

Nature Detectives Investigate..



The Craigs Nature Trail

LEVEL 3 RED

ANSWERS TO WORKSHEETS 1-10

Using your investigative skills, find the missing clues from information around the site, to complete these mysteries.

THE CRAIGS NATURE TRAIL

Level 3. Red

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Wasps



The various species of wasps fall into one of two main categories: solitary wasps and social wasps. Adult solitary wasps live and operate alone, and most do not construct nests (below); all adult solitary wasps are fertile.

By contrast, social wasps exist in colonies numbering up to several thousand individuals and build nests. In some species however, just the queen and male wasps can mate, whilst the majority of the colony is made up of sterile female workers.

Wasps are critically important in natural biocontrol. They are increasingly used in agricultural pest control as they prey mostly on pest insects and have little impact on crops.

Many wasps are predatory, using other insects (often paralyzed) as food for their larvae which are parasites. A few social wasps are omnivorous, feeding on a variety of fallen fruit, nectar, and carrion. Some of these social wasps may scavenge for dead insects to provide for their young. In many social species the larvae provide sweet secretions that are fed to the adults.



In parasitic species, the first meals are almost always provided by the animal that the adult wasp used as a host for its young.

Adult male wasps sometimes visit flowers to obtain nectar to feed on in much the same manner as honey bees.

Occasionally, some species, such as yellowjackets and, especially, hornets, invade honey bee hives and steal honey

The type of nest produced by wasps can depend on the species and location. Many social wasps produce nests that are constructed predominantly from paper pulp.

The kind of timber used varies from one species to another and this is what can give many species a nest of distinctive colour.

The size of a nest is generally a good indicator of approximately how many female workers there are in the colony and some hornets' nests eventually grow to the size of beach balls.



Bat (Pipistrelle) *Pipistrellus pipistrellus*



The pipistrelle hunts over a regular beat, flying at between 2 - 13 metres a second, usually up to 6 metres, above the ground.

Although the pipistrelle is the most common bat in Britain, it has been declining over the years along with all other bats. The 14 species of British bat are all protected under the Wildlife and Countryside Act.

If any of them have made a home in your roof it is against the law to interfere with them. They do no harm to you or your property - so there is no need to worry if you have resident bats!



A bat eats several hundred insects every day. When the pipistrelle is flying fast in the dark, it can avoid bumping into obstacles and track down prey by using a system of **echo-location**, similar to the radar-scanning equipment used in ships and aircraft.

The bat frequently emits very high-pitched (ultrasonic) squeaks which bounce back from any solid object into its ears. The bat is able to interpret the time taken for the echo to return and 'see' its surroundings.

A bat probably carries a sound picture of familiar territory, comparable to the visual memory of people.

Size : Length : 3-5cm (head and body), Wingspan : 19-25cm, Weight : 3-9g

Life-span: Average life is 4-5 years. Maximum life-span recorded is 11 years.

Distribution: British Isles and continental Europe (except the far north), south west Asia, north-eastwards to Korea and Japan and east to Kashmir, and also Morocco.

Food: A wide variety of small, flying insects.

Habitat: A wide range of habitats, including mature woodlands, wetlands, grasslands, farms, parks and gardens. Often seen flying low over water.

Description: A tiny body, short legs, broad flat head; short, broad ears, fairly narrow wings and a short tail. Adults vary in colour from place to place, some colonies are mainly orange-brown and others mainly pale grey-brown. Ears and muzzle are dark.

Habits: The bats sleep lightly during the day and usually begin streaming out from their roost 15 - 30 minutes before sunset to hunt for insects.

Winter: Pipistrelle bats hibernate during the winter, from about mid-October.

BUZZARD



Overview

Now the commonest and most widespread UK bird of prey. It is quite large with broad, rounded wings, and a short neck and tail. When gliding and soaring it will often hold its wings in a shallow 'V' and the tail is fanned. Birds are variable in colour from all dark brown to much paler variations, all have dark wingtips and a finely barred tail. Their plaintive mewing call could be mistaken for a cat.

Where to see them

Greatest numbers in Scotland, Wales, the Lake District and SW England, but now breeding in every county of the UK. Found in most habitats particularly woodland, moorland, scrub, pasture, arable, marsh bog and villages. May even be seen in towns and cities including Glasgow. Look for birds soaring over wooded hillsides in fine weather, or perched on fence posts and pylons. In some areas they are known as the tourists' eagle, often being mistaken for this larger bird of prey.



When to see them

All year round. Birds soar, display and call most in spring.

What they eat

Small mammals, birds and carrion. And even earthworms and large insects when other prey is in short supply.

Estimated numbers

Europe	UK breeding*	UK wintering*	UK passage*
-	31,100-44,000 territories	-	-

KESTREL



Overview

A familiar sight with its pointed wings and long tail, hovering beside a roadside verge. Numbers of kestrels declined in the 1970s, probably as a result of changes in farming and so it is included on the Amber List. They have adapted readily to man-made environments and can survive right in the centre of cities.

Where to see them

Kestrels are found in a wide variety of habitats, from moor and heath, to farmland and urban areas. The only places they do not favour are dense forests, vast treeless wetlands and mountains. They are a familiar sight, hovering beside a motorway, or other main road. They can often be seen perched on a high tree branch, or on a telephone post or wire, on the lookout for prey.

When to see them

All year round.

What they eat

Small mammals and birds



Estimated numbers

Europe	UK breeding*	UK wintering*	UK passage*
-	36,800 pairs	-	-

* UK breeding is the number of pairs breeding annually. UK wintering is the number of individuals present from October to March. UK passage is the number of individuals passing through on migration in spring and/or autumn.

Owls (Barn & Tawny)

Barn Owl: *Tyto alba* **Tawny Owl:** *Strix Sylvatica* or *Strix Aluco*



In appearance the barn owl is very distinctive. It has a body length of up to 36cm (14") and has handsome buff-coloured plumage mottled with grey on the upper parts of the body and wings. The heart-shaped head and the underparts of the barn owl are white. The eyes are large and, as with all owls, the head can be turned 180° to permit it to look directly backwards.

Of the five species of owl which breed in Britain the barn owl is becoming much less common generally - and in some places, rare. A recent report suggested that there might be between 4,000 - 5,000 pairs of barn owls living in the British Isles. This is fewer than half the number resident here just fifty years ago although great efforts are now being made to protect the species.

Size: Up to 36cm (14").

Habitat: Heaths, woods, fields and hedgerows.

Voice: Shrill shrieks.

Food: Insects, shrews, mice, voles, rats, small birds, frogs etc..

Eggs: 4 - 7 (white).

Distribution: British Isles generally



The **Tawny Owl** or **Brown Owl** is a stocky, medium-sized owl commonly found in woodlands across much of Europe & Asia. Its underparts are pale with dark streaks, and the upperparts are either brown or grey. The nest is typically in a tree hole where it can protect its eggs and young against potential predators.



Vision and hearing adaptations and silent flight aid its night hunting.

The Tawny Owl's hearing is ten times better than a human's, and it can hunt using this sense alone in the dark of a woodland on an overcast night. But the patter of raindrops makes it difficult to detect faint sounds, and prolonged wet weather can lead to starvation if the owl cannot hunt effectively

This nocturnal bird of prey hunts mainly rodents, usually by dropping from a perch to seize its prey, which it swallows whole.





25m

▲ Horse Chestnut

Compound leaf made of 5-7 large leaflets. Upright "candle" of white (or pink) flowers in May. Brown "conker" in green spiny case. Parks and avenues.



Tree in bloom

"Candle" of flowers

Leaflet



Conker (fruit)



25m

▲ Sweet Chestnut

Long narrow leaves with saw-toothed edge. Edible brown chestnuts in green prickly case. Spiral-furrowed bark. Large, tall-crowned tree.



Clusters of 2-3 fruits containing nuts

Flowers





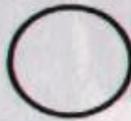
Buds

Cone scales are tightly closed

30m

▲ Norway Spruce

Prickly, dark green needles. Small brown buds. Peg-like bumps left on brown twigs when needles are pulled off. Cone-shaped tree. Used as Christmas tree.



35m

▲ Sitka Spruce

Very prickly, blue-green needles. Plump yellow buds. Small knobs left on yellow twigs when needles fall off. Narrow, cone-shaped trees.



Cones have papery scales with crinkled edges

Buds

Grey, scaly bark flakes off in "plates"



Holly (*Ilex aquifolium*)

The botanical name *ilex* was the original Latin name for the Holm Oak (*Quercus ilex*), which has similar foliage to common holly, and is occasionally confused with it.

Hollies are often used for hedges; the spiny leaves make them difficult to penetrate, and they take well to pruning and shaping.

They can grow up to 20m tall and have a cone shaped crown.

Many hollies are widely used as ornamental plants in gardens and parks.



The leaves are thick, waxy and stiff, glossy dark green on the upper side - paler on the underside.



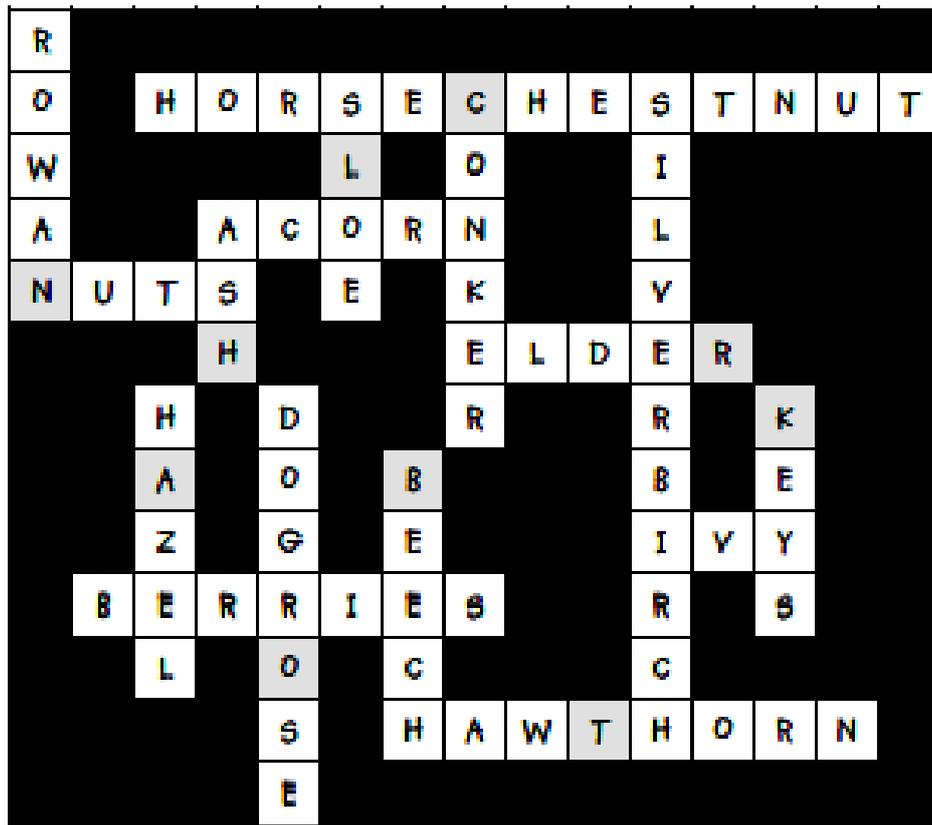
In many western cultures, holly is a traditional Christmas decoration, used especially in wreaths.



Between the 13th and 18th century, before the introduction of turnips, holly was used as winter fodder for cattle and sheep.

Less spiny varieties of holly were preferred, and in practice the leaves growing near the top of the tree have far fewer spines, making them more suitable for fodder.

In Heraldry, holly is used to symbolise Truth.



1	2	3	4	5	6	7	8	9	10	11
W	E	D	K	N	I	B	R	G	V	Y

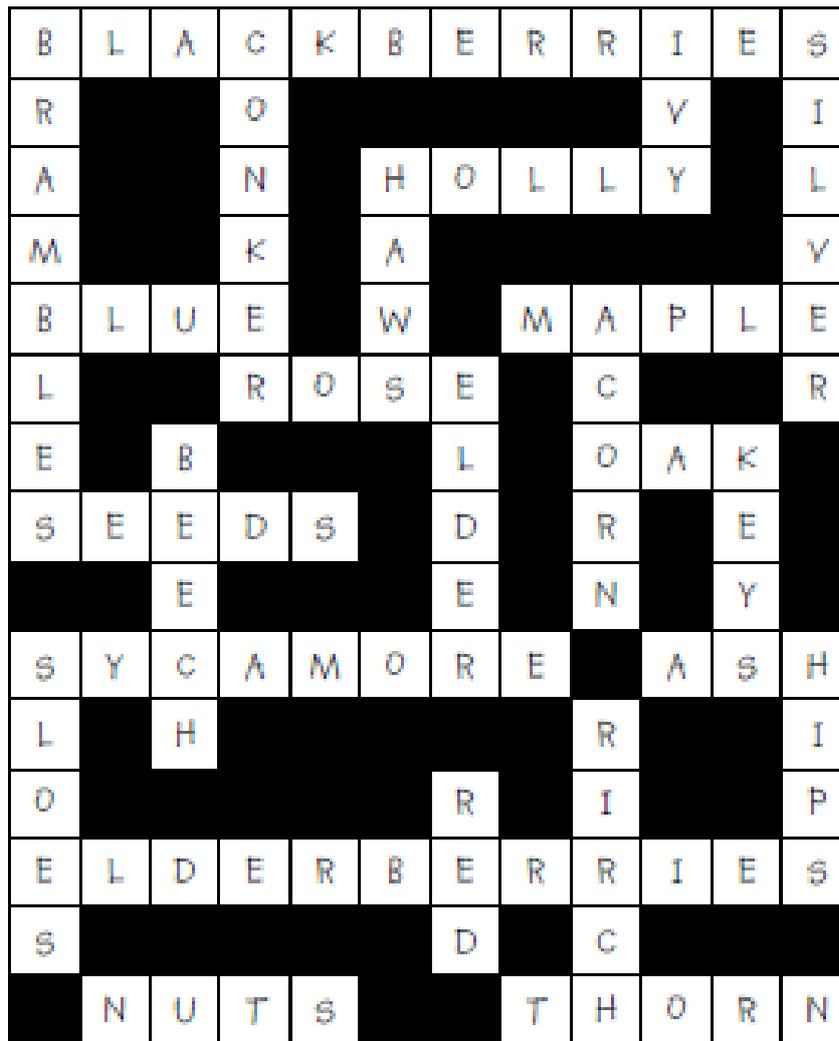
12	13	14	15	16	17	18	19	20
U	O	C	H	A	S	Z	T	L

Collect the letters in the grey squares, then re-arrange them to find the mystery tree

N	L	C	H	A	B	R	K	O	T
---	---	---	---	---	---	---	---	---	---

B	L	A	C	K	T	H	O	R	N
---	---	---	---	---	---	---	---	---	---





ACROSS

- The leafy fruits of the bramble (2)
- A bush with spiky green leaves and red berries at Christmas (2)
- The berries of the blackthorn bush are a very dark _____ colour (4)
- The field _____ tree has similar leaves and fruits to the sycamore (2)
- The dog _____ flowers in May - June. Its fruits are called 'hips' (4)
- Acorns grow on this tree (2)
- These are inside fruits and allow plants to reproduce (2)
- The fruits of this tree spin like a helicopter when they fall (2)
- This tree has fruits called 'keys' (2)
- In May elderflowers grow on this tree. In autumn, you'll see _____ (2)
- The fruits of the beech tree are called beech _____ (4)
- Slits are the fruits of the black _____ (2)

DOWN

- These shrubs often grow in hedgerows. Their flowers turn into blackberries (2)
- What might fall on your head walking under a horse chestnut in autumn? (2)
- This plant grows up the trunks of trees to reach sunlight. It grows berries (2)
- Growing tall and thin, _____ birch trees have white trunks (2)
- These are red fruits that grow on hawthorn in autumn (4)
- The fruit of the oak tree is called an _____ (2)
- This tree has small white flowers. Its name is the first bit of 20 across (2)
- Two British trees produce nuts in autumn - hazel and _____ (2)
- The fruits of ash trees are called _____ (4)
- What are the berries that grow on blackthorn called? (2)
- The dog rose produces rose _____ in autumn (4)
- The silver _____ has silvery bark and grows catkins in autumn (2)
- What colour are rowan berries? (2)

