

The magic of...

Photosynthesis

As the seasons change from summer to autumn, temperatures drop and days get shorter. Trees get less direct sunlight and the chlorophyll in the leaves breaks down. Chlorophyll is the natural green pigment found in plants, it's what gives them their colour. Chlorophyll helps plants absorb energy from the sun in a process called photosynthesis. In autumn, the lack of chlorophyll reveals yellow (carotenes) and red and pink pigments (anthocyanins) that were already in the leaves but masked during the warmer months.

Here's a neat experiment you can do in your classrooms to investigate photosynthesis. You will need some green and brown leaves and two cups of water. Pop the leaves in the water and wait a while.

Green leaves

Can you see all the tiny, tiny bubbles on the leaves? The bigger bubbles are air that has got trapped when the plant was put in the glass, but the tiny ones are the oxygen the plant has made and released through the holes in the leaves.



From the side of the glass
after 30 minutes



From the top of the glass
after 30 minutes



From the side of the glass
after 4 hours

Brown leaves

Can you see the difference?
The many tiny bubbles of air which are visible on the green leaves are missing on the brown leaves.

Try it yourself!



From the top of the glass



From the side of the glass



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