

- (iv) The other end of potometer is dipped in the beaker full of water.
- (v) The complete apparatus is air tight by using wax or vaseline.
- (vi) The water transpires from the leaves and water rises in the tube of potometer.
- (vii) An air bubble is introduced in the tube of potometer. It moves along with water. The distance covered by air bubble in the tube of potometer and time taken by air bubble are observed.

The rate of transpiration can be measured by the effect of different factors.

### Observation and Calculation:

	Distance (in mm) covered by bubble in one minute	Rate of transpiration $\frac{\text{Distance}}{\text{Time}}$	Average rate of transpiration	Effect at rate of transpiration
✗ Plant in normal conditions	8 cm in one minute			Normal
✗ Plant in under low wind (without Fan)	6.0 cm in one minute			Slow
Plant in under high wind (with Fan)	9.0 cm in one minute	$\frac{6}{60} = 0.1$ $\frac{7}{60} = 0.116$ $\frac{8}{60} = 0.133$	$\frac{0.1 + 0.116 + 0.133}{3}$ $= 0.166$	Fast
Plant with less number of leaves	3 cm in one minute	$\frac{1}{60} = 0.016$ $\frac{2}{60} = 0.03$ $\frac{3}{60} = 0.05$	$\frac{0.016 + 0.03 + 0.05}{3}$ $= 0.032$	Very slow
Lower epidermis of leaves covered by vaseline	1 cm in one minute	$\frac{1}{60} = 0.016$ $\frac{2}{60} = 0.03$ $\frac{0}{60} = -$	$\frac{0.016 + 0.03 + 0}{3}$ $= 0.015$	Slowest

### Result:

- Decrease in wind, decrease the rate of transpiration by \_\_\_\_\_ ratio.
- Increase in wind, increase the rate of transpiration by \_\_\_\_\_ ratio.
- Removal of some leaves, decrease the rate of transpiration by \_\_\_\_\_ ratio.
- Covering lower epidermis of leaves with vaseline, more or less stop the rate of transpiration i.e. slowest transpiration.