

7 Transport in plants – Part 2 —Answers

Answers

Work through these after trying the questions yourself.

7.1 The loss of water vapour from a plant (mainly through the leaves).

7.2 Water evaporates from the wet cell surfaces inside the leaf, then the water vapour diffuses out through the stomata.

7.3 (a) cohesion \ (b) hydrogen bonds.

7.4 Any two of: a thick waxy cuticle; stomata sunk in pits; hairs that trap moist air; leaves that roll up.

7.5 A source is where sugar is made or released (e.g. a leaf); a sink is where it is used or stored (e.g. a root).

7.6 Loading sucrose lowers the water potential inside the sieve tube, so water enters by osmosis (from a higher water potential).

7.7 Water evaporating from the leaves pulls on the water below, putting the whole column under tension. Cohesion —water molecules sticking together by hydrogen bonds—holds the column together so it does not break, and the pull drags the entire column up to the top of the tree.