

GCSE Biology A (Gateway)

J247/02 B4-B6 and B7 Foundation (Foundation Tier)

Question Set 20

1 A salt marsh is a large, muddy area of land where a river joins the sea.

(a) When the tide comes in, the salt marsh gets covered with seawater.

Suggest **one** reason why salt marshes are difficult places for plants to grow.

[1]

(b) Student **A** and student **B** study the plants growing on a salt marsh.

They both sample the plants present by laying out two tape measures at right angles across the salt marsh.

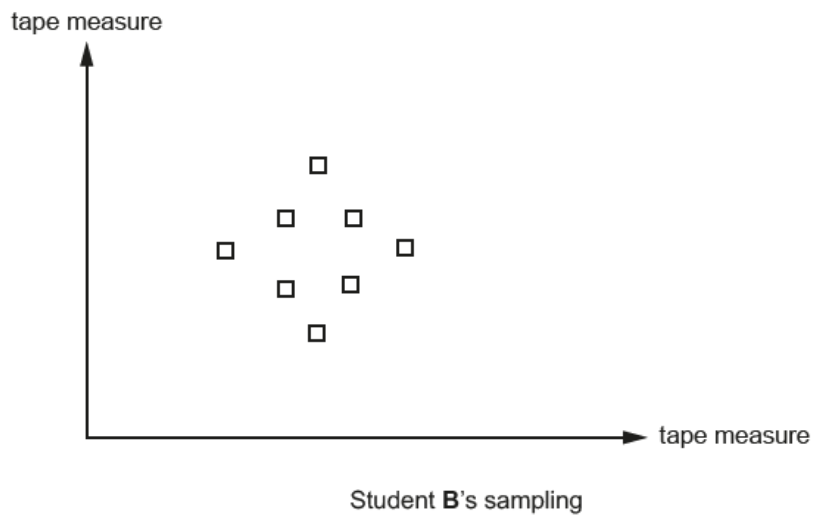
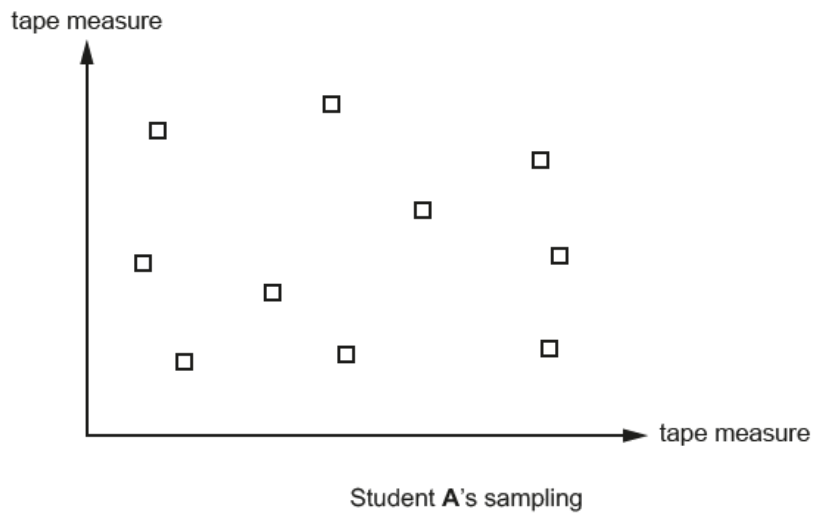
They then place a square frame on the ground in different places and count the number of plants in the square, as shown below.



What is the name of the square frame that they use to sample the plants?

[1]

- (c) The diagrams show the position of each student's samples across the salt marsh. Each small square in the diagrams represents one sample.



- (i) The whole salt marsh has an area of 2500m^2 .
 Each square frame has an area of 0.25m^2 .
 Calculate the percentage of the whole salt marsh that was sampled by student A.

Percentage = %

[3]

(ii) Look at the two students' sampling shown in the diagrams.

Explain which student is likely to get the most accurate estimate for the number of plants in the salt marsh.

student

explanation:

[3]

(iii) Their teacher said that they should take care as there may be harmful bacteria in the salt marsh.

State **two** things that the students could do to reduce the risk of infection from the harmful bacteria.

1

.....

2

.....

[2]

(d)*

In some salt marshes large sand banks have been built. These stop tides from entering the salt marsh. The level of soil on the salt marsh builds up and the marsh turns into dry land.

Local farmers want to turn salt marshes into dry land and other people want to leave it as a salt marsh.

Explain why. Use ideas about land use and biodiversity in your answer.

[6]

Total Marks for Question Set 20: 16

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