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IMAGINATION OVER KNOWLEDGE

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The Diligent Tree

Now we have learned three things about plants, and especially about leaves. We have learned—

That they perspire.

That they eat and drink.

That they breathe.

They perspire when the water passes through the leaf mouths into the air.

They eat when Leaf Green and Sunbeam together manage to take the carbon out of the carbonic-acid gas which has made its entrance through the leaf mouth and the cell wall. They drink when the roots suck in water and earth broth.

They breathe when the leaf mouths take from the air the oxygen, and give back to it carbonic-acid gas.

The veins and veinlets, of which you see so many running through a leaf, act in something the same way as the water pipes of a city; for through these veins the watery food, the earth broth, is carried to the different cells.

When one knows all that we know even now about a plant, one looks at a tree covered with leaves with a good deal of admiration.

Just think of what is being done inside that quiet-looking tree! Think of the millions of cells that go to make it up, each cell having its own work to do! Think of

the immense amount of business being carried on within the trunk, inside the branches, and especially in each green leaf! And when you have the chance, notice how hard each leaf tries to get just as much sun and air as it possibly can.

In the first place, the thin, flat leaf blades are so spread out that every part is exposed to the light and air.

Then notice how the leaves are placed in reference to one another.

Almost every single one is fastened to the tree so as to get its fair share of sunshine.

When you think of the many thousands of leaves borne by one tree, it astonishes you to see how seldom one leaf gets in another's light.

And the shapes of leaves are always suited to their arrangement on the tree.

If you should take the leaves of a chestnut tree and replace them by the leaves of a maple, you would find the maple leaves all getting in each other's way, or else you would see that they were taking up a great deal more room than necessary.

But when a leaf is studied on its own tree, one sees that its shape is the very best that could be imagined for its position.



And in the smaller plants we notice this same thing. And when you remember that Leaf Green cannot feed the plant unless Sunbeam comes to her assistance, you realize how necessary it is that each leaf be within the reach of Sunbeam's visits.