

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHS

CARBON CATCHERS

THESE ACTIVITIES FOLLOW ON FROM THE CARBON CATCHERS WORKSHOP THAT YOU HAVE TAKEN PART IN AT DUMFRIES HOUSE STEM CENTRE. THESE ACTIVITIES AND RESOURCES WILL HELP YOU FURTHER EXPLORE THE CARBON CYCLE AND WHERE CARBON IS STORED.

ACTIVITY 1:

TREES PER ME

WHAT'S YOUR CARBON FOOTPRINT?

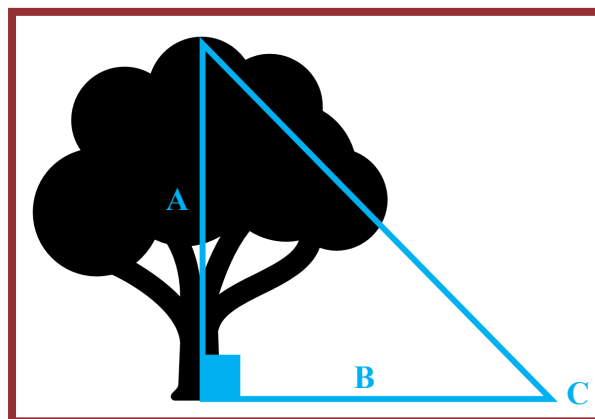
1. Figure out how many trees you'd need to plant to offset your carbon footprint for a year. Fill in the carbon footprint calculator at <https://footprint.wwf.org.uk> to find out how many tonnes of carbon your lifestyle emits per year.

WHAT'S THE CIRCUMFERENCE OF THE TREE?

1. Now find the biggest tree you can and measure it's circumference, rounding to the nearest meter.

WHAT'S THE HEIGHT OF THE TREE (PERSPECTIVE)?

1. Now stand facing the tree and imagine the tree forms part of a right angled, isosceles triangle as shown in the image to the right.
2. Facing your tree, hold a long stick vertically, in front of your face, at arms length, so that it looks like it is covering line A of your imaginary triangle. Back away from the tree until the stick looks the same height as the tree from your perspective.
3. Lean the stick over, keeping the bottom of the stick covering the base of the tree, until it lies along line B in your imaginary triangle.
4. Ask a partner to walk to the point C on your imaginary triangle, which should look to you like it is at the end of your stick.
5. Measure the distance between where your partner is standing and the base of the tree to find out the height of the tree in meters.
6. Now use the chart over the page to figure out how many kg of carbon that tree contains, how many of these trees would have to be planted per year to offset your carbon footprint?

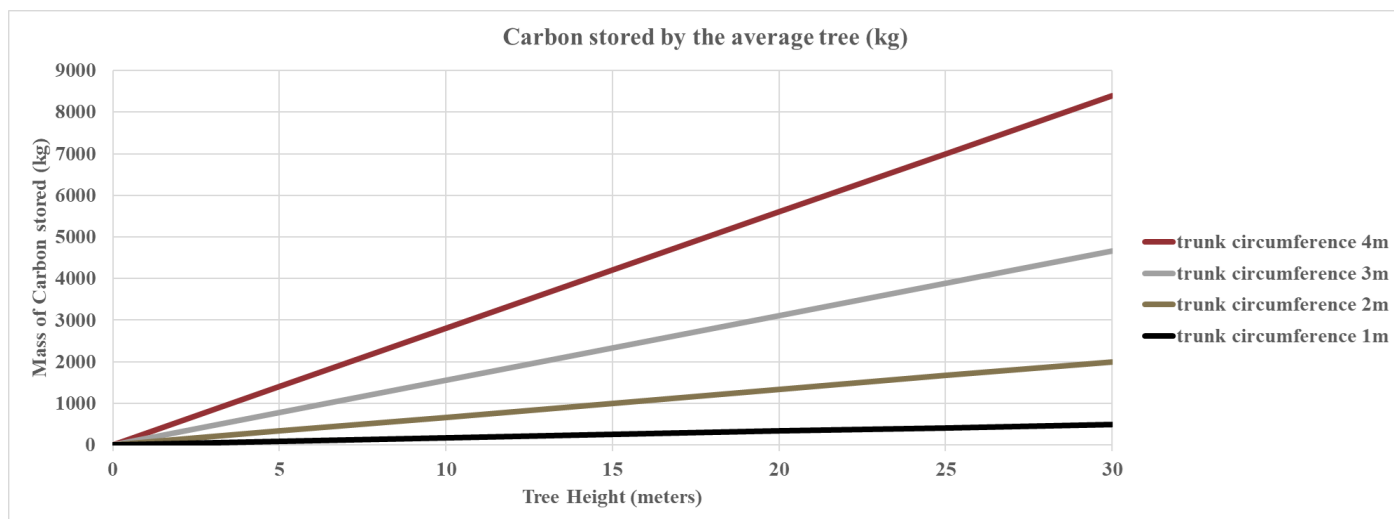


WHAT'S THE HEIGHT OF THE TREE (CLINOMETER)?

For an alternative way to measure a tree's height check out the video called "An Introduction To Data-Driven Science" on The Prince's Foundation YouTube Channel, start 7 minutes in, to learn how to use a clinometer to measure the height of a tree.

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USEFUL RESOURCES



FURTHER CARBON CYCLE ACTIVITIES

[HTTPS://WWW.STEM.ORG.UK/RESOURCES/COMMUNITY/COLLECTION/15082/CARBON-CYCLE](https://www.stem.org.uk/resources/community/collection/15082/carbon-cycle)

A SELECTION OF SCHOOL ACTIVITIES BASED ON THE CARBON CYCLE

CARBON STORED IN TREES

[HTTPS://CDN.NATURALRESOURCES.WALES/MEDIA/687190/ENG-WORKSHEET-CARBON-STORAGE-CALCULATOR.PDF](https://cdn.naturalresources.wales/media/687190/eng-worksheet-carbon-storage-calculator.pdf)

AN ALTERNATIVE VERSION OF THE ACTIVITY COMPLETED AT DUMFRIES HOUSE, WHICH LOOKS AT SPECIES OF TREE AND GROWTH RATES.

