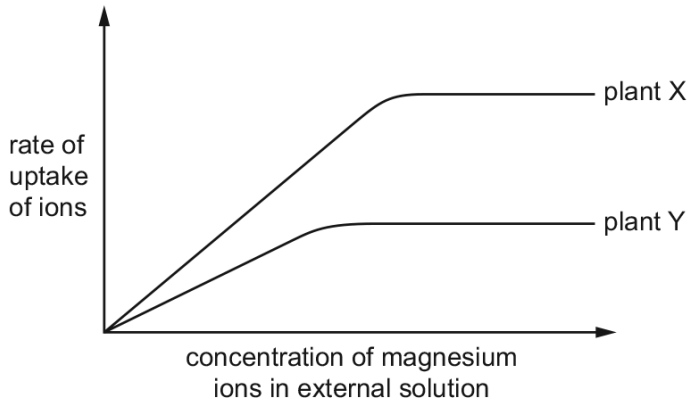
6.3 Mineral requirements

01. 0610_s20_qp_21 Q: 15

The graph shows the rate of uptake of magnesium ions by two similar plants, X and Y.

The roots of each plant were placed in a range of solutions. Each solution contained a different concentration of magnesium ions. All other conditions were kept constant.



What is a possible explanation for the difference in the results for the two plants?

A Plant Y has fewer protein molecules for magnesium ion transport in its cell membranes.

B Plant Y has a higher rate of respiration.

C Plant Y has more root hair cells.

D The root hair cells in plant Y have a lower water potential.

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02. 0610_s20_qp_23 Q: 12

Why do plants need nitrate ions?

A to make amino acids

B to make fats

C to make glucose

D to make starch

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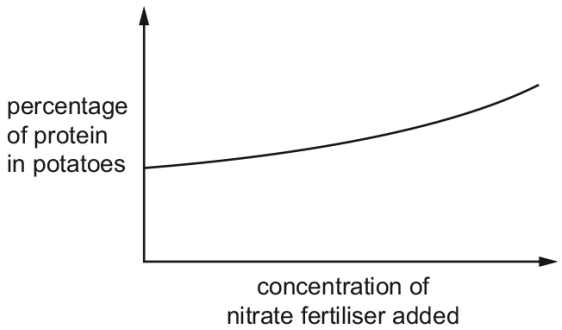
03. 0610_w20_qp_22 Q: 12

The graph shows how the percentage of protein found in potatoes was affected by the concentration of nitrate fertiliser added to the crop when it was growing.



These results suggest that greater concentrations of nitrate fertiliser allow the potatoes to make more

A amino acids.

B cellulose.

C lipid.

D starch.

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04. 0610_m19_qp_22 Q: 13

What will happen to a green plant grown in soil that is deficient in nitrate ions?

A It will have large leaves and good root growth.

B It will have purple leaves and poor root growth.

C It will have small leaves and a thin stem.

D It will have white leaves and a thick stem.

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05. 0610_s19_qp_22 Q: 12

Some gardeners use Epsom salts (magnesium sulfate) as a fertiliser for their plants. Epsom salts release magnesium ions into the soil.

How would this benefit the plants?

A prevents pests from eating the leaves

B prevents the leaves from going yellow

C prevents water loss from the leaves

D prevents the growth of weeds

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06. 0610_m18_qp_22 Q: 11

Which molecule contains magnesium?

A chlorophyll

B fat

C glucose

D starch

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07. 0610_s18_qp_22 Q: 12

Why do plants need nitrate ions?

A for making amino acids

B for making fatty acids

C for making glucose

D for making starch

---

08. 0610_s18_qp_23 Q: 35

In which form is nitrogen taken up by the roots of plants?

A as amino acids

B as nitrate ions

C as protein

D as urea

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09. 0610_s17_qp_21 Q: 10

In plants, which ions are used to make amino acids?

A magnesium

B nitrates

C phosphates

D potassium

---

10. 0610_s17_qp_22 Q: 10

The nutrient ions present in four different soils are shown.

Which soil would be best for growing healthy, green plants?

	nitrate ions	magnesium ions
A	absent	absent
B	absent	present
C	present	absent
D	present	present

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11. 0610_s17_qp_23 Q: 10

Which mineral ion is absorbed by plant roots and used in the production of all amino acids?

A carbonate

B hydroxide

C magnesium

D nitrate

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12. 0610_m16_qp_22 Q: 13

Which row shows the effects of deficiencies in nitrate and magnesium ions on plant growth?

	effect of nitrate ion deficiency	effect of magnesium ion deficiency
A	green leaves	long roots
B	long roots	thin stem
C	stunted growth	yellow leaves
D	thick stem	large leaves

---

13. 0610_w16_qp_23 Q: 11

The roots of plants take up nitrates from the soil.

What are the nitrates used to make?

A fat

B glucose

C protein

D starch

SN	Paper	Q. No.	Answer
01	0610_s20_qp_21	15	A
02	0610_s20_qp_23	12	A
03	0610_w20_qp_22	12	A
04	0610_m19_qp_22	13	C
05	0610_s19_qp_22	12	B
06	0610_m18_qp_22	11	A
07	0610_s18_qp_22	12	A
08	0610_s18_qp_23	35	B
09	0610_s17_qp_21	10	B
10	0610_s17_qp_22	10	D
11	0610_s17_qp_23	10	D
12	0610_m16_qp_22	13	C
13	0610_w16_qp_23	11	C