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How much carbon is locked in that tree?

Worksheet 2 – Final calculation: how many trees are needed?

We started with the following question: how many trees are needed to remove 680 kg of CO_2 from the air?

Now we have almost all the information needed to answer the question.

1. Have you measured a broadleaf tree or a coniferous tree?
2. Check the carbon estimation tables for conifers or broadleaf trees to see how much carbon in kg your tree has already removed from the air in its lifetime, based on its height and diameter.

Carbon mass: _____ kg

3. Now we need to convert this value into mass of CO_2
   Atomic mass of carbon: 12.01 g/mol
   Molecular mass of CO_2: 44.01 g/mol

   Mass ratio CO_2/C=_____

4. Mass CO_2 absorbed = _____×_____

   = _____

5. Now you know how much CO_2 your tree has removed from the air in its lifetime, you can calculate how many similar trees would be needed to remove the 680 kg of CO_2 from the air that was produced for one person during a round-trip flight from Düsseldorf to Mallorca or _____to _____ (which is an equal distance from your city).

   Result = 680 kg ÷_____

   = _____ trees