



Kew Wildlife Zone: Species list and information

This chapter explains the terms you are likely to use when studying habitats. It also offers a list of the organisms you may encounter. Species cards, which can be photocopied for children to use, give information on each organism and its place in the foodchain.

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List of terms and organisms

Here are all the terms and organisms covered in this section:

Terms defined:

Plant	Consumer	Flower	Reptile	Insect
Animal	Decomposer	Climber	Amphibian	Mollusc
Fungus	Prey	Weed	Fish	Pollinator
Sunlight, Water and Carbon Dioxide	Predator	Mushroom	Invertebrate	Carrion
Producer	Tree	Toadstool	Aquatic invertebrate	
	Shrub	Mammal	Minibeast	
	Herb	Bird		

Organisms:

Trees

Ash
Beech
Cherry
Elm
Field Maple
Oak
Sycamore

Shrubs

Bramble
Elder
Hazel
Holly

Plants

Herbs

Bluebell
Bogbean
Buttercup
Cocksfoot Grass
Daisy
Dandelion
Duckweed
Fern
Foxglove
Foxtail grass
Grasses
Herb Bennet
Ivy

Kingcup
Nettle
Pondweed
Primrose
Reeds
Rosebay
Willowherb
Rushes
Rye Grass
Sedges
Speedwell
Teasel
Water Cress
Water Crowfoot

Water Mint
Water Plantain
Waterlily
White Dead Nettle
Wild Garlic
Yellow Flag
Yorkshire Fog

Algae

Alga
Lichen (part algae,
part fungus)

Fungi

Bracket Fungus
Field Mushroom
Fly Agaric
Honey Fungus
Jelly Fungus
Lichen (part algae,
part fungus)
Oyster Mushroom
Sulphur Tuft

Organisms: Animals

Mammals

Badger
Bats
Deer
Fox
Hedgehog
Rabbit
Shrew
Stoat
Vole
Water Vole
Weasel
Wood Mouse

Reptiles

Grass Snake

Amphibians

Frog
Smooth Newt
Tadpole (the
young stage
of frogs, newts
and toads)
Toad

Birds

Blackbird
Black-headed Gull
Bluetit
Canada Goose
Chaffinch
Crow
Duck
Goldfinch
Great Spotted
Woodpecker
Great Tit
Green
Woodpecker

Invertebrates (Minibeasts)

Ant
Aphid
Aquatic
invertebrate
Backswimmer
Bee
Beetle
Brimstone
Butterfly
Bug
Bumble Bee
Butterflies
Caddis Fly
Caterpillar
Centipede
Common Blue
Butterfly
Damsel fly
Dragonfly
Earthworm
Elephant Hawk
Moth

Fly
Fungus Gnat
Great Diving
Beetle
Ground Beetle
Holly Blue
Butterfly
Honey Bee
Hoverflies
Ladybird
Longhorn Beetle
Meadow Brown
Butterfly
Millipede
Mollusc
Pond Skater
Slug
Small Tortoiseshell
Butterfly
Snail
Soldier Beetle
Speckled Wood

Sycamore Moth
Butterfly
Spider
Stag Beetle
Wasp
Water Boatman
Water fleas
Water Snail
Whirligig Beetle
Woodlouse

Definitions

Most living things can be divided into Plants, Animals and Fungi. (There are other groups for microscopic life forms.)

Plant

Plants are living organisms that can make their own food using water, some simple chemicals from the air and soil, and the energy from the sun. Plants produce everything that other living organisms need to survive – nearly all life depends on plants. Most plants are green (or at least have parts that are green) because the chemical that catches the sunlight's energy to make food is green.

Animal

Animals cannot make their own food. Instead they have to eat plants, or other things that have eaten plants. Animals can usually move (walk, crawl, fly, or swim) while plants are either rooted to the same spot, or if they float, they have no control over where they drift. The animals as a group includes birds, mammals, amphibians, insects and other invertebrates, and humans.

Fungus

Fungi (the plural of fungus) are not plants, because they cannot make their own food. They are also not animals, because they cannot move. Fungi eat by breaking down other organisms, usually plants. They are nature's recyclers. Fungi live as tiny thread-like structures (hyphae) that spread through wood or soil. Sometimes they produce fruiting bodies – the bits we see, like mushrooms, toadstools and brackets on trees. Mushrooms and other fruiting bodies are often the only clue that soil and wood is full of fungi.

Sunlight, Water and Carbon Dioxide

The raw ingredients for photosynthesis. Plants make their own food from carbon dioxide in the air, and water and minerals in the soil, using sunlight energy.

Producer

Plants are producers. They make their own food from carbon dioxide in the air, water and minerals in the soil, using sunlight energy.

Consumer

Consumers are organisms that eat other organisms. Animals and fungi are consumers. Those that eat plants are called primary consumers, those that eat creatures that eat plants are called secondary consumers. Fungi that consume dead plants are called decomposers.

Decomposer

Decomposers are the organisms that rot plant and animal materials and return it to the soil to be used again. They are nature's recyclers. Fungi are decomposers.

Prey

Animals that are eaten by other animals are called prey.

Predator

Animals that hunt and eat other animals are called predators.

Carnivore

An animal that eats other animals, e.g. a weasel is a carnivore.

Herbivore

An animal that eats plants, e.g. rabbits and caterpillars are herbivores.

Omnivore

An animal that eats plants and animals, e.g. a badger is an omnivore.

Tree

Trees are large plants with a strong trunk and thick branches. The trunk and branches are made of wood which is tough and long-lasting. Oak, Beech and Pine are all trees.

Shrub

A medium-sized plant, usually with more than one thin, woody trunk, and thin, woody branches. Elder and holly are both shrubs.

Herb

Herbs (or 'herbaceous plants') are usually small or medium-sized plants. Their stems are not woody, but soft and usually green. Most are quite small because without woody stems and branches, they would collapse if they grew too big. Some herbs grow larger by climbing up trees. Daisies, dandelions and bluebells are all herbs.

Flower

Technically, a flower is the reproductive parts of a plant consisting of sepals (the green bracts that protect the bud), petals, stamens (the male parts that produce the pollen grains), and stigma(s) – the female parts that receive the pollen. Below the stigma is the ovary, where the seeds will develop.

after the flower has been pollinated. Some flowers, like daisy and dandelion, are actually flowerheads made up of lots of tiny flowers. The word 'flower' is often used generically, to describe a flowering plant.

Climber

Some plants clamber up through shrubs and trees. They are called climbers. Ivy is a climber.

Weed

Doesn't have a precise meaning! A 'weed' is just a plant growing where we don't want it! Plants that are 'weeds' to gardeners are often very useful for wildlife, so they are not weeds if they are growing in wildlife habitats.

Mushroom

The fruiting body of a fungus. The rest of the fungus lives as tiny threads in soil or rotting wood. Mushrooms have a stem and a cap. In most species, gills hang under the cap and are where the spores are released. These are dispersed in the air and if they land somewhere suitable, will grow into new fungal threads. There are other types of fungus fruiting body that are not mushroom-shaped. They include brackets, cups and puffballs.

Toadstool

The word 'toadstool' doesn't have a true biological meaning. It is usually used for a mushroom-shaped fruiting body that is poisonous.

Mammal

Mammals are warm-blooded animals with fur that give birth to live young.

Bird

Birds are warm-blooded vertebrates (animals with backbones) that have feathers not fur, and forelimbs modified to form wings. Most birds (and all in the UK) can fly. Some can swim too. Some birds eat plants (especially fruit, seeds or leaves). Some eat insects and other invertebrates. A few eat meat – owls and other birds of prey are predators that catch live prey. Some meat-eating birds just eat carrion (animals that are already dead, like roadkill).

Reptile

Reptiles are cold-blooded vertebrates (animals with backbones) with dry skin that is usually scaly. Most reptiles lay eggs that hatch into minatures of the adult. Reptiles like warm weather, so in Britain we only have a few species. These include lizards, slow worms, grass snakes and adders.

Amphibian

An amphibian spends part of its life cycle in water, and part on land. Frogs, toads and newts are amphibians. They begin life as tadpoles, hatching from eggs in a pond. As they grow larger, they lose their tails, grow legs, and as adults spend time on land. They need to keep their skin moist though, so prefer damp places.

Fish

Fish live in water. They use gills to breath, instead of lungs. They have smooth, shiny scales on their bodies. Most fish lay eggs. A few give birth to live young.

Invertebrate

Invertebrates are animals without backbones. They include slugs, snails, earthworms, centipedes and all the insects, including beetles, flies, butterflies and midges.

Aquatic invertebrate

Invertebrates that live (for at least part of their lifecycle) under or on water. They include water beetles, pond snails and larvae of many insects including midges, caddis flies, dragonflies and damselflies.

Minibeast

Another name for invertebrates – insects and other small creatures without a backbone.

Insect

Insects are invertebrates with six legs and bodies divided into three parts – a head, thorax (where the legs are joined) and an abdomen. Most insects also have wings. There are lots of different types: beetles, flies, butterflies, bugs, ants and dragonflies are all insects.

Mollusc

Slugs and snails are molluscs. Molluscs are invertebrates (animals without backbones) whose bodies are soft-walled and not divided into segments (unlike insects which have jointed bodies and usually have a hard outer skeleton).

Pollinator

Pollinators are creatures that move pollen from one plant to another. Bees, flies, wasps, hoverflies, butterflies and moths can all act as pollinators.

Carrion

Carrion is a word for animals that are already dead, for example roadkill. Lots of wildlife feeds on carrion – foxes, crows and even some beetles.

Curriculum link species

Requirements

All animals require food, water, shelter and space. Here are some special requirements and examples that you might want to highlight. Children should be able to think about the specific requirements of the organism(s) they are studying.

Sunlight, Water and Carbon Dioxide	All plants need these basic things to photosynthesise
Prey	Prey animals need somewhere to hide or they get eaten!
Predator	Predators need prey to eat.
Climber	Climbing plants need trees or other structures to climb up.
Pollinator	Some plants require pollinators (others have their pollen spread by the wind). Pollinators need to be attracted, and usually want a reward, often nectar.
Bramble	Bramble needs something to climb over.
Bluebell	Bluebells need deciduous woodland. They don't grow in evergreen conifer woods because they don't get enough light in spring.
Ivy	Ivy needs a tree or other structure to climb up.
Pondweed	Pondweed and other water plants need the right depth of water. Some live in shallow margins, others prefer deeper water.
Wood Mouse	Wood mice need lots of places to hide because they are prey for lots of other animals.
Great Spotted Woodpecker	Woodpeckers need rotting trees on which to search for grubs.
Frog	Frogs need sheltered places that stay damp, as they need to keep their skin moist.
Smooth Newt	Newts need sheltered places that stay damp, as they need to keep their skin moist.
Butterfly	Butterflies need leaves of their food plant for their caterpillars and flowers with nectar for the adults.
Ladybird	Ladybirds hibernate over winter, so need somewhere to shelter, like under dead leaves or loose bark.
Whirligig Beetle	Whirligig beetles need a still water surface to move on.

Life cycles

Most of the **plants** here can be used to illustrate the plant life cycle (seed, germinates to produce seedling, grows into a plant, flowers, sets seed). See: www.sln.org.uk/science/lifecycle/ for a plant life-cycle in action.

Fungi reproduce using spores, not seeds. The fungus body is a mass of invisible threads called mycelia. When this is large enough, it produces the fruiting bodies (mushrooms) which release spores that germinate into mycelia. See www.fungi.com/info/articles/lifecycle.html for a diagram.

Animals show a variety of life-cycles. Some of the other organisms that you could investigate are:

Ant	Caddis Fly	Great Diving Beetle	Moth (Elephant Hawk Moth)
Butterfly (Brimstone, Meadow Brown, Small Tortoiseshell)	Damselfly, Dragonfly	Honey Bee	Smooth Newt
	Frog	Hoverfly	Toad
	Fungus Gnat	Ladybird	

Pollination

These entries all have pollination links:

Flower	Elder	Dandelion	Rush	Waterlily
Pollinator	Hazel	Foxglove	Sedge	White Dead Nettle
Beech	Holly	Grass	Speedwell	Wild Garlic
Cherry	Bluebell	Kingcup	Water Cress	
Elm	Bogbean	Reed	Water Crowfoot	
Oak	Buttercup	Rosebay	Water Mint	
Bramble	Daisy	Willowherb	Water Plantain	

Dispersal

These entries all have dispersal links:

Ash	Bramble	Holly	Oak	Mushroom
Field Maple	Elder	Dandelion	Rosebay	
Sycamore	Herb Bennet	Duckweed	Willowherb	

Adaptations

Organisms always show some adaptations to their habitat or lifestyle. Here are some examples:

Bird	Wings are an adaptation for flight.
Amphibian	Because amphibians live in water and on land, they have adaptations to both.
Fish	Fish have gills for breathing underwater, instead of lungs. They have fins instead of legs, for swimming and shiny scales to help them glide through the water (streamlining).
Badger	Large claws are an adaptation for digging.
Bat	Echolocation ("seeing" objects using sound echoes) is an unusual adaptation that means bats can hunt at night.
Hedgehog	Rolling into a spiny ball is an adaptation that protects the hedgehog from predators.
Heron	The sharp beak is adapted for spearing fish.
Sparrowhawk	The wings are adapted so the sparrowhawk can fly fast in cluttered woodlands.
Frog	Adult and tadpole each have adaptations to the life they lead (e.g. gills and tail for swimming, legs for walking on land)
Smooth Newt	Adult and tadpole each have adaptations to the life they lead (e.g. gills and tail for swimming, legs for walking on land)
Toad	Adult and tadpole each have adaptations to the life they lead (e.g. gills and tail for swimming, legs for walking on land)
Aphid	Mouthparts are adapted for sucking plant sap.
Butterfly	The adult and caterpillar stages are adapted for different lifestyles. Caterpillars eat and grow (chewing mouthparts and a skin that is easy to shed), adults need to find a mate and a place to lay eggs (attractive wings and flight)
Dragonfly	The adult and nymph stages are adapted for different lifestyles. Nymphs live underwater and need to grow (gills and a skin that is easy to shed), adults need to find a mate and a place to lay eggs (wings for flight)
Snail	The snail's shell is an adaptation to help them survive dry periods.
Spider	A spider's ability to produce silk is an adaptation that helps it to catch prey.
Holly	The spiny leaves are an adaptation to protect the plant against herbivorous animals. The leaves have fewer spines higher up the plants.

Bramble	The spines on the leaves and stems protect the plant, and also act like grappling hooks, helping the plant to scramble up other shrubs
Bluebell	The flowers and leaves open early in spring to catch the light before the tree leaves open and shade the woodland floor. Then the bluebell leaves die down, and the plant stores the food they have made in a bulb, underground. This way of life is an adaptation to living on the woodland floor.
Duckweed	Small floating leaves, small roots and no stems are adaptations that allow the plant to live on the water's surface.
Ivy	Has roots growing from the stem. These roots cling to walls and tree bark, and are an adaptation that allows ivy to climb.
Nettle	The stings are an adaptation to protect the plant from herbivores.
Waterlily	Floating leaves are an adaptation that allows the plant to grow on the water's surface where not many other plants can.

Species Cards

The species cards give detailed information on many of the organisms you are likely to encounter when studying habitats. They are designed so that you can photocopy them (enlarge onto A3 if necessary) and cut them into separate reference cards for classwork, and they have a space for the children to add their own drawings or pictures. The cards could be used in research for fact books, posters and stories (Chapter 5, Getting Creative), or just as your own source of information.

Each species card has this structure:

CURRICULUM LINKS:

EN2 Reading for information

<p>English name <i>Scientific name</i></p> <p>the name the organism is usually known by.</p> <p>Organism type:</p> <p>Food chain:</p> <p>What it eats:</p> <p>Eaten by:</p> <p>Habitat:</p> <p>Description:</p>	<p>Some more advanced children may wish to use the scientific name, for example when doing web-based searches.</p> <p>All the organisms are defined firstly as Plants, Animals or Fungi. There is then a subgroup depending on the organism. For example: Oak is a Plant, and the type of plant is Tree; Heron is an Animal, in the subgroup Bird. It is useful to remind children that birds, insects etc. are all animals. The groups are:</p> <p>Plant: Tree, Shrub, Herb, or Alga Animal: Mammal, Reptile, Amphibian, Fish, Bird, or Invertebrate (minibeast) Fungus</p> <p>Shows where an organism is in the food chain: Producer, Herbivore, Carnivore, Omnivore, or Decomposer.</p> <p>A list of some of the organism's food items.</p> <p>A list of some of the things that eat the organism.</p> <p>Where the organism can be found (based on the habitats in the Kew Wildlife Zone).</p> <p>A brief description of the organism, together with some life history facts. These can form the basis for further study of organisms.</p>	<p>Space for picture – encourage the children to research and draw their own.</p>
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Scientific Names

Some organisms have more than one English name, and some only have names in other languages. This could cause a lot of confusion, so scientists have given every organism they know about a scientific name. This one name is used throughout the world. Whatever language the biologist, gardener, zookeeper or doctor speaks, they know they are always talking about the same organism.

A scientific name has two parts; a genus name and a species name, a bit like our first name and surname (family name). A genus is a group of closely related species, so the genus name is a bit like a surname.

Scientific names can tell you which organisms are closely related. For example: sycamore and field maple are called *Acer pseudoplatanus* and *Acer campestre* respectively. Because they are both in the *Acer* genus, you know just from the names that they are related and will share many characteristics – something you couldn't guess from the English names. The same goes for stoats (*Mustela erminea*) and weasels (*Mustela nivalis*).

Scientific names are always written in italics (or underlined for handwriting). The genus name has a capital letter, and the species name is in lower case.

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Ash	3.09	Fungus Gnat	3.39	Rye Grass	3.19
Backswimmer	3.35	Goldfinch	3.29	Sedge	3.16
Badger	3.23	Grass	3.19	Shrew	3.24
Bat	3.23	Grass Snake	3.26	Slug	3.42
Bee	3.35	Great Diving Beetle	3.39	Small Tortoiseshell Butterfly	3.42
Beech	3.09	Great Spotted Woodpecker	3.29	Smooth Newt	3.34
Beetle	3.36	Great Tit	3.29	Snail	3.42
Blackbird	3.27	Green Woodpecker	3.29	Soldier Beetle	3.43
Black-headed Gull	3.27	Greenfinch	3.30	Sparrowhawk	3.32
Bluebell	3.12	Ground Beetle	3.40	Speckled Wood Butterfly	3.43
Bluetit	3.27	Hazel	3.11	Speedwell	3.16
Bogbean	3.12	Hedgehog	3.24	Spider	3.43
Bracket Fungus	3.21	Herb Bennet	3.14	Stag Beetle	3.43
Bramble	3.11	Heron	3.30	Starling	3.32
Brimstone Butterfly	3.36	Holly	3.11	Stickleback	3.26
Bug	3.36	Holly Blue Butterfly	3.40	Stoat	3.24
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Canada Goose	3.27	Jackdaw	3.30	Sycamore Moth	3.44
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Cherry	3.09	Kingfisher	3.31	Toad	3.34
Cocksfoot Grass	3.19	Ladybird	3.41	Vole	3.25
Common Blue Butterfly	3.38	Lichen	3.20	Wasp	3.44
Coot	3.28	Longhorn Beetle	3.41	Water Boatman	3.44
Crow	3.28	Mallard	3.31	Water Cress	3.17
Daisy	3.12	Meadow Brown Butterfly	3.41	Water Crowfoot	3.17
Damselfly	3.38	Millipede	3.41	Water Flea	3.44
Dandelion	3.13	Moorhen	3.31	Water Mint	3.17
Deer	3.23	Nettle	3.14	Water Plantain	3.17
Dragonfly	3.38	Oak	3.10	Water Snail	3.45
Duck	3.28	Oyster Mushroom	3.22	Water Vole	3.25
Duckweed	3.13	Pond Skater	3.42	Waterlily	3.18
Earthworm	3.38	Pondweed	3.15	Weasel	3.25
Elder	3.11	Primrose	3.15	Whirligig Beetle	3.45
Elephant Hawk Moth	3.39	Rabbit	3.24	White Dead Nettle	3.18
Elm	3.09	Reed	3.15	Wild Garlic	3.18
Fern	3.13			Wood Mouse	3.25
Field Maple	3.10			Wood Pigeon	3.33
Field Mushroom	3.21			Woodlouse	3.45
Fly	3.39			Yellow Flag	3.18
Fly Agaric	3.21			Yorkshire Fog	3.20
Fox	3.23				