

Hello Trees Resource Sheet

What to look for outdoors in Winter

Primary Growth



Trees grow in girth (width) each year.



This is called '**secondary growth**'.



So, what is 'primary growth'?

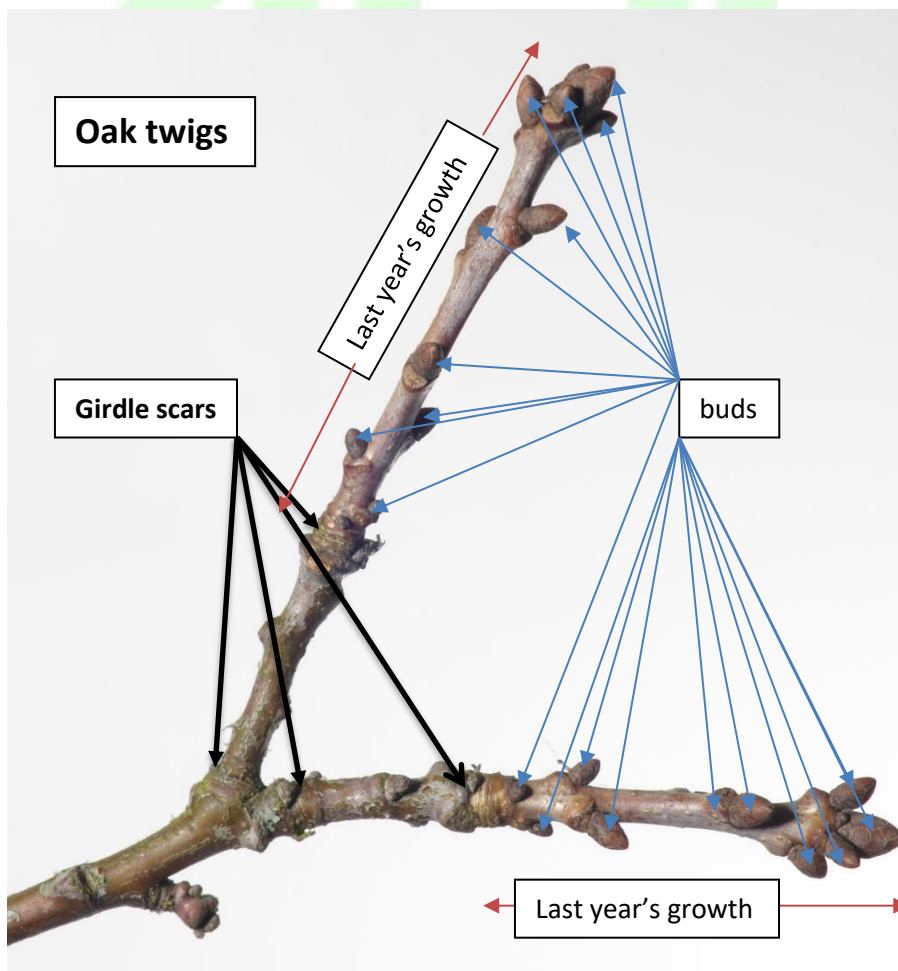


Primary growth makes branches longer or starts new ones.

Twigs are the thin bits at the end of branches. Along a twig and at its tip are buds.

Out of the **buds** comes new growth.

Here is a photo of two oak twigs. What a lot of buds there are on an oak twig!



Can you see the girdle scars?

Girdle scars are little creases across the twig.

They mark the beginning of each year's growth.

How far apart are the girdle scars?

The distance between them is the extent of growth each year.

The distance between the tip of each twig and the previous girdle scar is the extent of last year's growth.



Have the twigs grown the same length each year?



Was last year's growth as much – or more – than the previous year's growth?



What do you think might affect the extent of growth?

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Weather might affect the amount of growth – but surely all twigs equally.
Do you think weather would affect all twigs equally?



What about how much light fell on the leaves of a twig?
Do you think some twigs would have to grow longer to get its leaves into the light?

Here are two ash twigs. The girdle scars are at the fork.

We can see (observe!) that one twig grew a lot more than the other last year.

No wonder branching is so irregular!



Ash twigs with girdle scars at the fork



An ash tree



Look for a tree with branches low enough for you to get a good look at its twigs.

Look for girdle scars



Look for buds



Think of words to describe the buds:

- their size,
- their shape,
- their colour,
- the way they are arranged along the twig.



Measure how far twigs grew last year
how far they grew in previous years.



There is something else to look for:

Each new bud forms in the angle between a leaf and twig.

As a leaf falls away, its stem leaves a scar on the twig.



Can you make out a **leaf scar** under each bud on your tree?

Usually it is a shield shape or a smiley curve: the shape of the base of the leaf stem.

Here is a photo showing a leaf scar under an ash bud.



Leaf scar under an ash bud

Can you see any leaf scars on the photo of oak twigs?



For more about trees, fun things to look for and do indoors and outdoors, and about Hello Trees books see Hello Trees website at <http://helltrees.co.uk/>