

oxygen	START: What is the role of the permanent vacuole in plant cells?	it helps to keep the cell rigid	How does water move from the soil into plant root hair cells?
by osmosis	How do mineral ions enter the root?	by active transport	How does glucose move across a cell membrane?
by diffusion	What is the difference in concentration between two areas known as?	the concentration gradient	Which direction along a concentration gradient does diffusion occur?
from an area of high concentration to an area of low concentration	Does diffusion happen against or down the concentration gradient?	down	Which waste product from the breakdown of proteins diffuses into the bloodstream?
urea	What is osmosis?	the diffusion of water molecules across a partially permeable membrane	What are partially permeable membranes?
they only let certain substances into and out of the cell	What is an isotonic solution?	the concentration of solutes inside and outside the cell is equal	What is a solution called when it has a higher concentration of <u>solutes</u> than inside the cell?
hypertonic	What is a solution called when it has a higher concentration of <u>water</u> molecules than the inside of a cell?	hypotonic	What is turgor pressure?
the pressure created by the liquid inside a plant cell	If lots of water is lost the plant cell shrinks inside the cell wall. What is this called?	plasmolysis	Are the pressures inside root hairs cells higher or lower than human blood pressure?

higher	Is the pressure inside a car tyre higher or lower than pressure in root hair cells?	lower	What special process transports larger molecules across a cell membrane?
active transport	Which direction along a concentration gradient does active transport occur?	from an area of low concentration to an area of high concentration	Does active transport happen against the concentration gradient or down it?
against	Name the process which produces energy for active transport	respiration	If the rate of respiration increases what happens to the rate of active transport?
it increases	Which structures in a cell membrane increase the cell's surface area?	microvilli	As organisms evolve and become larger what happens to their surface area to volume ratio?
it decreases	What forms the surface area of an animal cell?	the cell membrane	What covers our surface area?
our skin	How are humans ventilated?	through their lungs	What are the tiny air sacs in lungs called?
alveoli	How is diffused oxygen removed from the alveoli?	it enters red blood cells which are passing through capillaries	Alveoli have a large surface area and good blood supply. What else helps to increase diffusion?
thin walls	Name the structures in plant leaves which allow CO ₂ and water to diffuse.	stomata	What element produced by plants, diffuses out of the stomata?

Teaching notes

There are 32 cards, allowing it to be used with a whole class. The activity could also be done individually, in pairs or in small groups to produce a complete ordered set of cards.