*This is the **Foundation Separate** version — Higher Tier content has been removed.*

Glucose produced in photosynthesis is used or converted for various purposes in the plant.

- Respiration: glucose is broken down in mitochondria to release energy (ATP) for all metabolic processes.
- Starch: glucose is converted to starch for storage (in leaves, roots, seeds). Starch is insoluble — does not affect osmosis.
- Cellulose: glucose is used to make cellulose for cell walls — provides structural support.
- Sucrose: glucose is converted to sucrose for transport in phloem to other parts of the plant.
- Amino acids: glucose + nitrate ions from soil → amino acids → proteins. Nitrates are absorbed from soil by active transport.
- Lipids: converted to fats and oils for energy storage (especially in seeds).

Key Terms

Starch	Insoluble storage polysaccharide made from glucose — stored in leaves, seeds and roots
Cellulose	Structural polysaccharide making up plant cell walls — made from glucose
Translocation	Transport of sucrose through phloem from leaves (source) to other parts of plant (sinks)

■ **Exam Tip:** Learn all SIX uses of glucose: respiration, starch, cellulose, sucrose, amino acids/proteins, lipids. These 6 uses come up as a list question worth 4-6 marks.