2 Water

Plant roots collect water and air from the soil. They suffer if there is too little water or too much water.

Plants are filled with water. If you crush a leaf or a stem in your hand the water comes out as a pale green liquid we call **SAP**.

Water is what gives plants shape. Plants suck up water from the soil and use it to pump up their leaves. They also get nourishment from the water as we will see later in this book.

Wilting

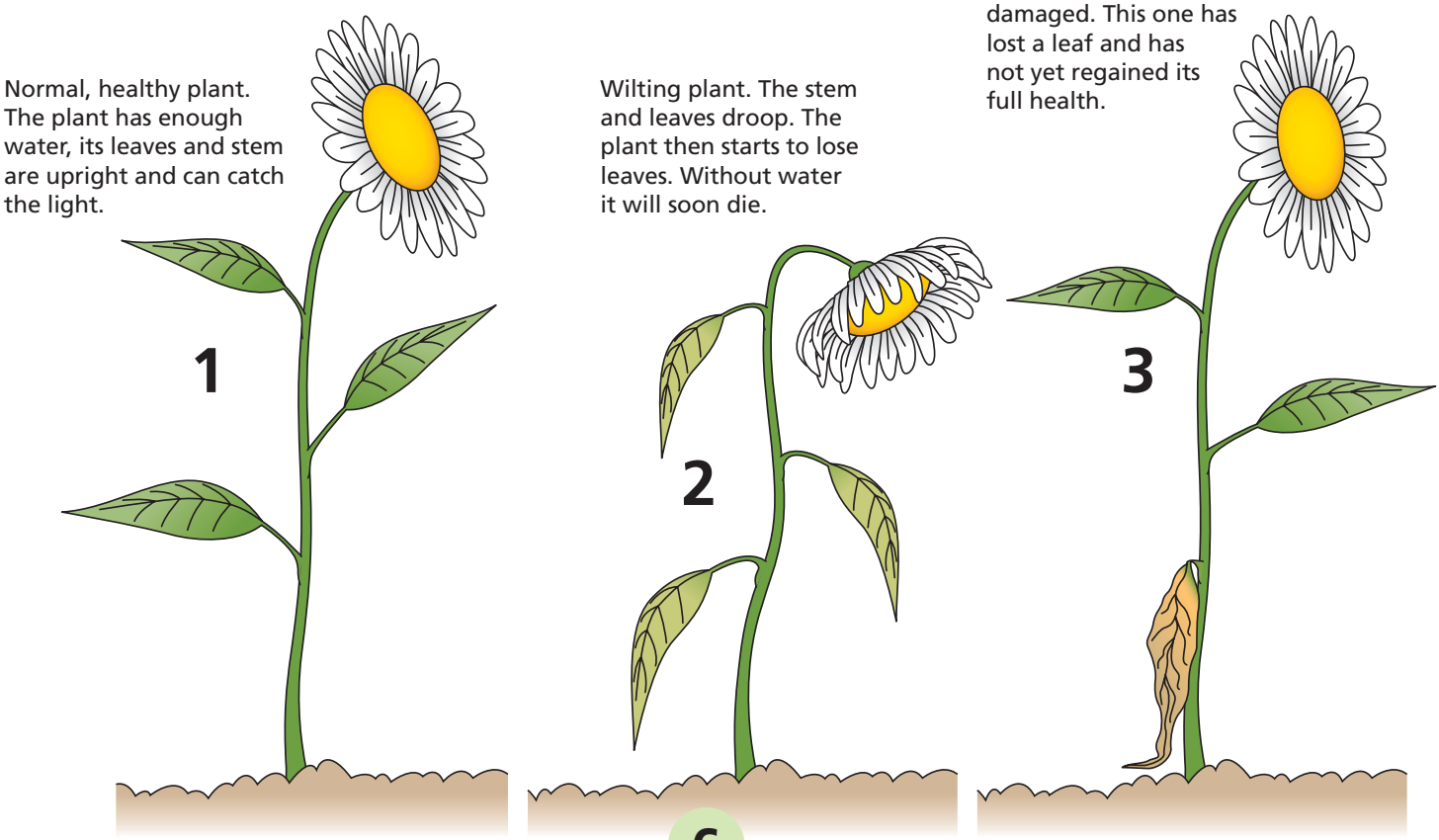
Without water a plant cannot grow quickly. As soon as a plant runs out of water it simply stops growing.

Many plants lose water all of the time through their leaves. So they need a new supply to replace what they lose.

Plants get their water from the soil. If they cannot get enough water to replace what they have lost then their leaves will soon go limp. This is called **WILTING** (Pictures 1 and 2).

▼ (Picture 1) When a plant wilts, its leaves become limp and hang from drooping branches. Finally, the leaves lose their green colour, turn brown and begin to shrivel up.

Plants can recover from the early stages of wilting, but not once the leaves have started to shrivel. This is why, if plants are to grow well, they need to be watered regularly.



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▲ **(Picture 2) Notice the lower leaves have wilted more than the upper leaves. The lower leaves have probably wilted too far to recover.**

Dried out

Many plants grow in places where the soil dries up regularly. When this happens these plants simply stop growing. A cactus is one type of plant that is adapted to live in dry soil and to go long periods without water (Picture 3).

Wilting happens most commonly with garden and houseplants. This is because the plants we grow often come from parts of the world that have no drought, and so they are not used to coping with it.

Waterlogging

You might think that because plants need water all of the time, they would grow well if stood in water. Some do. All the plants that live in swamps, marshes, rivers and ponds, for example, grow well in water. Rice is an example of a swamp plant. But plant roots also need air, and most plants cannot get air in a **WATERLOGGED** soil. This is why many plants stop growing if the soil becomes waterlogged.

Plants that are waterlogged for a long time will eventually die. This is why most plants will only grow well in a well-drained, moist, not soggy soil.

▼ **(Picture 3) These cactus plants will not wilt. They are ideal for a desert garden.**

Summary

- **Plants need a supply of water to keep their shape.**
- **When plants have too little water they stop growing.**
- **When soils become very dry, some plants wilt.**
- **Many plants die if the soil becomes waterlogged.**