Active Transport

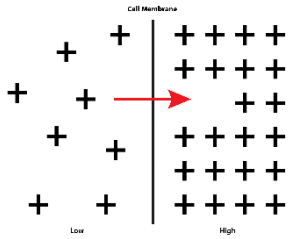
Copy the table and complete the first two rows:

	Active/Passive?	Substances Transported?	Direction of transport? (E.g. high → low concentration)
Diffusion			
Osmosis			
Active transport			

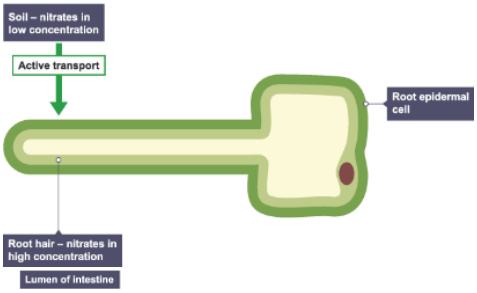
Active transport is the **net** movement of particles from a **low concentration** to a **high concentration** (against a concentration gradient) which requires **energy (from respiration).**

The energy used for active transport comes from respiration. Respiration occurs in the mitochondria, and the energy released is used to transport the ions **against** the concentration gradient in active transport.

Exam tip – In order for ALL of a substance to be completely absorbed it has to be done by active transport (after initial diffusion).

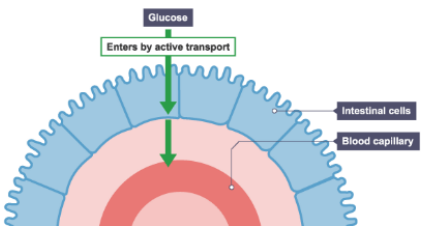


For example in the digestive system glucose is initially absorbed into the blood by diffusion and then later active transport. This has evolved so that we are able to absorb as much glucose as possible from our food



Examples of active transport:

Root hair cells use it for mineral ions- plants require mineral ions for healthy growth.



The intestine requires active transport to absorb glucose molecules, which will then be used in respiration.

Now complete the active transport row in your table