

Pour Water Along a String

<u>The Action</u>	Transfer water from one beaker to another using only a piece of string without spilling a drop!
<u>Grade Level</u>	Grade 10 – Water Quality
<u>Materials</u>	Two beakers (or plastic cups) A water-absorbent string Water A book
<u>Instructions</u>	Fill one of the beakers $\frac{3}{4}$ full with water. Stand a book about 20 cm away from the empty beaker. Wet the string thoroughly with water. Hold one end of the string in the water, and the other end of the string over the empty beaker. Pour the water slowly along the string, transferring all water from one beaker to another.
<u>Safety</u>	
<u>Hints</u>	Watch the string closely and observe the water travelling down the string.
<u>Science Principle</u>	<p>The string needs to be wet so that the water molecules would adhere to the molecules of the string. The water molecules are attracted to the string molecules by adhesion. Once the string is wet, the water can cling to the already present water molecules, because of the cohesive forces between like water molecules. The transfer of water will not succeed with a dry string or any material, which is not water absorbent.</p> <p>Other materials that would have the same properties as the water-absorbent string would do the same job, like: cotton, cloth, paper, wood, etc. Materials that are not water-absorbent, like nylon or wool cannot be used for this purpose.</p> <p>Liquids that have strong cohesive forces between their molecules, like oil, vinegar, syrup, etc. can be poured along a string as well.</p>