

Question Number	Answer	Mark
3(a)(i)	graph shows {positive correlation / eq} between nitrate concentration and seedling growth ;	(1)

Question Number	Answer	Mark
3(a)(ii)	some seedling growth without any nitrates added / eq ;	(1)

Question Number	Answer	Mark
3(a)(iii)	0 (mmol dm ⁻³) ;	(1)

Question Number	Answer	Mark
3(a)(iv)	reference to seedlings could have all been different lengths to start off / final length is not a measure of growth / growth needs to take into account change (and time) / eq ;	(1)

Question Number	Answer	Mark
3(a)(v)	plants grow in other {dimensions / eq} / idea of more likely to be an error in measuring length ;	(1)

Question Number	Answer	Mark
3(a)(vi)	<ol style="list-style-type: none"> 1. temperature ; 2. volume of solution ; 3. light / eq ; 4. measuring technique / eq ; 5. stage of development e.g. same number of leaves / eq ; 6. idea of seedlings raised in same {environment / eq} / named environmental condition ; 7. idea of seedlings being genetically similar to start with e.g. same parent plant ; 	max (3)

Question Number	Answer	Mark
3(b)	<p>0.125 to 0.13 ;</p> <p>mmol dm⁻³ ;</p>	(2)

Question Number	Answer			Mark									
3(c)		<table border="1"> <thead> <tr> <th data-bbox="448 360 608 510">Inorganic ion</th> <th data-bbox="608 360 871 510">Molecule made</th> <th data-bbox="871 360 1117 510">Main role of the molecule in a plant</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 510 608 757">nitrate</td> <td data-bbox="608 510 871 757">amino acid / protein / named protein / enzyme / nucleic acid / named nucleic acid / base ;</td> <td data-bbox="871 510 1117 757">plant growth</td> </tr> <tr> <td data-bbox="448 757 608 1032">calcium</td> <td data-bbox="608 757 871 1032">calcium pectate (pectin)</td> <td data-bbox="871 757 1117 1032">{sticking / holding / eq} (adjacent) plant cells {together / eq} / component of middle lamella ;</td> </tr> </tbody> </table>	Inorganic ion	Molecule made	Main role of the molecule in a plant	nitrate	amino acid / protein / named protein / enzyme / nucleic acid / named nucleic acid / base ;	plant growth	calcium	calcium pectate (pectin)	{sticking / holding / eq} (adjacent) plant cells {together / eq} / component of middle lamella ;		(2)
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