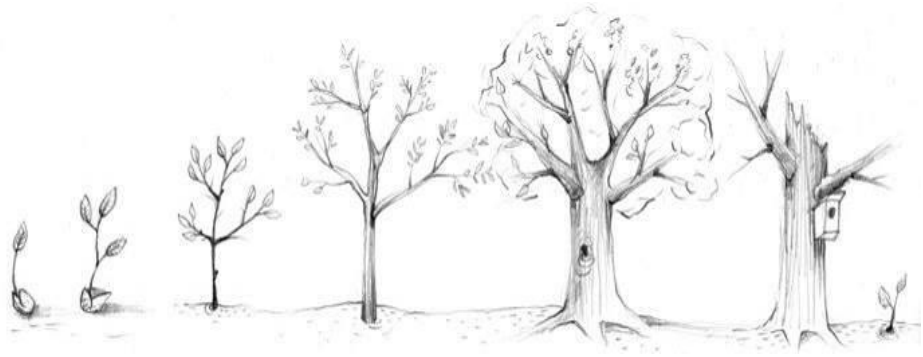
Carbon Activity 3 – Carbon in my Tree

You students will:

- Learn that trees of different age bind different amount of carbon.
- Calculate, how much carbon is stored in your tree.

Basic information



Growing trees build in carbon into their biomass. CO_2 is bound from the air by photosynthesis and released back by breathing. Carbon is also released by decay (fallen leaves, old wood).

The CO_2 balance (carbon intake vs. release) changes over tree life cycle.

Young fast-growing tree is a natural carbon storage, consuming more CO_2 than releasing. **Adult mature tree** still grows, but the total wood volume and the carbon stored in the wood increases very slowly. While mature trees still need carbon dioxide for growth, much of their biomass is lost every year: branches and trunks of aging trees break and fall. As an **adult tree ages, the CO_2 balance comes close to zero.** When a tree dies, it does not intake carbon anymore. As the wood decays, carbon is gradually released to the soil and into the air.

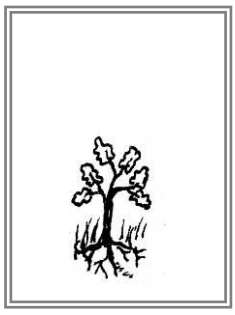
Carbon cycle of a tree is visualized in an animation by NASA: https://svs.gsfc.nasa.gov/vis/a010000/a010000/a010006/index.html.

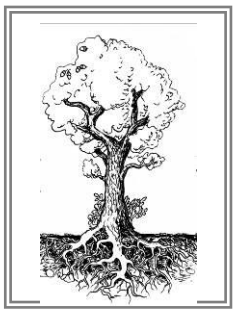
Carbon in my Tree Activity

- Find out how old your tree is. Students can ask at school at the town hall, search a village chronicle or even ask their grandma 😊 If you can´t find out, you can use a Tree age calculator.
- Measure a circumference of your tree and calculate, how much carbon is stored in it. Download instructions and calculation table here.

Optional

- On the way to your tree or close to your school, search for: 1) young tree, 2) mature tree, 3) very old tree, 4) dead tree
- Take a photo or draw a picture of these trees. Discuss and write, how much carbon the trees store and bind.






Share photos or painting of the four trees at the Discussion forum.