

Carbon Activity 1 – Tree Growth Game

Students will learn:

- What a tree needs to grow.
- How a tree absorbs and stores carbon.

Basic information

There is invisible carbon in the air, which can be absorbed by a tree and transformed into its body - leaves and wood.

Trees bind a large amount of carbon dioxide and water.

Photosynthesis is the process of converting these two components into sugar called glucose. This reaction requires a lot of energy. Trees gain the energy from the sunlight via a special leaf pigment: chlorophyll. Chlorophyll absorbs sunlight and transforms it into the energy needed for photosynthesis.

carbon dioxide + water + energy from the Sun → glucose + oxygen



The Tree Growth Game

- *Time and place:* 20 minutes, close to your tree or in a classroom
- *You will need:* blue drops (20 pcs) and white balls (20 pcs) made from paper. For each group (max. 6 students): a big leaf cut from green paper, crayons, glue, picture of sun, paper to draw a poster



Divide the students into groups, give each group one green paper leaf and invite them to “grow” their tree on a paper. Students in each group choose one of them to represent the Trunk. The other members of the group divide into Leaves and Roots. Spread blue water drops and white carbon balls around tree or classroom.

The Trunk draws a tree on a paper - at first, a thin trunk and as many leaves and roots as there are in his group. When instructed, the Leaves run for carbon balls and Roots for water drops, carry them to the Trunk and lay them on the green leaf. For each carbon and water brought by Leaves and Roots, the Trunk draws a new leaf on the tree.

For every three new leaves, the Trunk draws additional layers of wood on the tree. The sun is shining all the time (symbolized by a picture).

Ask groups to complete their posters so that the tree has all it needs for its growth.



 For more activities, follow the activity [Bioenergy from Wood](#).

Share photos of your tree posters at the Discussion forum.