

ThinkTac™

Leaf - Stomata

Observe the stomata in a leaf

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INTRODUCTION

Place a leaf in hot water and observe the emergence of bubbles through its stomata. See if this happens with cold water



TOOLS:

- [Glass](#) (1)



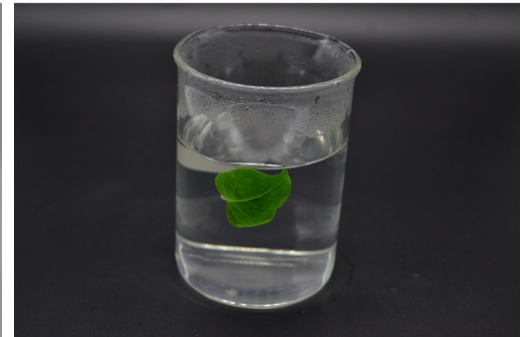
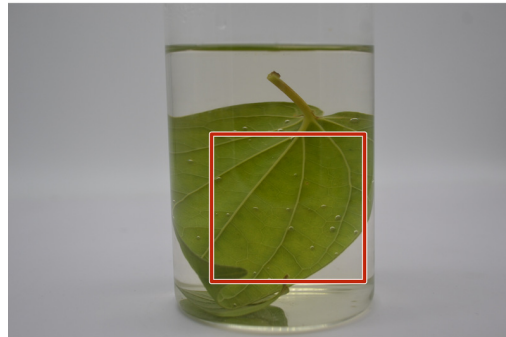
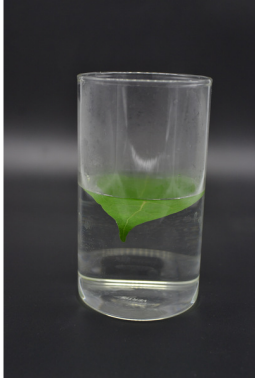
PARTS:

- [Leaf](#) (1)
- [Cup of Water](#) (1)

— Precautions

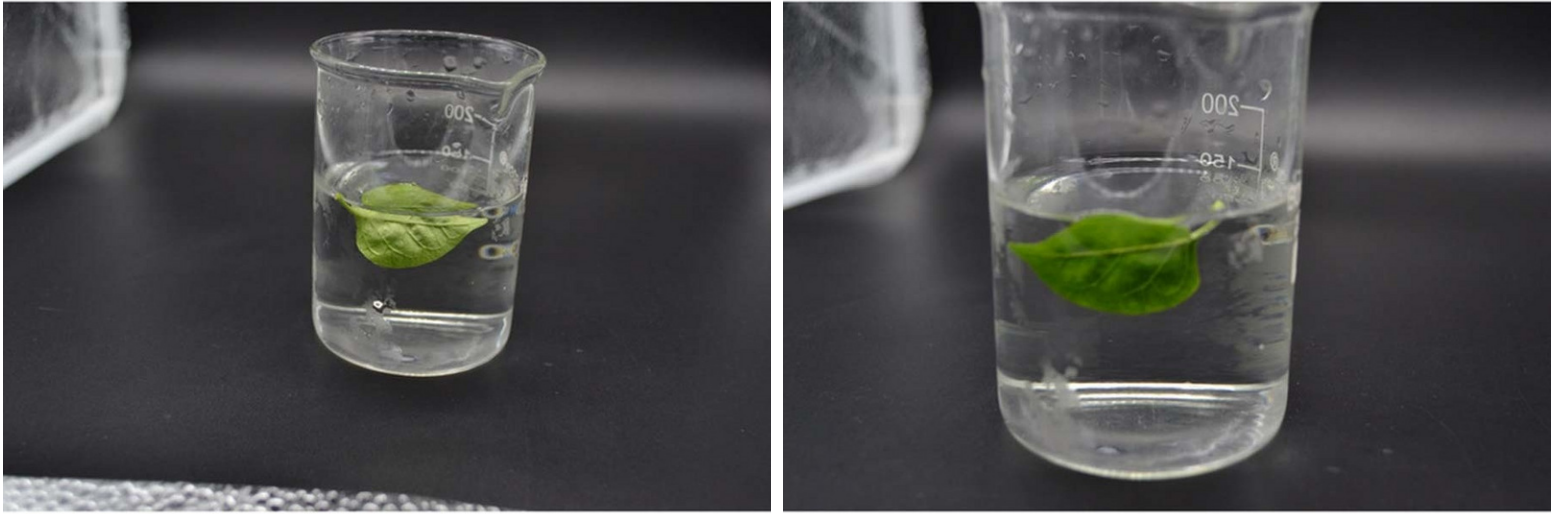
- ⚠ Be careful while heating and using hot water

— Step 1 - Leaf in hot water



- Put a fresh leaf in a transparent glass of hot water; the water should be about 60 degrees Celsius.
- You should observe some bubbles emerging from the leaf and coming up to the surface of the water.
- This emergence of air bubbles demonstrates the presence of pores in the leaf. These pores are called Stomata.
- ⓘ Thanks to the hot water, the air inside the leaf will expand when heated, so the extra volume of air is pushed out of the stomata.
- ⓘ Note : The bubbles are observed only on the lower side of the leaf but not on the upper side (fig-3), since the number of stomata are more on the underside of the leaf.

— Step 2 - Leaf in cold water



- Take a glass full of cold water.
- Take a leaf and immerse it into the cold water in the glass.
- There should not be any emergence of bubbles
- ⓘ The cold/room-temperature water doesn't expand the air in the leaf, so none of it is ejected through the pores