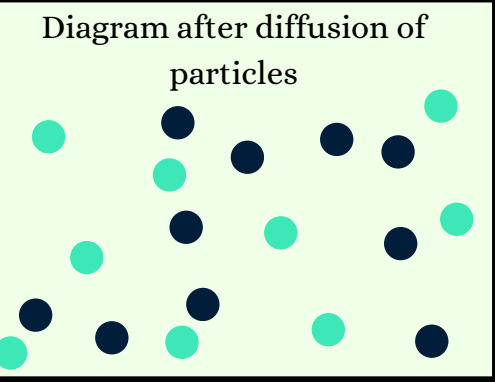
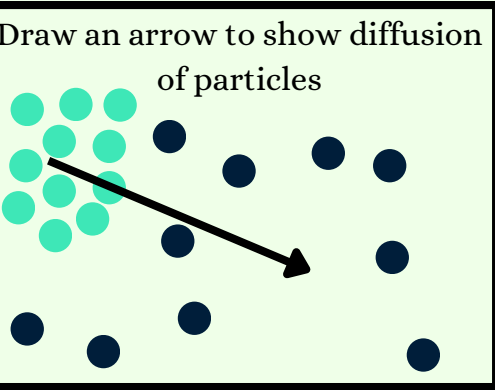
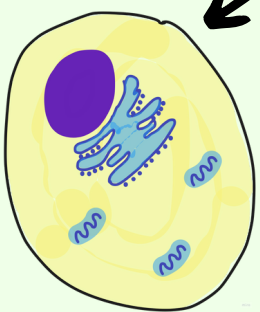


high, concentration, down, low

The movement of particles from a high concentration, to a low concentration, down a concentration gradient.



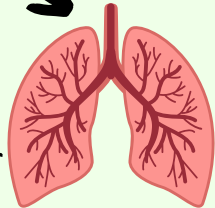
oxygen diffuses from the blood into the cell. Carbon dioxide diffuses out of the cell, into the blood



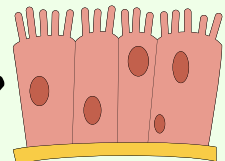
Definition
Diffusion

Examples

Oxygen diffuses from the lungs/alveoli, into the blood
Carbon dioxide from the blood, into the lungs/ alveoli



Larger surface area provided by cells with folded membranes



Surface area

No energy is required = passive
Temperature

Rate of diffusion
Concentration gradient

DIFFUSION & ACTIVE TRANSPORT

TOP MARKS SCIENCE

Which one

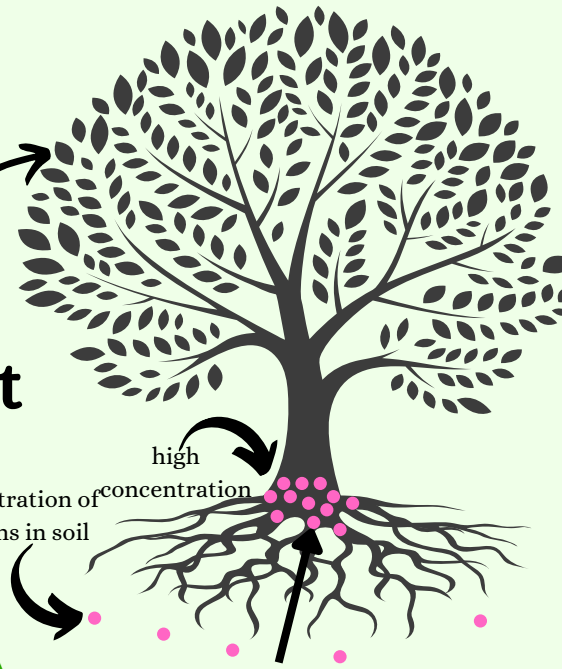
- Requires energy (AT)
- Active (AT)
- Example: Oxygen from lungs into blood (D)
- Down a concentration gradient (D)
- Example: Mineral ions from soil into roots (AT)
- Dilute to concentrated solution (AT)

An active process means it requires energy from respiration

against, concentration, high, low
The movement of particles from a low concentration, to a high concentration, against a concentration gradient.

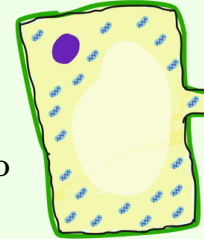
Definition

Active transport



low concentration of mineral ions in soil
high concentration

Arrow should point from soil into tree.



Adaptation of cell:
Root hair - increase surface area
Mitochondria- release energy for active transport

Plant roots consist of cells called root hair cells. They contain a lot of mitochondria for respiration to release energy for active transport