Meniscus Encyclopedia Article

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Meniscus

The meniscus is the curved, upper surface of a liquid formed when in a tube. The meniscus is produced by surface tension. With some **liquids**, such as **water**, the meniscus is concave. This means that the liquid at the edge of the tube stretches up above the surface of the water. Other liquids, for example **mercury**, have a convex meniscus. With a convex meniscus the liquid stands up away from the bulk of the liquid and there is a gap between the liquid and the wall of the container. These differences are caused by the surface tension and cohesive and adhesive forces that are acting between the liquid and the container.

With water in a **glass** tube the adhesive forces are greater than the cohesive forces. This means that the water is attracted to the glass and at the edges the water is attracted up the glass wall, rather than being attracted to the rest of the water. With mercury in a glass tube cohesive forces are greater than the adhesive forces. This means that the mercury is attracted to itself more than it is attracted to the glass walls of the tube. This gives the effect of the mercury clumping together so the top of the liquid is a little bump standing upright with as little contact between the end of the mercury and the glass walls as possible.

When the **volume** of a liquid is being read from a scale the reading should be taken from the bottom of the meniscus to ensure an accurate reading.