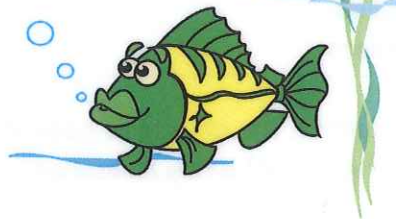




BASIC
STREAMWATCH
KIT INSTRUCTIONS



~ Streamwatch UK



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Introduction

The StreamWatch Kit contains everything you need to carry out on-site testing of pH, Nitrate, Dissolved Oxygen, Total Hardness, Turbidity and Temperature. When carrying out the tests, be careful to follow the step-by-step instructions exactly. Pay special attention to the helping hints throughout.

The kit uses a number of different methods including

Test strips

Liquids

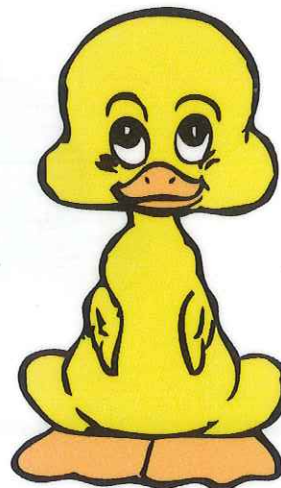
Tablets

These contain the chemicals needed to detect the 'parameter' (type of element) being measured.

There are, however, some basic precautions that you need to take when carrying out the tests which will ensure that they are carried out safely and accurately.

We
hope you enjoy using
the kit, testing your local
rivers and streams and
comparing your results.

Happy testing - and don't forget:
Jimmy and my other river
friends are there to
help you!



Precautions



Always wear the safety glasses



Always wear the disposable gloves



Do NOT handle the test papers at the coloured ends



Always use the plain part of the paper



Always replace the box lid immediately once a test paper has been removed



It is very important to NOT handle any tablets
- especially without gloves



After testing, wash and dry all items



After testing, return all items to the appropriate place in the box



Once finished, wash your hands carefully

If you do accidentally touch the tablets, don't panic.
Just be sure to wash your hands immediately.

pH TEST

- 1 Take a pH test strip from the box of test strips and do not touch the square reaction pads.
- 2 Close the box immediately.
- 3 Dip the test strip into the water sample. Hold it in the water while you count to ten.
- 4 Remove the strip and shake off the excess water.
- 5 Hold the strip against the box. Compare the colours on the strip with the chart and find the series which is the closest match.
- 6 Note the number alongside the colours you chose - this is the pH value of the water sample.



Hi I'm Jimmy, My friends
and I are here to help you
along -

so let's GO !!

NITRATE TEST

- 1 Take one Nitrate test strip from the metal tube - do not touch the square pads at the end.
- 2 Replace the cap on the tube immediately.
- 3 Dip the test strip into the water sample for 1 second making sure that the pads are fully wetted. Remove and shake off the excess water.
- 4 Hold for about a minute to allow the colour to develop.



This is fun - now don't forget to take care when doing the test... let's move on...

- 5 Compare the colour which has developed in the bottom pad with the colour scale on the tube. Note the number of the colour which is most similar to the pad.

This is the Nitrate concentration in the water.



Don't forget to replace the stoppers and caps securely

DISSOLVED OXYGEN TEST

- 1 Take the small glass bottle with the red stopper and rinse it 2 or 3 times with the water sample. Slowly fill the bottle to the very top. Carefully fit the stopper.
- 2 Now remove the stopper and, taking the bottle labelled 'Dissolved Oxygen Reagent 1,' add 5 drops to the water sample. Replace the cap on Reagent 1.
- 3 Take 'Dissolved Oxygen Reagent 2' and add 5 drops to the water sample. Replace the cap on Reagent 2'.
- 4 Carefully replace the red stopper on the bottle and holding it in place shake the bottle hard to thoroughly mix the contents and then put it down for 5 minutes - a brownish precipitate should settle out.
- 5 After about 5 minutes remove the red stopper and, taking the container labelled 'Dissolved Oxygen Reagent 3,' add 1 x 1 gram spoonful to the liquid. Replace the lid on Reagent 3.
- 6 Replace the red stopper and shake the bottle hard. The water should change to a clear yellow colour.

DISSOLVED OXYGEN TEST (cont'd)

- 7 Take the clear plastic tube with the white cap and pour the yellow water into it up to the '20' mark in Section 1.
- 8 Take 'Dissolved Oxygen Reagent 4' and add 1 drop to the tube. Replace the cap on the Reagent bottle.
- 9 Gently swirl the plastic tube and the yellow colour will change to black.
- 10 Take 'Dissolved Oxygen Reagent 5' and carefully add 1 drop to the black liquid. Swirl the tube to gently mix.

Continue adding 1 drop at a time with mixing in between, counting the number of drops until the liquid suddenly goes perfectly clear.

Stop the test.

The number of drops of Reagent 5 you have added is the dissolved oxygen content of the water in parts per million.

Throw the water away and rinse out the tube with clean water.

TOTAL HARDNESS TEST

- 1 Rinse out the clear plastic tube with the white cap with the water sample then fill it to the '50' mark in the Volume section.
- 2 Take the tablets labelled TOTAL HARDNESS in the aluminium foil and remove 1 strip.
- 3 Tear a pocket across and remove 1 tablet. (Try to avoid handling the tablet). Add this to the water sample in the tube.
- 4 Replace the white cap and shake the tube hard to dissolve the tablet. The liquid should go a reddish colour.
- 5 Add another tablet to the tube and shake it again to dissolve the tablet.
- 6 Continue doing this, adding tablets one at a time, until the liquid goes blue.
- 7 Count up the number of tablets you have used from the number of pockets opened in the foil. Multiply this number by 40 and then take away 20.



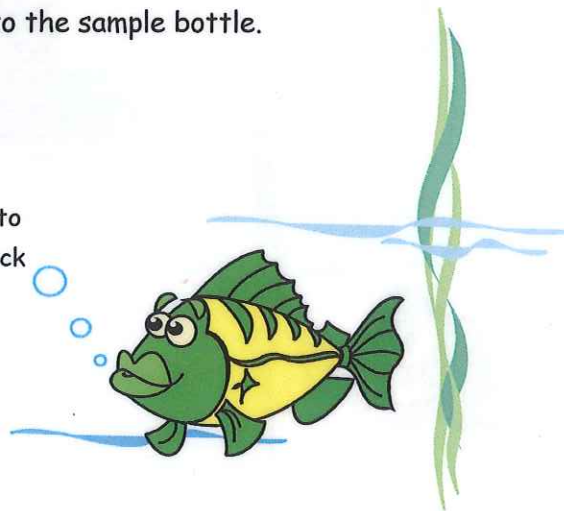
The result is the
TOTAL HARDNESS of the water
in parts per million calcium
carbonate.

- 8 Throw the blue liquid away and rinse the plastic tube with clean water.

TURBIDITY TEST

- 1 Take the 2 lengths of plastic piping and join them together so you end up with one long tube with marks going from 5 to 500.
 - 2 Place the white tile on a flat surface and hold the tube over it and look down through the tube. You will see a black cross at the bottom.
 - 3 Take the bottle containing your water sample and slowly pour the water into the tube, stopping occasionally to look down the tube.
 - 4 Continue adding the water until you can no longer see the black cross. Stop adding the water and read off the number on the side of the tube which is nearest the level of the water in the tube.
- This is the turbidity value of the water.
- 5 Pour the water back into the sample bottle.

Pay careful attention to this test - has the black cross disappeared ?



TEMPERATURE TEST

- 1 Remove the thermometer from the kit and, holding the string, lower it into the water, making sure that the cup at the bottom is completely full.
- 2 Lift the thermometer up, keeping the cup full of water, and watch the red line until it stops moving.
- 3 Record the temperature indicated in °C from the scale on the lefthand side.

