

Translocation: practice questions

4 questions · 12 marks · mark scheme at the back

For Cambridge IGCSE Biology 0610 (and 0970, which has the same content). **Supplement** is Extended content, only examined on Papers 2 and 4.

Name

Total / 12

1 **Supplement** [1 mark]

Which part of a plant is a source of sucrose?

- A. ☐ a developing fruit
- B. ☐ a growing root tip
- C. ☐ a fully grown green leaf
- D. ☐ a young bud

2 **Supplement** [3 marks]

Define the term translocation.

3 **Supplement** [4 marks]

Describe what is meant by a source and a sink in a plant. Give one example of each.

4

Supplement

[4 marks]

A potato tuber stores carbohydrate as starch during the summer. In spring, the tuber grows new shoots and sucrose from the tuber is moved to them. Explain why the tuber is a sink in summer and a source in spring.

Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1] Supplement

C C (1)

2. [3] Supplement

- movement of sucrose and amino acids (1)
- in the phloem (1)
- from sources to sinks (1)

3. [4] Supplement

- source: part of the plant that releases sucrose / amino acids (1)
- example: mature / green leaf (1) allow storage organ when new shoots are growing
- sink: part of the plant that uses or stores sucrose / amino acids (1)
- example: growing root tip / shoot tip / fruit / seed / storage organ (1)

4. [4] Supplement

- in summer it receives sucrose and stores it (as starch) (1)
- so it is a sink (1)
- in spring (starch is broken down and) sucrose is released (1)
- which moves to the growing shoots, so it is a source (1)