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Where Does The Matter in a Tree Come From as it Grows?



Have you ever looked at a huge tree and wondered, “Where did all that wood come from?” Trees can grow to be very tall and wide, but they don’t eat like animals do. So where does the matter that makes a tree—its trunk, branches, and leaves—actually come from?

The answer might surprise you: Most of a tree’s mass comes from the air!

Trees need a gas called carbon dioxide, which is found in the air all around us. Using a process called photosynthesis, trees take in carbon dioxide through small holes in their leaves. They also take in sunlight and water from the ground. These three things—carbon dioxide, sunlight, and water—work together inside the tree’s leaves to make glucose, a kind of sugar. The tree uses glucose to grow wood, bark, and more leaves.

As more glucose is made, the tree adds more matter to its body. Bit by bit, it gets bigger and stronger. So even though we can’t see the carbon dioxide going into the tree, it becomes part of the tree’s solid body over time.

Water and nutrients from the soil are also important. They help the tree stay healthy, but they don’t add as much mass as carbon dioxide does. The roots take in water and tiny minerals. These flow through the tree and keep it alive, kind of like how blood moves through your body.

So next time you see a giant tree, remember this: a lot of its mass came from the air! Thanks to photosynthesis, trees are great at turning invisible gases into solid matter. That’s one reason why trees are so important. They take carbon dioxide out of the air, which also helps fight climate change.