Carbon footprint

As trees grow they take in carbon dioxide and store carbon in their trunks, roots and leaves. Can you find a tree that has absorbed the same amount of carbon that your actions have emitted in a year?

Step 1

- Use the table below to calculate your carbon emissions for one year by using the resource cards to complete the missing values in the green column below.

- Follow the example to complete the rest of the table to calculate your carbon emissions for one year.

Activity	Carbon Emitted per activity (g)	How many times on an average day?	Carbon emissions per day (g)
EXAMPLE Television per hour	25	3	25 x 3 = 75
Television per hour			
Lights for 1 room per hour			
Computer / laptop per hour			
Radio per hour			
Games Console (eg Xbox360) per hour			
Hairdryer for 10 minutes			
Car journey for 1 mile			
Electric Oven for 15 minutes			
Boiling kettle once			
Making 2 slices of toast			
Using a microwave for 1 minute			
1 cycle of dishwasher			
Washing machine at 40 degrees	Based on 1 pile of washing per wk		118
Tumble drier	Based on 1 use per wk		74
Running a fridge freezer	Runs for 24 hours a day		500

TOTAL carbon emissions for 1 day	**g**
Convert grams (g) to kilograms (kg) by dividing by 1000	**kg**
x 365 days for TOTAL carbon emissions or carbon footprint for 1 year	**kg**

Step 2

- Once you know your carbon emissions for the year, use the graph provided to estimate the size of tree it would take to store that amount of carbon.

- Find your total carbon stored in kilograms along the 'x' axis and draw a straight line up to the green line. Read across to the 'y' axis to find the circumference of the tree you are going to look for.

- Measure different trees at chest height (1.3 meters off the ground) until you find one with a similar circumference.

| **Circumference of tree that equates to my annual carbon emission**	**cm**

Step 3

- Work out how long it has taken for your chosen tree to absorb your annual carbon emission i.e. the age of the tree.

- Different types of trees have different growing rates; conifer trees grow faster than broadleaf trees. Is your tree a conifer or a broadleaf?

Broadleaf or Conifer?	
To calculate the age of a tree, divide the circumference (cm) by the growth rate (cm/yr) • **Divide by 3 for a conifer tree** • **Divide by 2 for a broadleaf tree**	**Years old**

You now know your annual carbon emissions can be absorbed by a tree that is _____ years of age.

Imagine how many trees will be needed to absorb your carbon emissions over your lifetime.

What can you do to reduce your carbon footprint?

I will reduce my carbon footprint by:

CARBON STORAGE IN TREES
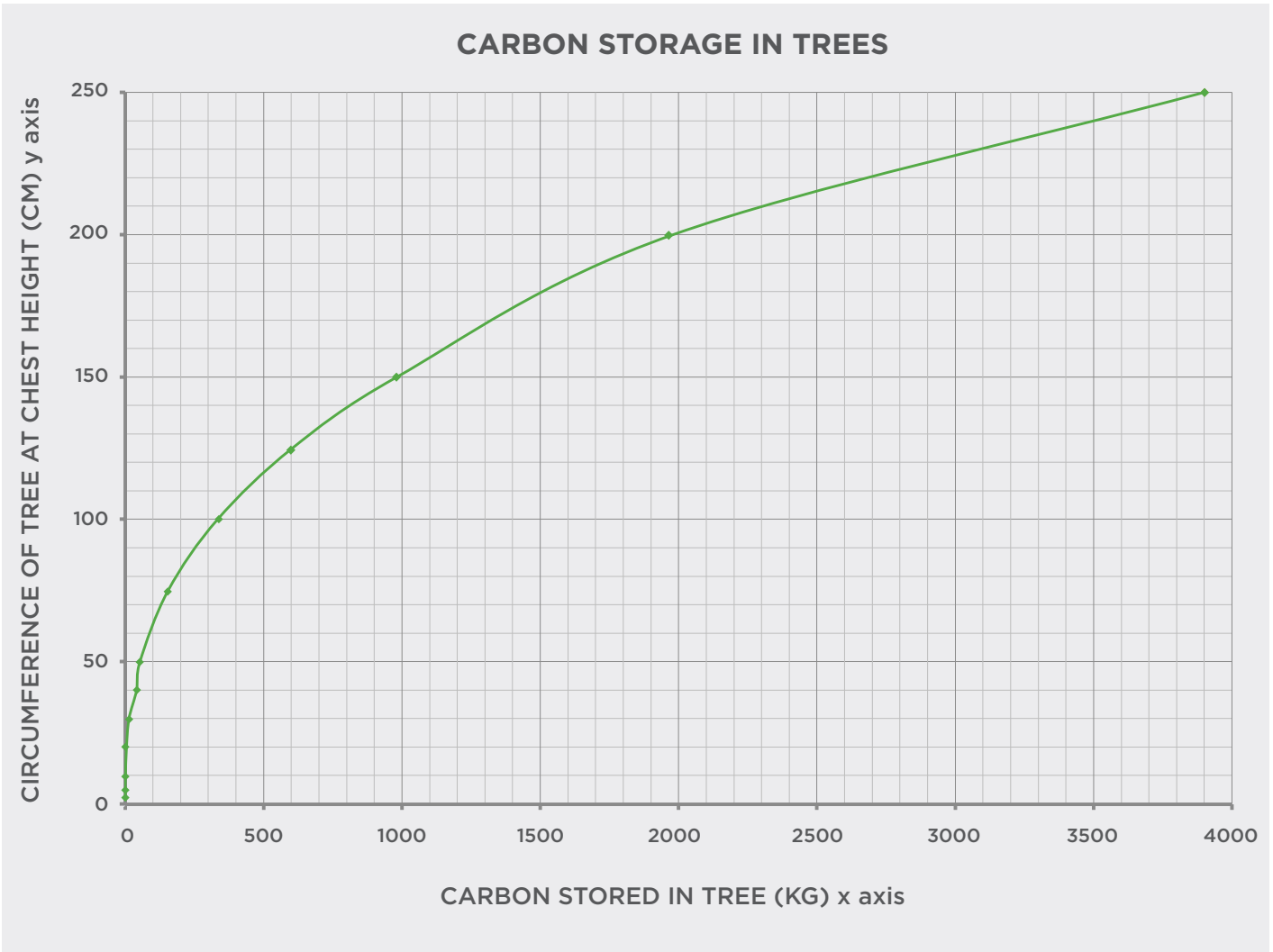
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