ATMOSPHERIC PRESSURE & SURFACE TENSION

Step-by-Step Photo Guide

See 1 minute video at: http://www.arvindguptatoys.com/toys/airpressuref.html
Fill glass completely with coloured water. Cover it with a plate. Hold the plate and invert it. Then remove bottom hand.

SURPRISE! The plate does not fall!
Even if the glass is half-full, the plate will still stay put and not fall.
This is because the atmospheric pressure outside the tumbler is greater than inside it.
Now try something different. Put the paper plate and the tumbler full of water down on a table.

Even though the glass is lifted the water does not spill out because of Surface Tension.
This time the surface tension of the water bonds to make a “seal” strong enough to keep out the air.

Instead of one coin, try with two or more coins. Once the gap becomes too much water will spill out!