Microscope Experiments
Take a closer look!

Prints

Black and white print

› Take a small piece of paper from a daily newspaper and find a section with a black and white picture and some writing.

› Find a similar cut-out from any other magazine.

Now look at both snippets one after the other under your microscope. What do you notice? Document your findings in your Microscopy Diary!

Colour print

› Take a small piece of a colourful printed daily newspaper.

› Find a similar cut-out from any other magazine

Now look at both snippets one after the other under your microscope. What do you notice?

Textiles

Textile fibres

› Threads or small scraps of fabric from different clothes that you no longer need (e.g. towel, flannel, socks, mackintosh, T-shirt, woollen jumper).

› Put them all in a row under your microscope and see what differences you can see.

Now look at the snippets one after the other under your microscope. What do you notice?

Salt

Table salt

› Take normal salt from the kitchen and look at it calmly under your microscope

Other possibilities: Sugar, icing sugar, flour, breadcrumbs, coarse salt, sand, potting soil, feather, stones, leaves.

Salt crystals

Making salt crystals yourself

› Take a narrow glass and fill it with hot water. Be sure to have a parent or guardian help you poor the hot water. Add salt until it no longer dissolves. Then wait until the water has cooled down again. In the meantime, you can tie a paper clip to one end of the cotton thread and a match (pen) to the other end. Then put the thread into the water with the paper clip facing down. Place the match (pen) on top of the glass so that the thread does not fall into the water. Now put the jar in a warm place at home for 3-4 days. Wait and see what happens.

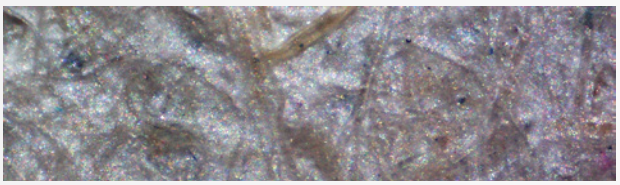
Experiment Solutions

Prints

Black and white print

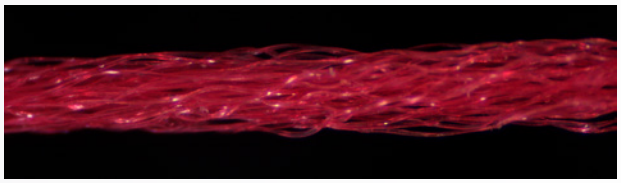
- Letters of the daily newspaper look frayed and broken because the paper is much rougher
- Letters of the other magazines look smoother and more complete
- The pictures of the daily newspaper consist of single dots that look dirty
- In the other magazine they stand out sharply

Colour print



- The coloured dots overlap on the daily paper, sometimes there are even two colours on one dot
- In the other magazine the dots look sharp and have strong contrast to one another
- Note the different sizes of the dots

Textiles



Textile fibres

Cotton fibres are of plant origin and look like a flat, twisted ribbon under the microscope. The fibres are thicker and rounder at the edges than in the middle. Cotton fibres are basically long tubes that have fallen together.

Linen fibres are also of plant origin, they are round and run in a straight direction. The fibres shine like silk and have countless swellings on the fibre tube.

Silk is of animal origin and consists of solid fibres of smaller diameter in contrast to the hollow vegetable fibres. Each fibre is smooth and even and has the appearance of a small glass rod.

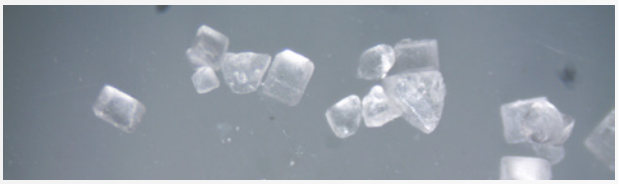
Wool fibres are also of animal origin and the surface consists of overlapping pods that appear broken and wavy. If possible, compare wool fibres from different weaving mills. Note the different appearance of the fibres. Experts can use this to determine the country of origin of the wool.

Artificial silk, as the name suggests, is artificially produced through a long chemical process. All fibres show hard, dark lines on the smooth, shiny surface. The fibres curl after drying in the same state. Observe the similarities and differences.

Experiment Solutions

Salt

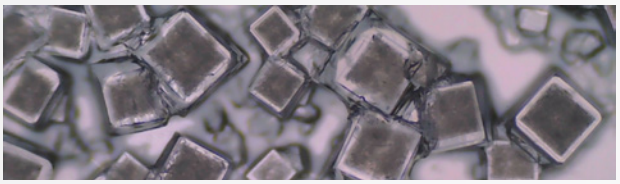
Table salt



› The crystals are small cubes and are all the same shape.

Salt crystals

Making salt crystals yourself



› Several salt crystals have formed on the thread. You can see them all stuck together