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Plant roots obtain some of their mineral salts from the soil by active transport.

What is involved in *active transport*?

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(Total 4 marks)

Mark schemes

1

any **four** from

molecules / ions

do not credit mineral salts

move(d) through / across the cell

wall / membrane

against (a / the) concentration

gradient

by a series of chemical

reactions

(because) diffusion cannot occur

energy (required)

(supplied by) respiration

oxygen required for respiration (to occur)

[4]

Examiner reports

1 In this question a number of candidates did not make it clear whether they were referring to the concentration of water, or to the concentration of solute.

Few candidates mentioned in this question that ions would enter the plant or that the processes involved a series of chemical reactions. Most candidates were able to secure at least two marks. A number of students appeared to lack sufficient knowledge of active transport.