern sewage plant would uses membrane filtration to filter waste water; then it blasts the water with UV light (like sunlight).

"Together these methods reduce levels of harmful viruses and bacteria found in waste water that goes into the sea, reducing the health risks to water users like me."

Find out more www.sas.org.uk/pr/2001/brighton.php



Word bank

Acid	Alkaline	Acid rain	Pollution	Carbon dioxide (CO ₂)
pH levels	Oxygen	Algae		Environment
Distilled water	Litmus paper			



pH LEVELS (ACIDITY)

ACTIVITY 3: COMPARING PH LEVELS

Method

1. Test each type of water with a small strip of litmus paper.
If the blue litmus paper turns red, the substance is acidic.
2. Record your results.

Results

Type of Water	Litmus paper colour	pH level
Distilled water		
Tap water		
Seawater		

Conclusion

.....

.....

.....

.....

Increasingly acid	0	Battery acid		Acid Rain
	1	Battery acid		
	2	Lemon juice		
	3	Vinegar	Adult fish die	
	4		Fish reproduction affected	
	5			
Neutral	6			Normal rain
	7	Milk / normal tap or river water		
Increasingly alkaline	8			
	9	Baking soda / seawater		
	10			
	11	Milk of magnesia		
	12	Ammonia		
	13			
	14	Lye		