



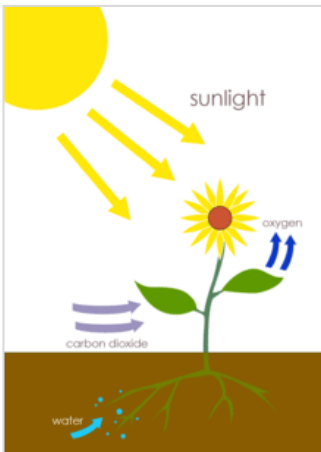
HOW MUCH WATER DO PLANTS USE? Background Information

Growing your own fruit and vegetables is a rewarding experience and has many benefits for both our health and that of our environment. Research has also proven that having lots of lovely plants and gardens around us every day has enormous benefits for our health, as well as improving our environment and the quality of the air that we breathe.

Plants can use a lot of water, and it pays to understand how much a plant uses so that we can water our garden efficiently and do not waste any of this precious resource. Plants are made up of around 90 percent water and use a lot more water than animals and humans do. The garden can use more water than other household uses.

Plants need a lot of water because the pressure of the water being taken up by the plants roots and then travelling up the stem into the leaves causes the plant to be strong and sturdy. Plants wilt when there is not enough water available because the pressure inside the plant's stems and leaves drop and it isn't sufficient to keep them firm and upright.

How A Plant Uses Water



Plants use water for the process of **photosynthesis**.

In this process, plants use the energy from sunlight, carbon dioxide from the air and water from the soil to make their own food. Oxygen is released from the plant during this process which is what humans and animals breathe.

Plants also lose water through the process of **Transpiration**.

Transpiration occurs when water evaporates from the leaves of the plants. The water escapes through microscopic holes in the leaves of the plants called stomata. A plant can open and close its stomata to help it survive. For example, on a hot day the plant may close its stomata, so it doesn't need as much water to survive.

Transpiration only occurs during the day. The water given off during transpiration helps to cool a plant on a hot day. This can be likened to the way that humans perspire. This also has the added benefit of cooling our environment. Have you ever noticed on a hot day why it is cooler laying on a nice, green lawn under a shady tree? This is because the stomata in the blades of grass are releasing water into the environment, helping to cool the air.

During a day, a plant can transpire many litres of water. The amount that it will transpire depends on many factors, including the type of plant, the position it is growing in, if the weather is hot or cold, and how old the plant is. As an example, an acre of wheat transpires about 15,000 litres of water each day, and a large tree can transpire 300 litres per day.