

In your Biology course, you performed a first-hand investigation to gather information about structures in plants that assist in the conservation of water. Describe the procedure you followed. (4 marks)

The procedure followed to investigate the conservation of water involved detailed observations of leaf structure, plant behaviour, vasculature and stem holdings. The dissection of celery viewed a cross-section of the stem and also a longitudinal view of the plant. Through the cross-section, the vascular bundles, essentially the xylem and phloem, can be seen, as well as the cambium and the epidermal protective layer. Through analysing the tough tubes of the xylem, it can be therefore concluded that this vascular bundle remains vital to conserve water by the maintenance of the water concentration gradient. Without the semi-permeability of the cell membranes of each plant cell in the xylem tube, osmosis cannot occur with the onset of hydrostatic pressure.

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