Metal Pipe Contamination
Sciencefaircenter.com Study Kit

Each water sample is tested for this Set of parameters:

pH, Copper, Zinc+2 and Iron+2 and +3
(4 tests per Set)

Log onto
www.sciencefaircenter.com/documentation.tpl
for additional information on this study kit.

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pH CHECK

Colorimetric test strips

This pH test is very versitile in that it can be used for drinking water testing, food processing, environmental applications or in any other water matrix.

pH is short for "power of Hydrogen." The balance of positively charged and negatively charged hydrogen ions in water determines pH.

Water that has a low pH is acidic or aggressive and can corrode plumbing resulting in metal ions being present in drinking water and damaged fixtures and pipes. Water that has a high pH is basic and will leave scale in pipes and on fixtures.

This test features two test pads both measuring pH at in the same range using different color indicators. This makes color matching easier than with other colorimetric tests.

This test reports water pH at the following levels:
2, 3, 4, 5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 11, 12.

Results are obtained from this test in less than 1 minute.

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NOTE:
These pH test strips perform optimally in water with a Total Alkalinity above 80 mg/L or ppm. Water highly saturated with dissolved solids or highly buffered samples will give elevated results for pH.

NOTE:
National Secondary Drinking Water Regulations set forth by EPA recommend a pH level between 6.5-8.5

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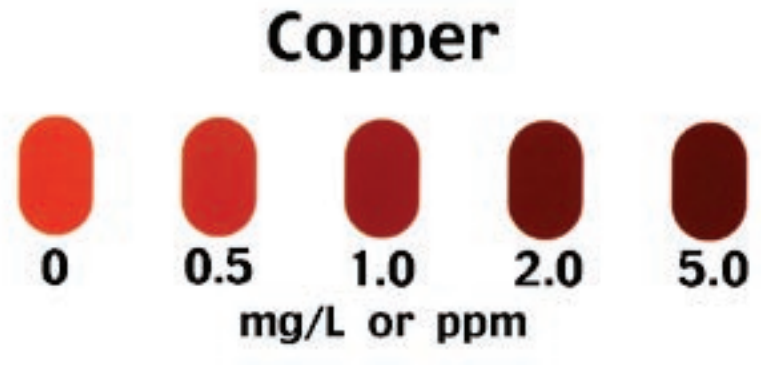

COPPER +1 and +2

Colorimetric test strips.

Copper in drinking water is primarily from its use in plumbing materials. These Copper test strips are suitable for testing drinking water and other water based samples for soluble copper ion. The EPA Primary Drinking Water Standard for Copper is 1 mg/L or 1 ppm.

This test strip features a patented design for accuracy and lack of interferences. Use a water sample of at least 60 ml or 2 oz.

The test reports concentrations of Free Dissolved
Copper (Cu+1 Cu+2) at the following levels:
0, 0.5, 1.0, 2.0, 5.0 mg/L or ppm.

Results are obtained from this test in about 3 minutes.

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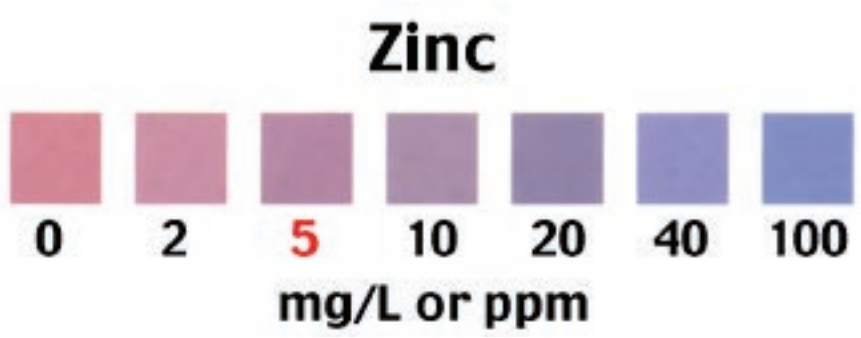

$Zinc^{+2}$

Colorimetric test strips

Testing for Zinc levels in tap water is quick, accurate and safe with these semiquantitative test strips. Each test strip result indicates the presence of Zinc in water.

The color chart for this test allows you to read Zinc in milligram/L or ppm. Note: Interferences may occur with Cu+2 >0.1 mg/L; Mn+2 >5mg/L; and Fe+2 >10mg/L

Most interferences from other metals can be over come by adjusting the pH between 4.0 to 5.5.

This test reports mixed Zinc levels in water at:
0, 2, 5, 10, 20, 40, 100 milligms/L or ppm.
(Note: concentration units are milligrams per Liter or parts per million).

Results are obtained from this test in 2 1/2 minutes.

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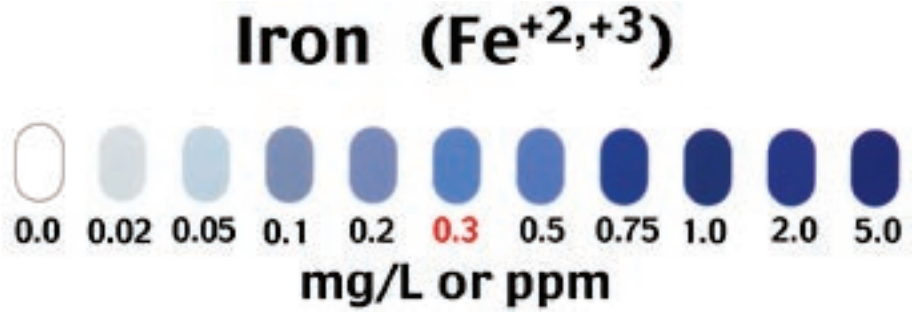

Iron ($Fe^{+2, +3}$)

Colorimetric test strips

Testing for Iron in tap water is very common and is very quick using the enclosed tube and a test strip. Each test strip result indicates the presence of Iron (Fe+2 and Fe+3 state) in water.

The color chart for this test allows you to read Iron+2,+3 in milligram/L or ppm.

The presence of Iron in water contributes to the reddish brown stains on porcelin and plumbing fixtures. Iron can also add a metalic taste and odor to drinking water. Iron is sometimes found in the black slime in old galvanized pipes and plumbing.

This test reports mixed Iron (Fe+2,+3) levels in water at 0.0, 0.02, 0.05, 0.1, 0.2, 0.3, 0.5, 0.75, 1.0, 2.0, 5.0 milligms/L or ppm. (Note: concentration units are micrograms per Liter or parts per million). Best results are obtained when water is room temperature.

Results are obtained from this test in 2 1/2 minutes.

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