Diffusion

Two places diffusion takes place in living organisms:

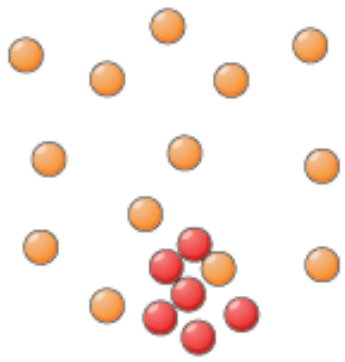
- The leaf of a plant- Diffusion takes place within the leaf of a plant whilst it is photosynthesising. The concentration of carbon dioxide outside the leaf is bigger than the inside, so the carbon dioxide diffuses into the leaf. As this happens the concentration of oxygen inside the cell of the leaf is bigger than the outside therefore it diffuses out of the cell within the leaf.
- The lungs of animals- Diffusion takes place within the lungs of animals between oxygen and the alveolar airspaces. The blood will always take in oxygen from the alveolar air spaces as long as the concentration of oxygen found there is greater than the concentration in the blood. This means the oxygen diffuses across alveolar walls into the blood (the lower concentration). Normal blood circulation then takes blood high in oxygen away so the oxygen can continue diffusing.

How does surface area affect the rate of diffusion?

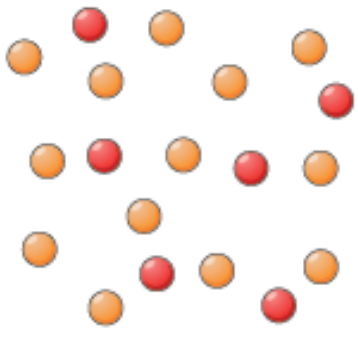
The bigger the surface area the faster the rate of diffusion. This is because there is more space available for the particles to travel, which means there is more space for the particles to spread. Not only this but changing the surface area affects the concentration gradient which is another factor that has an impact on diffusion.

How does temperature affect the rate of diffusion?

The higher the temperature the faster the rate of diffusion. This is because as the temperature increases there is more energy available for diffusion. As there is more energy available, there is more energy pushing the particles at a higher temperature. All of this then means diffusion will take place faster.



Before diffusion



After diffusion