

Safety:

Instruments:

- two beakers (same size)
- scissors
- a few wooden blocks
- cotton

Chemicals:

- tap water
- dark food coloring

Experiment:

- Fill a beaker with water and place it on top of a pile of carefully stacked wooden blocks. Put food coloring into the water and set the second empty beaker next to the wooden blocks.
- Twist a cotton string out of two equal lengths of cotton fibers and tie off the ends. Put one end of the string into the water and hang the other over the edge of the empty beaker below.

Advice for the teacher:

It is clearly obvious that the water climbs up the string. When it reaches the highest point, it begins to flow down the other side. In a few minutes, the water starts dripping into the lower beaker.

The cotton contains a network of very small, fine hollow spaces called capillaries. The water can push its way into this tunnel system. The cotton cord dipped into the water sucks up water, which can climb the empty spaces by capillary action. This happens until the entire cord is saturated and the end over the empty beaker is reached. There, gravity forms water droplets, which drip into the beaker and are replaced by more fluid following along the cord.

The students should learn that liquids can enter tiny, narrow capillary spaces and be transported - even upwards - due to the effects of capillary action.

Tip:

You can also substitute paper or paper towels which have been rolled tight.