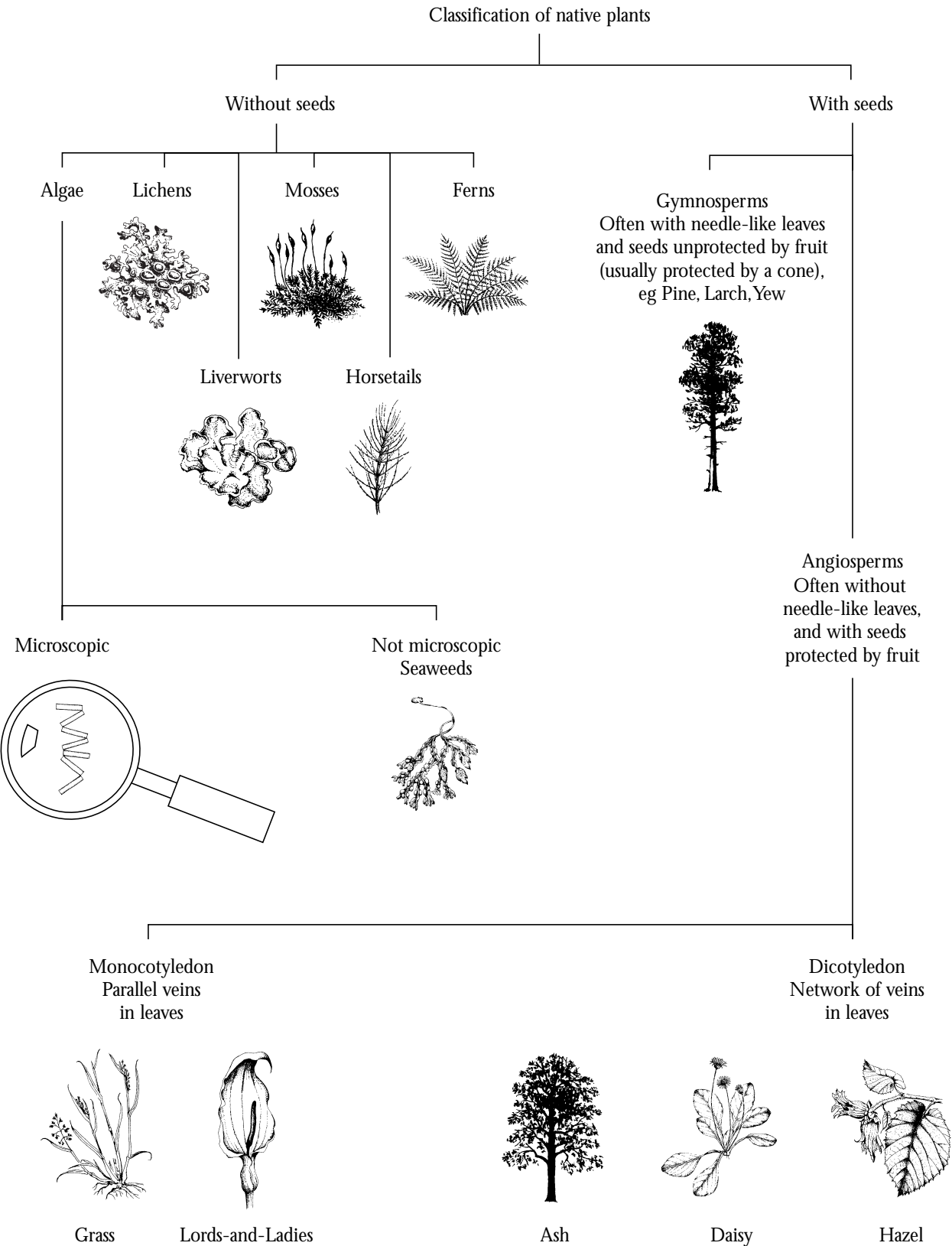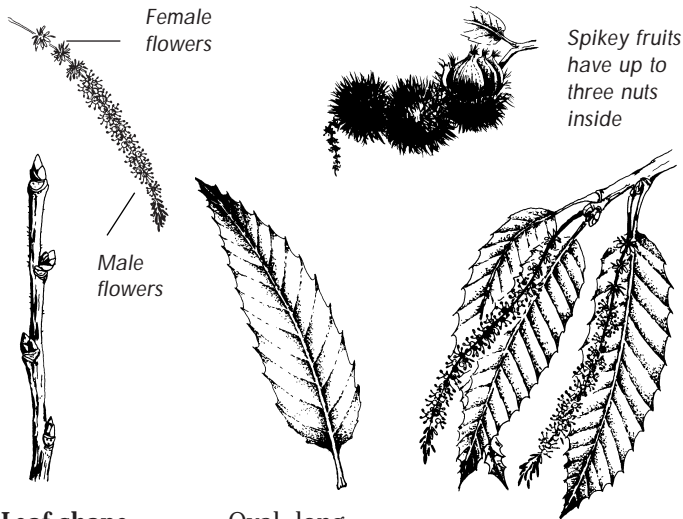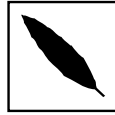# Classification of native plants

Pupils can sort and classify native plants by their observable features as defined below. Note that fungi may be confused with plants, but in most modern systems of classification they make up a separate kingdom and therefore have not been included below.

Classification of native plants

Without seeds

With seeds

Algae   Lichens   Mosses   Ferns

Liverworts   Horsetails

Gymnosperms
Often with needle-like leaves
and seeds unprotected by fruit
(usually protected by a cone),
eg Pine, Larch, Yew

Microscopic   Not microscopic
Seaweeds

Angiosperms
Often without
needle-like leaves,
and with seeds
protected by fruit

Monocotyledon
Parallel veins
in leaves

Dicotyledon
Network of veins
in leaves

Grass   Lords-and-Ladies   Ash   Daisy   Hazel

Sweet Chestnut
Castanea sativa

Female flowers

Spikey fruits have up to three nuts inside

Male flowers

Leaf shape	Oval, long
Flower colour	Yellow
Flowers	July
Seed dispersal	Fruits, dispersed by birds and mammals
Twig	Leaves alternate
Height	Up to 30 m
Type	Deciduous

Note: Rare in the north and west but planted in parks.
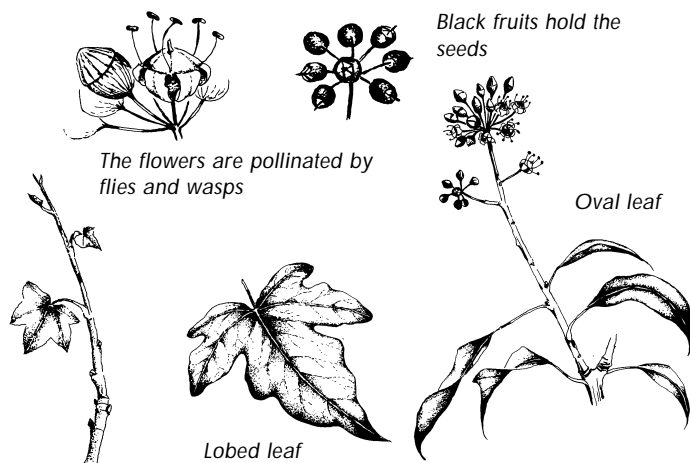
Lombardy Poplar
Populus nigra 'Italica'

Crimson catkins flower in April

Most trees are male and do not produce the woolly seeds
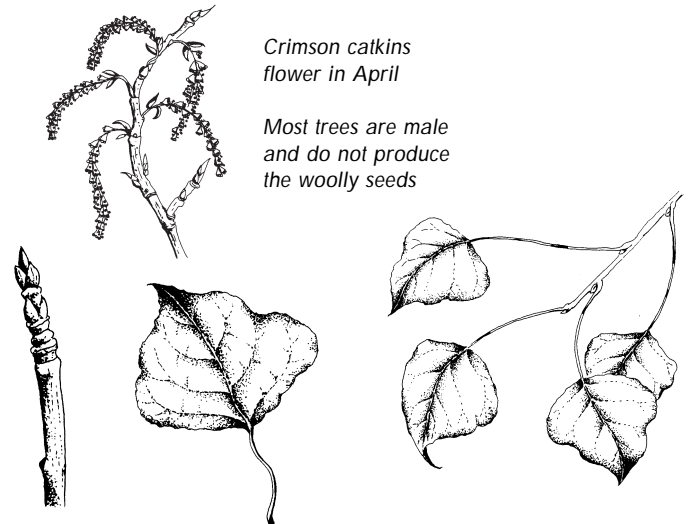
Leaf shape	Oval, triangular
Flower colour	Crimson
Flowers	April
Seed dispersal	White, woolly seeds dispersed by wind
Twig	Leaves alternate
Height	30 m or more
Type	Deciduous

Note: These trees are usually propagated by cuttings.

Ivy
Hedera helix

Black fruits hold the seeds

The flowers are pollinated by flies and wasps

Oval leaf

Lobed leaf

Leaf shape	Oval on flowering stems. (Leaves lobed on non-flowering stems)
Flower colour	Yellow-green
Flowers	September to November
Seed dispersal	Fruits, dispersed by birds
Twig	Leaves alternate
Height	Climbs other plants
Type	Evergreen

Note: Well-used by wildlife for its cover all through the year.
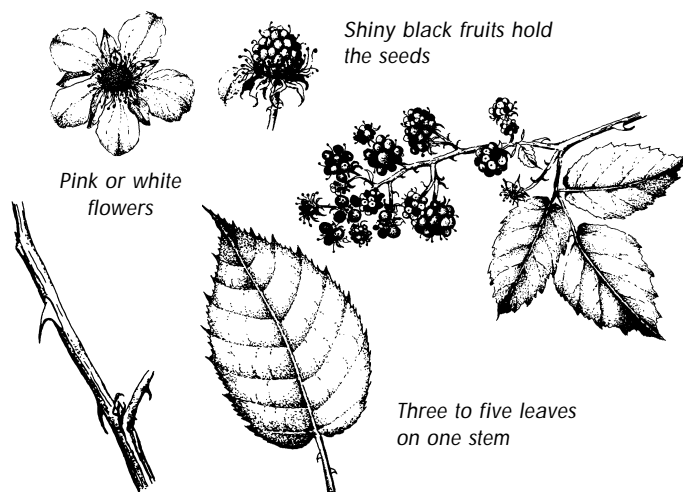
Almond
Prunus dulcis var dulcis

Fruits rarely produce nuts in Britain as it is not warm enough

Pink flowers in early spring

Leaf shape	Oval, long
Flower colour	Pink
Flowers	February to April
Seed dispersal	Nuts, dispersed by birds and mammals
Twig	Leaves alternate
Height	Up to 8 m
Type	Deciduous

Note: Often planted by roads and in gardens and parks.

Blackberry
Rubus fruiticosus

Shiny black fruits hold the seeds

Pink or white flowers

Three to five leaves on one stem

Leaf shape	Oval, toothed. Three to five leaflets
Flower colour	Pink or white
Flowers	May to October
Seed dispersal	Black fruit, dispersed by birds and mammals
Twig	Leaves alternate
Height	Scrambles over other plants
Type	Deciduous

*Note: The flowers provide rich nectar for many butterflies.*

Rowan
Sorbus aucuparia

Clusters of white flowers

Single flower

Bright red fruits hold the seeds
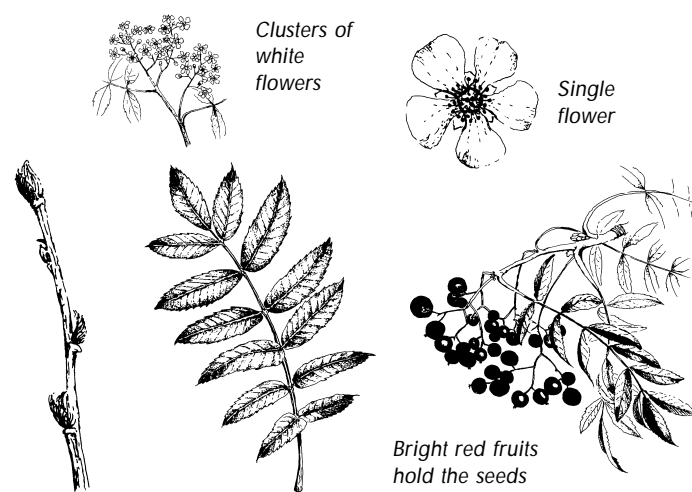
Leaf shape	Oval, compound
Flower colour	White
Flowers	May to June
Seed dispersal	Red fruit, dispersed by birds and mammals
Twig	Leaves alternate
Height	Up to 15 m
Type	Deciduous

Note: Also called Mountain Ash as it can grow on high slopes.

Oak
Quercus robur

Catkin-like flowers

Each cup holds a seed acorn inside
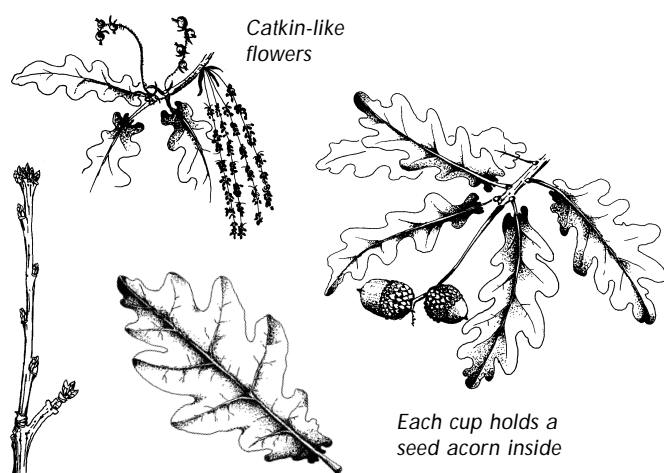
Leaf shape	Lobed
Flower colour	Green catkins
Flowers	April to May
Seed dispersal	Acorns, dispersed by birds and mammals
Twig	Leaves alternate
Height	Up to 30 m or more
Type	Deciduous

Note: The tree provides an excellent habitat for wildlife.

Scots Pine
Pinus sylvestris

Yellow flowers

Winged seed
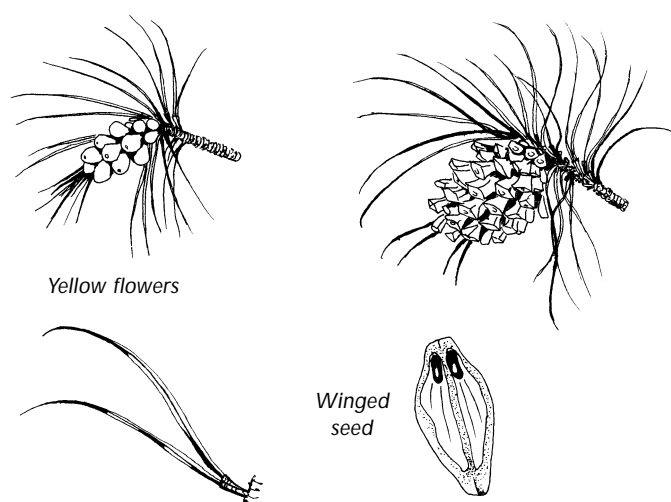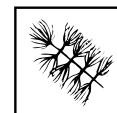
Leaf shape	Long, needles in pairs
Flower colour	Yellow and crimson
Flowers	May
Seed dispersal	Cones open and seeds fall out
Twig	Pairs of needles alternate
Height	Up to 36 m
Type	Evergreen

Note: Trees were originally planted in the south of Britain.

Project 3: What type of growing conditions do different plants prefer?

National Curriculum references: Science KS3 PoS (3d, 4a, c, d.? a, b). IT PoS (1a, b, 2a, b, 3a)
Location: School grounds or local environment
Time of year: Summer and early autumn term.
Time needed to do fieldwork: 45 minutes.

Objectives
- To develop the skills of observing similarities and differences when studying plants.
- To focus exploration and investigation to pinpointing specific factors which influence plant growth.
- To extend the skills of testing, measuring and explaining variables within the environment.

Equipment
- Introduction (page 46).
- Sets of the Identification Cards and **Pupil sheet 16** (page 55).
- Magnifying lenses, clipboards and pencils.
- Light, moisture and pH meters (available cheaply from garden centres).

Organisation
1 Make copies of **Pupil sheet 16**. Pupils complete name, date, weather.
2 Ensure that the pupils are familiar with using environmental meters.
3 Arrange pupils so they are able to work in groups of approximately 6.

Method
1 Go to a habitat such as a playing field and pinpoint **location** on the map.
2 Select and identify a plant, such as Daisy. At the exact site where it grows, test and record following:
   i The name of the plant; ii The type of habitat; iii Light reading; iv Soil moisture reading; v pH reading;
   vi Whether or not the soil is trampled.
3 Go to another habitat, mark location, select another plant such as Buttercup and repeat the tests as above.
4 Test the growing conditions of at least eight plants, using more pupil sheets as required.

Results
Label card, showing contrasting environmental conditions, light or dark, wet or dry, acid or basic, trampled or not trampled. Draw and name the plants investigated and display them in the correct conditions. Display a large-scale map pinpointing the locations of the habitats and their environmental conditions.

Information Technology
Create spreadsheets, bar and pie charts of the numbers of plants which shared the same growing conditions. For example, Wet = 2, Dry = 4, Dark = 1, Light = 8, Acid = 0, Alkaline = 8, Trampled = 1, Untrampled = 6. Construct databases of plants.

Analysis of results
1 Which species of plants shared the same growing conditions?
2 Did you find some plants always liked the same, such as Daisies always grew in a light, dry, basic and untrampled habitat?
3 Were there any plants which seemed to grow in most conditions?