

Name: _____

A Tree is Like a Hungry Kid

By Mikki Sadil

What do you do when you are hungry? If you're like many people, you probably like something sweet for a snack. A tree is like a hungry kid because it needs food to grow, and it prefers sugar. It's not exactly the same sugar we find in candy and cookies, but it is a special kind called glucose that makes trees grow.



You might be thinking, *How does a tree eat the food (sugar)?* It doesn't even have a mouth! True, trees don't have mouths. They do have roots to take in water and minerals, but they don't really get food through their roots either. Trees make their sugar in their leaves. The sugar is sent from the leaves into the branches, trunk, and even the roots. When a tree "eats," it is moving sugar from the leaves to all its other parts.

When your mom makes cookies, she uses a recipe with certain ingredients. When a tree grows, it uses its own version of a recipe, which is a process called photosynthesis. This process also has to have certain ingredients to work. Do you know what a recipe for photosynthesis would look like?

Recipe Card for Photosynthesis

Makes 1 Batch of Sweet, Delicious Glucose for Trees

Ingredients:

Light energy: comes from the sun.

Water: comes from the soil, gathered by the tree's roots.

Carbon dioxide: comes from the air.

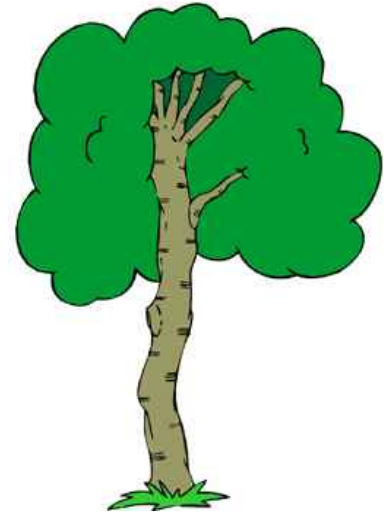
Chlorophyll: comes from the cells of green plants.

Directions:

Mix the chlorophyll, carbon dioxide, and water together. Bring in energy from the sun. Soon, glucose sugar and oxygen will form through a process called PHOTOSYNTHESIS.



Photosynthesis occurs when a tree uses the sunlight and chlorophyll to convert carbon dioxide and water into glucose. The tree needs to eat this glucose to grow, and we know it is eating because the leaves are turning green. It isn't the glucose which turns the leaves green, however, it is the chlorophyll.



Trees grow the most in the spring and summer, where there is a lot of sunshine every day. When fall begins, the days grow shorter and there is less sun. This alerts the tree to begin getting ready for winter. The leaves begin to turn red, orange, gold, and brown, because with less sunlight and water for photosynthesis, the green chlorophyll begins to disappear.

The leaf colors we see in the autumn have been in the leaves all along, but with so much green chlorophyll, we can't see them until the chlorophyll is gone. As winter begins to approach, the tree uses the food it has stored during the spring and summer, and goes into a rest period. Actually, the tree hibernates...just like bears do! The only difference is that bears lie down in a cave to sleep, and trees lose all their leaves and stand up to sleep.

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1. What substance does a tree use for food?
 - a. photosynthesis
 - b. chlorophyll
 - c. glucose
 - d. leaves

2. What four things does a tree need for photosynthesis?

3. What causes a tree's leaves to appear green?

4. What signals a tree to preparing for winter?
 - a. The days become colder.
 - b. The weather becomes dry.
 - c. There are more rainy days.
 - d. There are fewer hours of sunlight.

5. How does a tree get water?
 - a. It makes water in its leaves.
 - b. It turns glucose into water.
 - c. It absorbs water through its roots.
 - d. It uses photosynthesis.

6. Why do a tree's leaves change color in the fall?
 - a. The tree has less chlorophyll.
 - b. The tree has less water.
 - c. The tree has no leaves.
 - d. The tree is growing quickly before the winter sets in.

ANSWER KEY

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1. What substance does a tree use for food? **c**
 - a. photosynthesis
 - b. chlorophyll
 - c. **glucose**
 - d. leaves
2. What four things does a tree need for photosynthesis?
sunlight, water, carbon dioxide, and chlorophyll
3. What causes a tree's leaves to appear green?
the chlorophyll inside the leaves
4. What signals a tree to preparing for winter? **d**
 - a. The days become colder.
 - b. The weather becomes dry.
 - c. There are more rainy days.
 - d. **There are fewer hours of sunlight.**
5. How does a tree get water? **c**
 - a. It makes water in its leaves.
 - b. It turns glucose into water.
 - c. **It absorbs water through its roots.**
 - d. It uses photosynthesis.
6. Why do a tree's leaves change color in the fall? **a**
 - a. **The tree has less chlorophyll.**
 - b. The tree has less water.
 - c. The tree has no leaves.
 - d. The tree is growing quickly before the winter sets in.