Active Transport:

 Active Transport – The movement of particles against a concentration gradient, i.e. from an area of lower concentration, to an area of higher concentration.

Digestive System:

- When there's a higher concentration of nutrients in the gut, they diffuse naturally into the blood.
- But, sometimes there's a lower concentration in the gut than there is in the blood.
- The means the concentration gradient is the wrong way. The nutrients should go into the gut if they diffuse.
- Active transport allows nutrients to be taken into the blood, despite the fact that they would be going against the concentration gradient.
- However, it needs energy from respiration to work. ٠

Affecters:

- Surface area to volume ratio: •
 - The rate of diffusion, osmosis and active transport is higher in cells with a .co.u larger surface area to volume ratio.
- Temperature:
- As the particles in a substance get warmer the have more energy so they move faster.
 - increases, substances move in and out of cells o This means as cemerate faster
- ion gradient:
 - Substances move in and out of a cell faster if there's a big difference in concentration between the inside and outside of the cell. If there are lots more particles on one side, there are more there to move across. This only increases the rate of diffusion and osmosis though - concentration gradients don't affect the rate of active transport.