

Earth LIVE Lessons: Trees & Our Climate

- Professor Mary Gagen



This worksheet accompanies Lizzie Daly's Earth Live Lessons video, 'Trees & our Climate'. Find it here:

[www.s4scienceportal.co.uk
/resource/trees-and-climate/](http://www.s4scienceportal.co.uk/resource/trees-and-climate/)

What is it about?

Tree ring growth can be absolutely dated, and mapped onto a historical timeline. This tree ring data shows that the temperature changes we have experienced in the twentieth and twenty-first centuries are unprecedented in terms of speed, and are global.

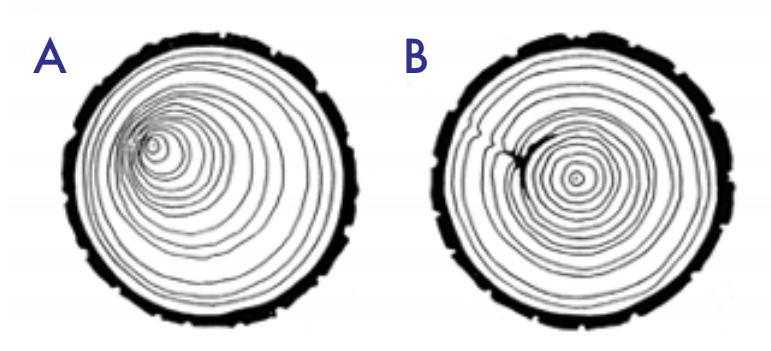
Notes & Doodles

Trees & our climate

Worksheet 2

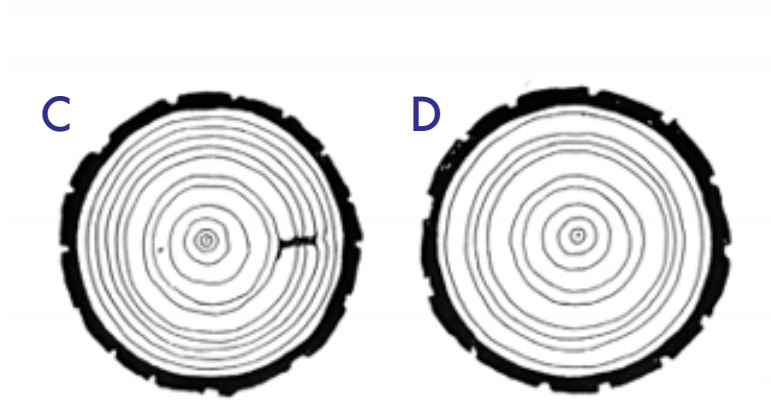
Don't forget to find the video to go with this worksheet on our website, you're looking for the **Trees & our Climate** video!

How old are the tree cross sections shown below?



Tree A is

Tree B is

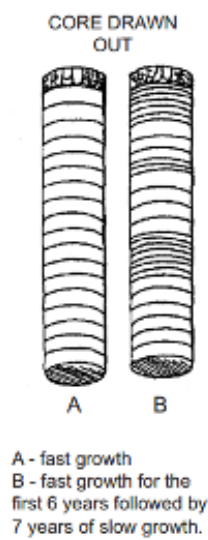
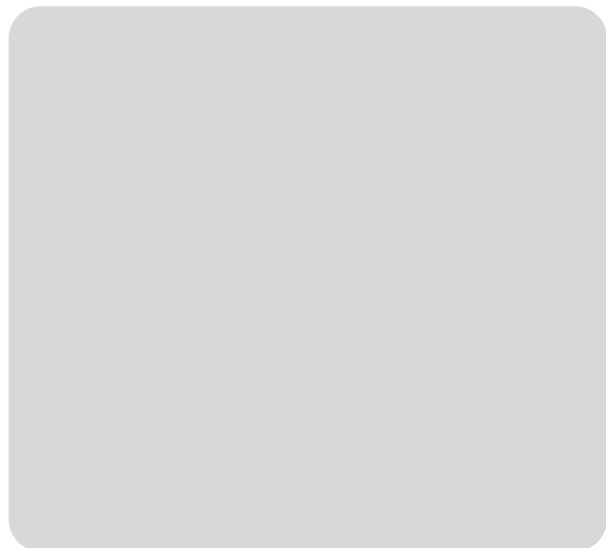


Tree C is

Tree D is

Not all trees grow at the same rate. Some rings are wide and some are narrow.

What might make a tree grow a narrow ring?



Rings narrow, dark and jammed together show poor growing conditions.

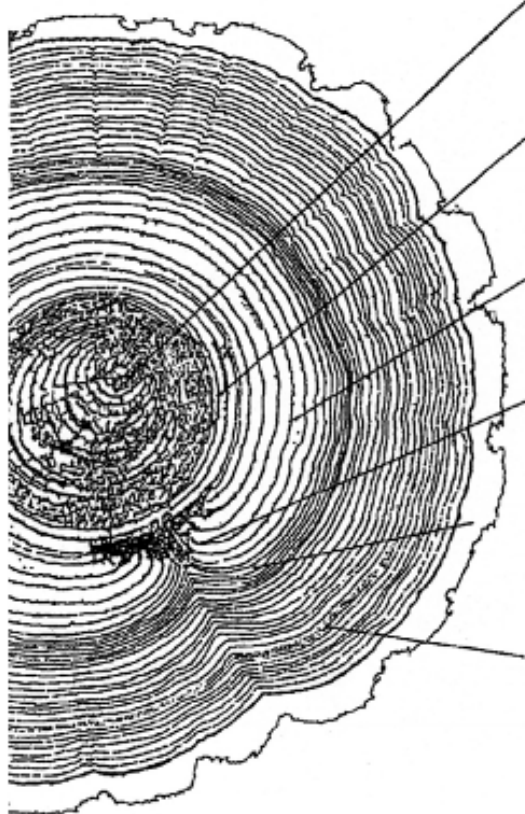


Both trees are the same age but one is 1/2 diameter of the other.



Rings wide, light, well spaced, show good growing conditions.

Tales trees tell



When this tree was 8 years old something brushed against it, making it lean. The rings are now wider on the lower side as the tree builds "reaction wood" to help support it.

The tree is growing straight again, but its neighbors are growing too, and their crowns and root systems take much of the water and sunshine the tree needs to grow. The rings are narrower.

The surrounding trees are harvested. The larger trees are removed and there is once again ample nourishment and sunlight. The tree can now grow rapidly again.

A fire sweeps through the forest. Fortunately the tree is only scarred, and year by year more and more of the scar is covered over by newly formed wood.

These narrow rings may have been caused by a prolonged dry spell. One or two dry summers would not have dried the ground enough to slow the tree's growth this much.

Another series of narrow rings may have been caused by an insect like the larva of the sawfly. It eats the leaves and leaf-buds of many kinds of coniferous trees.

Make up some questions about the statements above.
(e.g. why did the tree grow narrow rings in some years?)

The outside ring is 2015. Count back to find the ring from the year you were born.

