Age 12+ | Duration 45 mins | Location INDOORS

TEST THE PH OF EVERYDAY ON BOARD ITEMS

DID YOU KNOW?

pH is a measure of how many hydrogen ions are contained in a solution. It is tested on a scale of 1 to 12 with 1 being highly acidic with high numbers of hydrogen ions, 6/7 being neutral and 12 being highly alkaline with low levels of hydrogen ions. Most aquatic species tolerate a pH range from 6 to 8. If this changes it can affect their breeding and survival.

TASK: To test the pH level of different products using litmus paper.

RESOURCES: Booklets of pH testing litmus paper | Small plastic containers | Plain paper to note results | Pencils.

Suggested solutions to test:

Washing Up Liquid	Cooking Oil	Lemon Juice
Vinegar	Soap Powder/Gel Paint	Paint
Shampoo	Toothpaste	Fizzy Drink

INSTRUCTIONS

1. Put a small amount of different solutions into separate containers. Add a small amount of water to dilute if needed.
2. Give participants strips of litmus paper to dab into each solution.
3. Remove and wait for the litmus paper to change colour. This should be instant.
4. Look at the colour guide scale on the cover of the litmus paper booklet.
5. Ask the participants to note down for each solution, the colour of the litmus paper and the pH level.
6. Ask the questions below:

Q: What pH level were the cleaning detergents and why do you think this could harm the aquatic environment?
A: Cleaning products are either highly alkaline or acidic to remove stains and if used on boats and allowed to enter the water can be disruptive to an ecosystem. These products are also high in nutrients which can cause algal growth.

Q: What pH level was lemon juice?
A: Many people expect lemon juice to be very acidic, however it is only mildly acidic and should change the litmus paper to a light orange colour.

Q: How could boating contribute to any change in water quality?
A: Products used on board (such as washing up liquid) may be discharged as grey water from larger boats. For smaller boats or windsurfers different products may be used to clean and maintain hulls and decks that could run off into the water.