

Translocation

Revision notes · Movement of sucrose and amino acids in the phloem from sources to sinks.

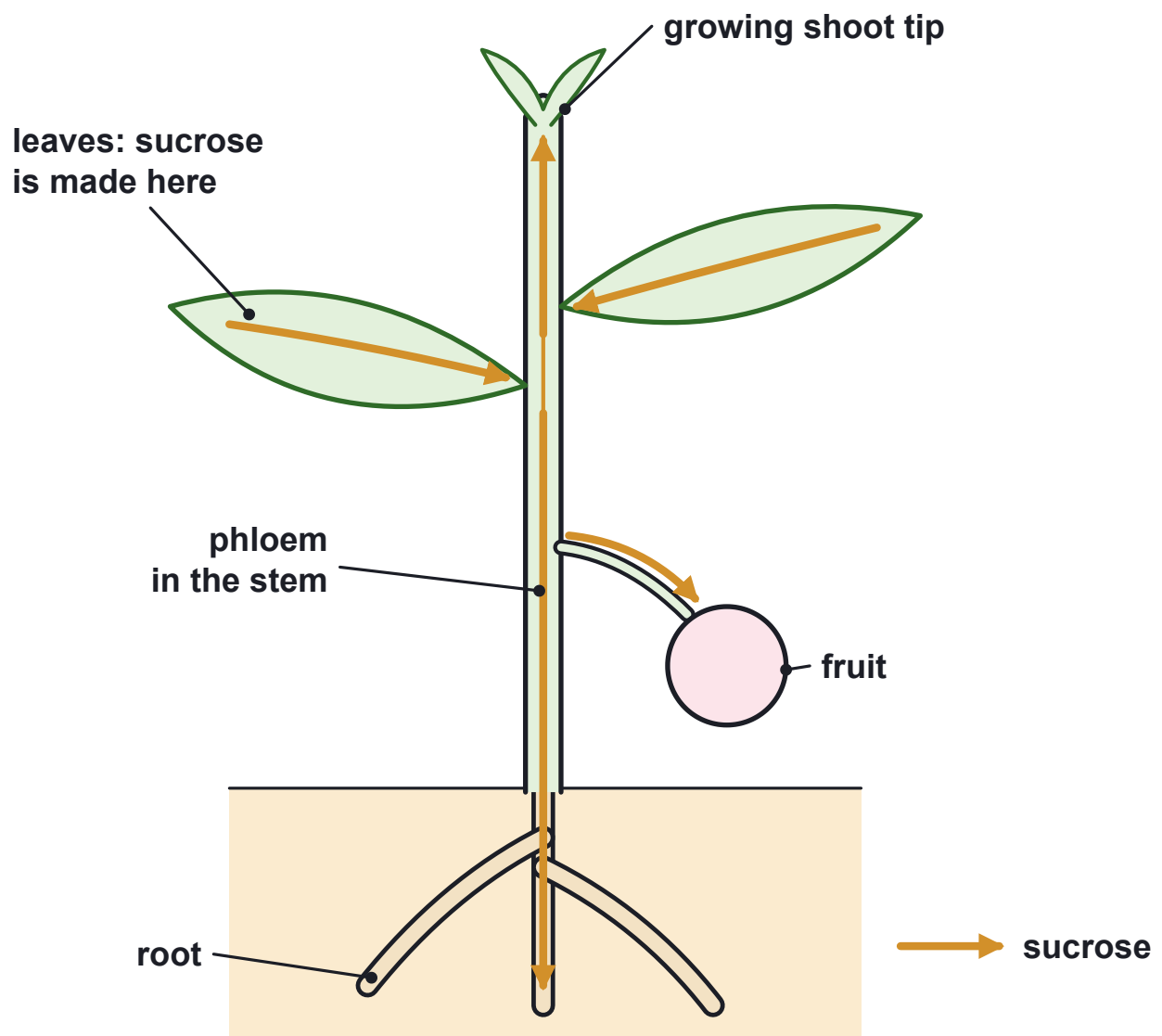
For Cambridge IGCSE Biology 0610 (and 0970, which has the same content). **Supplement** is Extended content, only examined on Papers 2 and 4.

Translocation Spec 8.4 Supplement

Translocation, sources and sinks Spec 8.4.1, 8.4.2, 8.4.3

Translocation is the movement of sucrose and amino acids in the phloem from **sources** to **sinks**.

Source	a part of the plant that releases sucrose or amino acids
Sink	a part of the plant that uses or stores sucrose or amino acids



Sucrose moves in the phloem from the source (the leaves) to the sinks, up and down the plant.

Examples of sources and sinks

Part of the plant	Source or sink	Why
Mature green leaf (in the light)	source	releases sucrose made in photosynthesis
Growing shoot tip or root tip	sink	uses sucrose for growth
Developing fruit or seed	sink	stores or uses sucrose
Storage organ such as a potato tuber, while the plant is photosynthesising	sink	stores the sucrose it receives (as starch)

Some parts are both

A part of a plant can be a source at one time and a sink at another. A potato tuber receives sucrose while the plant is growing and photosynthesising, and stores it as starch, so it is a **sink**. When the tuber starts to grow new shoots, the starch is broken down and sucrose is released and moved to the growing shoots, so the same organ becomes a **source**.

A young leaf is a sink because it uses sucrose to grow. Once it is fully grown, it makes more sucrose than it uses, so it becomes a source.

Exam tip: Use 'releases' for a source and 'uses or stores' for a sink. Always say which direction sucrose moves: from source to sink.

Quick check

1. **Supplement** Define translocation.
2. **Supplement** What is a sink?
3. **Supplement** Give an example of a source.
4. **Supplement** Why can a tuber be both?

Quick check answers

Translocation

1. The movement of sucrose and amino acids in the phloem from sources to sinks.
2. A part of the plant that uses or stores sucrose or amino acids.
3. A fully grown green leaf.
4. It stores sucrose (as starch) as a sink, then releases sucrose as a source when new shoots grow.