A Summer Key to the Common Broad-leaved Trees and Shrubs of Hertfordshire

Broad-leaved Trees

This key does not include conifers, which have tiny or needle-like leaves. Broad-leaved trees have leaves that always have veins that branch.

Compound Leaves

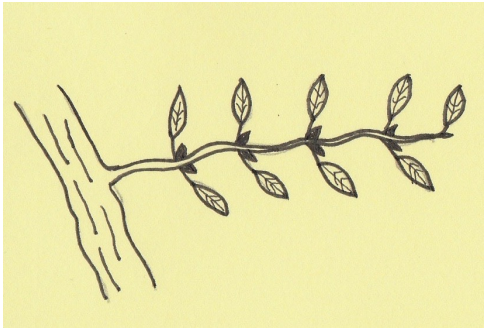
A simple leaf has a single leaf blade attached to a stalk. The leaf blade can be one of many shapes – oval, spear-shaped, lobed etc.

A compound leaf consists of two or more leaflets attached together by stalks.

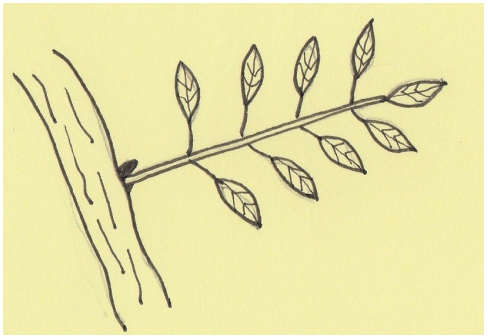
How can you tell a leaf from a leaflet?

- A leaflet attaches to a leaf stalk, which is not woody and is typically green or red. A leaf attaches to a twig, which is normally woody (although new shoots may not be).
- Over summer new buds form in the axil that a leaf stalk makes with the twig; leaflets do not have buds at their bases, only where the whole leaf meets the shoot.

In the key, questions need to be answered for the whole leaf (not a leaflet) unless the question specifically asks about the leaflets – this is particularly important for question 1.



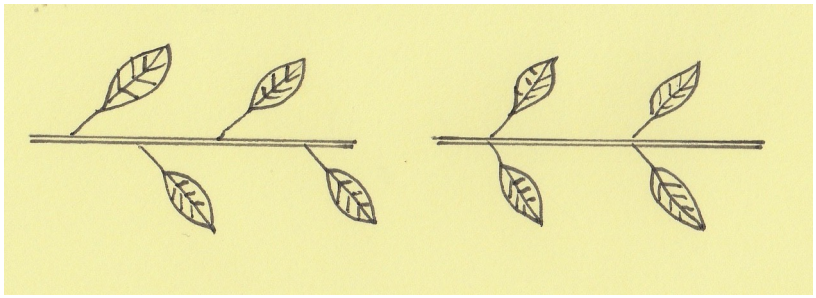
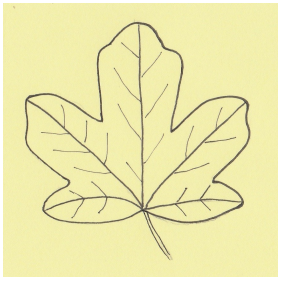
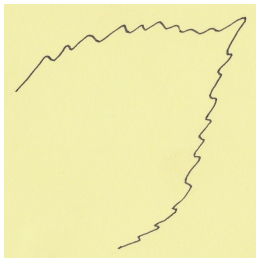
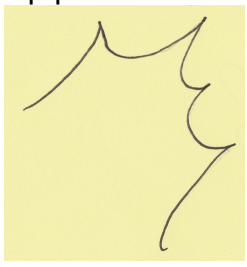
Here are 9 simple leaves on a woody twig; there is a bud where each leaf stalk joins the twig.

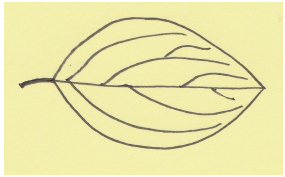
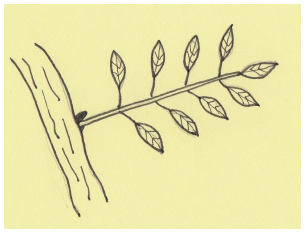


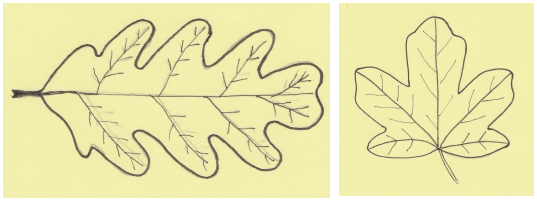
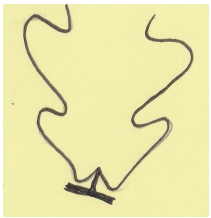
Here is a compound leaf with 9 leaflets on a stalk; there is a bud at the base of the leaf.

In the key, species capable of growing to tree size are in **bold**; species that are only normally shrubs are not.

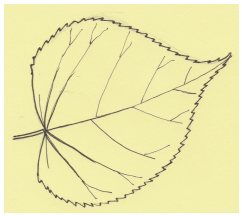
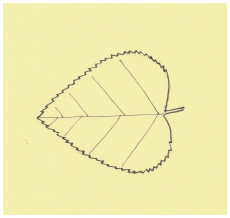
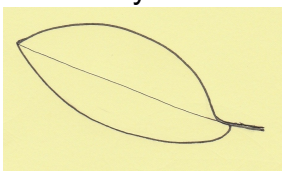
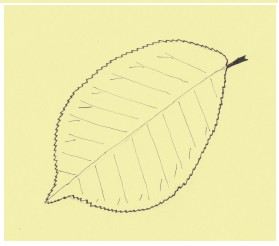
When measuring the length of leaves do not include the leaf stalk.

1	a Leaves arranged in opposite pairs (some may be staggered)…… b Leaves (not leaflets) arranged alternately on the twig…….  b *Alternate* *a Opposite*	2 20
2	a Compound leaf made up of several leaflets…….. b Simple leaf……..	3 5
3	a Leaflets joined at a single point……... b Not like this……	**Horse chestnut** 4
4	a 5 (sometimes 7) leaflets per leaf…… b More than 7 leaflets per leaf……	Elder **Ash**
5	a Leaves palmate with several lobes…… b Leaves do not have lobes……  a *A palmate leaf has 3 or more veins radiating from a single point, each one ending in a lobe*	6 9
6	a Twigs have an angular cross-section; 3 main lobes…… b Twigs not like this; 5 main lobes……..	**Guelder rose** 7
7	a All leaves less than 8cm long…… b Some leaves more than 8cm long……	**Field maple** 8
8	a Each lobe has blunt teeth…….. b Each lobe has sharp points……...   *a Sycamore lobe* *b Norway maple lobe*	**Sycamore** **Norway maple**

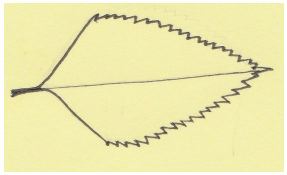
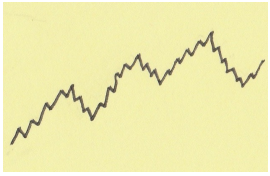
9	a Main lateral veins curve towards the tip; never a large tree…… b Lateral veins not like this……..  a	10 12
10	a Leaf edge has saw-teeth…….. b Leaf edge smooth……..	11 Dogwood
11	a Leaf spear-shaped, length more than 2.5x width…… b Leaf oval, length less than 2.5x width……	Butterfly bush Buckthorn
12	a Some leaves more than 5cm wide…….. b All leaves less than 5cm wide……..	13 14
13	a Leaf edge has saw-teeth; leaf veins prominent…… b Leaf edge smooth; leaf veins not prominent……	Wayfaring tree Lilac
14	a Leaf edge with very fine saw-teeth; fruit has 4 lobes turning green to pink……..… b Leaf edge smooth; ……	Spindle 15
15	a Fruit a white berry…….. b Fruit a berry turning from green to purple/black over Summer…..	Snowberry 16
16	a Leaves spear-shaped…… b Leaves oval……	Wild privet Garden privet
17 to 19	Spare questions	\
20	a Compound leaf made up of several leaflets…… b Simple leaf……	21 23
21	a Leaf made up of 3 leaflets attached at a point…… b Leaves not like this (leaves pinnate)……  *b Pinnate leaf*	Laburnum 22

22	a When a twig is split lengthways the pith is chambered; leaflets large, some over 8cm long…… b Pith not like this; leaflets small, all less than 8cm long…….	**Common walnut** **Rowan**
23	a Leaf palmate (see question 5) with 3-5 main lobes…….. b Leaf not palmate…….	**Wild service tree**[1] 24
24	a Leaf with lobes…… b Leaf without lobes……..	25 33
	 *a Leaves with lobes*	
25	a Leaf nearly as wide as it is long; leaf stalk flattened…….. b Leaf noticeably longer than it is wide; leaf stalk not flattened……..	26 27
26	a Underside of leaf covered in dense white felt…… b Underside pale, but not white……	**White poplar** **Grey poplar**
27	a Leaf dark glossy green, very stiff, often with sharp points…… b Leaf not like this……...	**Holly** 28
28	a Leaf dark green above, white below…… b Leaf not like this……...	**Swedish whitebeam** 29
29	a All leaves small; less than 5cm long…… b Leaves typically more than 5cm long ……..	30 Hawthorns 31 Oaks
30	a Lobes deeply incut; at least 2/3 the way to the centre line: if red berries are present they contain a single seed…….. b Lobes not deeply incut; at most 1/3 the way to the centre line: if red berries are present they contain a pair of seeds……	**Common hawthorn** **Midland hawthorn**
31	a Lobes deeply incut, ½ way to centre line; acorn cups and buds if present have whiskers…… b Leaves, acorn cups and buds not like this……..	**Turkey oak** 32
32	a Leaves appear stalk-less; the base of the leaf has auricles……. b Leaves have distinct stalks; the base of the leaf has no auricles…  a *Auricles are little ears at the base of the leaf*	**Common oak** **Sessile oak**

[1] Ivy will key out here if you try it, but I am not counting it as a tree or shrub.

33	a Leaves heart-shaped (some may have a flat base); tip is pointed as if pinched (acuminate); 5-7 veins radiate from base…….	34 Limes
	b Leaves heart-shaped; tip is pointed and triangular (not acuminate); veins branching in pairs……..	53 Birches
	c Leaves not heart-shaped…….	36
	 *a Lime leaf*  *b Birch leaf*	
34	a Leaves feel furry to the touch; veins on the underside of the leaf are covered in hairs……	**Large-leaved lime**
	b Leaves do not feel furry; top of leaf hairless and the underneath only has tufts of hairs in the vein joints……...	35
35	a Hair tufts rusty coloured; all leaves less than 7cm long; flowers and fruit if present stick out in all directions……	**Small-leaved lime**
	b Hair tufts cream coloured; some leaves more than 7cm long; flowers and fruit if present hang down……	**Common lime**
36	a Leaf blade offset where it joins the stalk, or at least very asymmetric (lopsided) where it meets the stalk……	37 Elms
	b Leaf blade joins the stalk at the same level either side more or less evenly……..	41
	 a *Offset base to leaf blade*	
	 *a Strongly lopsided leaf blade*	
	Identifying elms to species level is very difficult, so the following part of the key cannot be relied on:	
37	a Leaf almost as wide as it is long……..……	**English elm**
	b Leaf longer than it is wide…….	38
	Here 'almost' means the width is at least 0.8x the length	

38	a Upper surface of leaf smooth…… b Upper surface of leaf rough (like fine sandpaper)…….	39 40
39	a Leaves all smaller than 7cm……. b Some leaves longer than 7cm……	**Smooth-leaved elm** **Hybrid elm**
40	a Leaf stalk tiny (2mm or less); leaves large (some over 14cm); buds covered in ginger hairs…… b Not like this……..	**Wych elm** **Hybrid elm**
41	a Leaf stalk flattened (cannot be rolled between finger and thumb).. b Leaf stalk not flattened……	42 Poplars 44
42	a Leaf roughly circular (with a wavy edge)……. b Leaf diamond-shaped (sometimes heart-shaped) and pointed…...	Aspen 43
43	a Tree tall and thin, branches hugging the main trunk……. b Tree not like this……..	**Lombardy poplar** **Hybrid black poplar**
44	a Leaves almost as wide as they are long…….. b Leaves longer than they are wide……. *Here 'almost' means the width is at least 0.8x the length*	45 47
45	a Main lateral veins curve towards the tip (see question 9)……. b Lateral veins not like this……	56 Apples 46
46	a Leaves and leaf stalks very hairy……. b Leaves and leaf stalks not hairy……...	**Hazel** **Common alder**
47	a Leaves long and spear-like, length at least 4x width…… b Length less than 4x width……. *Willows are a complex group with many separate species and hybrids, therefore the following part of the key is not comprehensive.*	48 Willows 49
48	a When bent back, new shoots snap off cleanly at the base; leaves typically longer than 8cm but never over 20cm…….... b Leaves all less than 8cm long; leaves covered in white hairs, especially the underside; tree looks very pale…….. c Tree has drooping, pendulous branches; some ieaves longer than 8cm but never over 20cm……. d Shrub or small tree with very long thin leaves, some over 20cn long……	**Crack willow** **White willow** **Weeping willow** Osier
49	a Leaves green above, underneath covered in a dense white felt….. b Leaves not like this…….....	**Whitebeam** 50

50	a Leaf has distinct regular saw-teeth (may be small) around most of the edge (serrate)……	51
	b Leaf edge does not have teeth (entire), or they are only indistinct and for part of the edge (the leaf edge may be wavy)…….	58
51	a All leaves less than 6cm long……	52
	b Some leaves more than 6cm long; all less than 10cm long…….	55
	c Some leaves more than 10cm long……..	57
52	a Leaf widest near the base; leaf edge has saw-teeth except at the base……...	53 Birches
	b Leaf widest near the middle; all leaf edge has small saw teeth……	54
	 *a Birch leaf*	
53	a Leaf and leaf stalk softly furry to the touch, covered in short hairs..	**Downy birch**
	b Leaf and leaf stalk not hairy; mature trees have white bark with large black diamond patches……...	**Silver birch**
54	a New shoots green (turning red on the side exposed to the sun); shrub or small tree…….	**Cherry plum**
	b New shoots grey/brown; shrub forming dense thorny thickets……	Blackthorn
55	a Leaf edge doubly serrate; veins on underside of leaf very prominent; bark smooth grey/green with silver stripes……	**Hornbeam**
	b Leaf edge singly serrate; veins not prominent; bark on mature trees flaky and not smooth……...	56 Apples
	 a *Doubly serrate means the teeth have teeth*	
56	a Mature fruit (if present) a hard apple 2-4cm in diameter; twigs always hairless……	**Crab apple**
	b Mature fruit (if present) a soft apple over 4cm in diameter; twigs sometimes covered in felty hairs…….	**Domestic apple**
57	a Leaf stalk has one or two small red blisters; bark on mature trees smooth with horizontal stripes, sometimes peeling…….....	**Wild cherry**
	b Leaf has large teeth with spiky points; bark on mature trees rugged and fissured often with ridges spiraling up the trunk…….	**Sweet chestnut**
58	a Leaves dark glossy green…….	59
	b Leaves maybe smooth but not glossy; never a large tree……	60 Sallows

59	a Leaves thin, often with hairs protruding from the leaf edge; bark smooth and light grey even when the tree is large; spiky fruit may be present; tree may be very large…….	**Beech**
	b Leaves thick with a pale mid-rib; leaves grouped at twig ends; a shrub……..	Rhododendron
	The two common species of sallow (goat willow and grey willow, which has two sub-species) form hybrids with each other and with other willows so identification is complicated; once again this part of the key will not always be reliable	
60	Length of leaf less than 2x width…….…….	**Goat willow**
	Length of leaf more than 2x width……	61 Grey willow
61	Leaf stalk and underside of leaf very hairy	subsp. Grey Sallow
	Underside of leaf has only sparse rusty coloured hairs; leaf stalk not hairy	subsp. **Rusty Sallow**

Andy Holtham 10/9/2019