

# Obtaining water & nutrients

Plants have simple nutritional requirements including water, minerals, sunlight and carbon dioxide. All plants have roots, which will absorb water from the soil by osmosis. The uptake of minerals involves the ions dissolving into water and then entering the plant by diffusion. Diffusion can be active or passive transport. The epidermis is the outside of the root and it is through these cells that water and minerals that absorption is possible.



Plant roots have structures that will increase the surface area for the absorption of water and minerals. They include root hairs, which can increase the surface area up to 12 times! The flattened epidermal cells across the entire root system also increase the surface area and therefore increase the water and mineral uptake.

**Using the overhead you need to colour different parts of the plant in different colours and create a key.**

