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How A Plant Breathes

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Perhaps you have heard people say that it is not good to sleep in a room with plants.

They say this, because they have heard that at night the plant does not give out oxygen, but that it does give out the poisonous carbonic-acid gas.

Now, you children know that part of this statement is true.

You know that the plant cannot give out oxygen at night, because at that time there is no Sunbeam about to help Leaf Green tear apart carbonic-acid gas and send the oxygen back into the air.

But how about the other part of the statement?

Is it true that at night plants give out the poisonous carbonic-acid gas?

Both day and night, plants give out carbonic-acid gas; for though plants, save in the sunlight, cannot eat by means of their little green cells, they can breathe through the tiny mouths on the under side of the leaf by night as well as by day.

And when either a plant or an animal breathes, it takes the life-giving oxygen from out the air mixture, and keeps it for its own use. But poisonous carbonic-acid gas is sent back into the air. Now, the question is, whether a plant does most good or most harm to the air by taking in and sending out the different gases.

Of course, it does good when it lets the oxygen out through its cell walls, and stores away the carbon within itself; and it may seem to do harm when through its leaf mouths it breathes in oxygen and breathes out carbonic-acid gas.

There is only one key to unlock the matter, and that is this,—to find out whether the plant does most towards poisoning or towards purifying the air.

And that has been found out already.

Wise men say that Leaf Green and Sunbeam do much more good to the air than the little breathing mouths do harm. The two good fairies take away a great deal of poison, and send back a great deal of the helpful oxygen; while the tiny mouths neither rob the air of much oxygen nor give it much poison. Indeed, the harm they do is so small compared with the great good accomplished by Leaf

Green and Sunbeam, that even at night you need not worry at the thought that you have plants in your room.

Perhaps you wonder that a plant does these two things that are so exactly opposite to each other.

But a plant must breathe as well as eat; for when it breathes, it takes in the precious oxygen which is just as necessary to its life as to ours.

In summer, by the dusty roadside, you see plants almost white with dust, looking quite ill and lifeless.

And they are both ill and lifeless; for their little leaf throats are so choked that they cannot breathe in the oxygen they need, and in consequence they are being slowly suffocated.



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