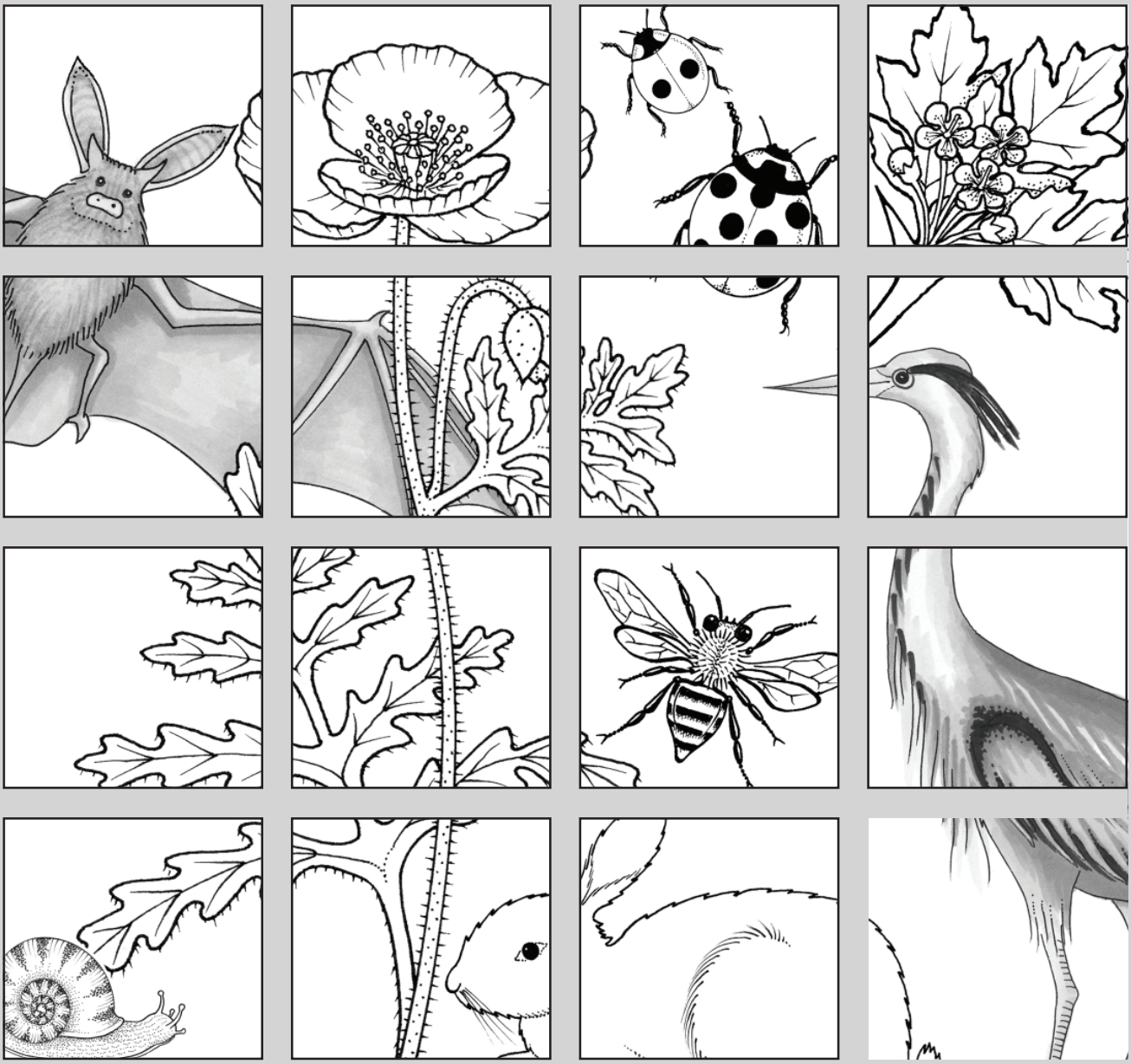
Wild Things at School

Worksheets for Primary School Students



by

Éanna Ní Lamhna

Illustrations *by* Christine Warner

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Introduction to 5th Class Worksheets

Poppy

Speedwell

Hazel

Bat

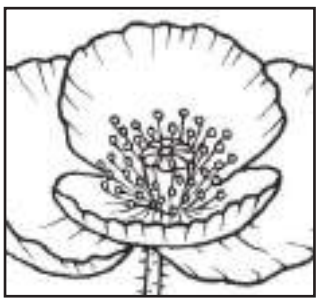
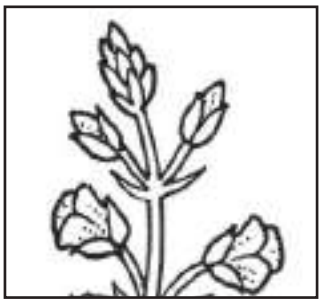
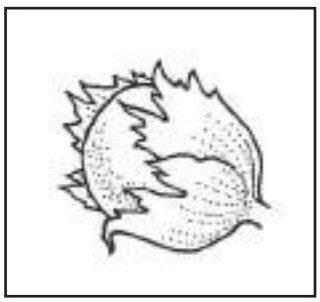
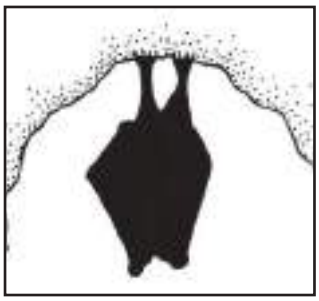
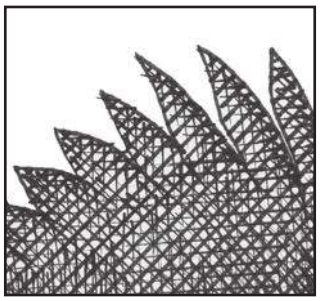
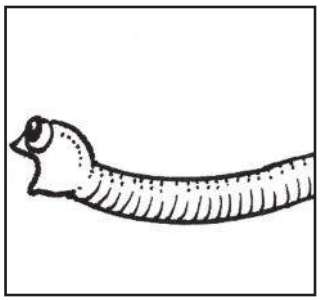
Kestrel

Earthworm

In the Teachers' Book, the lessons on each topic contain suggestions for practical work to be carried out by the teacher with the pupils. The following worksheets are in addition to this and are designed to be used by the pupils themselves, after each of the eight species in the teachers' handbook has been taught. They should be given to the pupils to work on and instructions about what to do on each one should be given by the teacher. The pupils should be taught the lessons on each topic first and then shown the pictures provided for each species. The worksheets, which need not necessarily be done in the order in which they are given, are designed to be photocopied and handed out to the pupils.

There is much emphasis in these worksheets on field work. It is important to bring pupils out to the school grounds on a regular basis to do tasks so that they become familiar with wildlife outdoors. Make sure the item to be seen or collected is around at the time, so pick the time of year accordingly and return any animals collected to the wild.

There is also an emphasis on pupils finding information out for themselves by use of books and by using the internet. By fifth class, pupils should be encouraged to do some researching for themselves and using the information found to answer the questions posed.

5th Class Teacher Notes

Poppy 1
Worksheet in two sections

Introduction to plant:
Pupils colour in the poppy drawn, having seen the picture provided with this pack.

Research:
Red flowers such as roses and tulips are deliberately bred in this colour by gardeners – they are not naturally occurring red flowers. The scarlet pimpernel is probably the only other truly red wild Irish flower. Ladybirds, soldier beetles and cinnabar, burnet and garden tiger moths are all red insects. The poem 'In Flanders Fields' by John McCrae is another research opportunity for the pupils.

Poppy 2
Fieldtrip (Do this in May or early June)

Ability to find plants:
The poppy plant grows on disturbed soil. This is because it doesn't compete well with grass and will only grow on bare soil before other plants become established.

Establishing an area for poppies:
This involves making an area of bare soil and indeed impoverishing the soil by adding sand or gravel. A fifth class which cannot find poppies can start the process of making bare soil but the poppies may not appear until the following year. So planting a wild flower mix containing poppies is also worthy of consideration.

Medicinal use:
Extraction of narcotics from poppies. More opportunity for theoretical (but not practical) research by pupils.

Speedwell 1
Worksheet in three sections

Introduction to flower:
Via drawing and the supplied picture

Observational skills:
Careful observation of the plant makes it easier to find them later, when on the fieldtrip.

Revision:
This is a revision of six other grassland plants pupils have learned in school.

Speedwell 2
Fieldtrip

Qualitative study:
Here the pupils are carrying out a comparative qualitative study of the effects of two particular types of grassland management on flowers. Choose an un-mown piece of lawn or field and a mown piece. The un-mown piece should have more speedwell and buttercup, whereas the rosette plants such as daisy, dandelion and ribwort will survive being mown as their growing point is buried in the rosette of leaves. Grass, of course, grows well in both.

Accurate drawing:
The drawing they make from the speedwell they collect should be scientifically correct – right number of petals, shape and position of leaves on flower stem.

Hazel Tree 1
Worksheet

Life cycle study:
This sheet can be given to pupils in September. Catkins in February, leaves in April and nuts in September are food for squirrels, mice, jays and rooks, NONE of which hibernate but eat their stores all winter long. New trees germinate from uneaten nuts; the leaves fall off in October and only buds are to be seen in December and January.

Hazel Tree 2
Fieldtrip

First fieldtrip in September should establish if hazel trees grow in the vicinity of the school. If not, a hazel tree should be planted on tree day in October. The Parks Department of the Local Authority may be in a position to provide a tree but they are not expensive to buy either. If a growing tree is found near to the school, all the stages of the lifecycle shown on the last worksheet can be checked out. In subsequent years, this will be possible with the newly planted tree. It is important to bring the pupils to see catkins in February – these are wind-pollinated flowers.

Hedge layers:
This is an opportunity to examine the structure of a hedge. This needs to be done in September and again in April. Even if the names of the plants present are not known, it will be possible to demonstrate the layers and show the difference in Spring. The Teacher should keep the September worksheets for comparison with the Spring ones. Hand out the same worksheet again in April.

Bat 1

Worksheet in two sections

Research:
Another opportunity for the pupils to go on the website given and find out about the bat species.

Identification:
The five bats outlined are described in the questions below so it is an exercise in observation and deduction; similarly with filling in the details of the long-eared bat.

Bat 2

Worksheet in two sections

Bat food:
If they only eat flying insects, then choosing those on the list which can fly at night gives the answer, *i.e.,* mayflies, midges, moths, mosquitoes and daddy longlegs. Bats don't eat bees.

Interpretation of scientific Information:
A bat lifecycle is succinctly given in the table. This is an exercise in accurate scientific writing, not a short story!

Kestrel 1

Worksheet in two sections

Mammal research:
Pupils find out about each small mammal on the list. The National Parks and Wildlife Service www.NPWS.ie is a good site to start with. Mice, rats and pygmy shrews are common and widespread, bank voles and white-toothed shrews are confined to particular counties. There are no other species of small mammals in Ireland – no dormice or moles or water voles. Mice and rats are pests.

Other birds of prey:
Sparrow Hawk, Peregrine Falcon, Merlin, Hen Harrier, Marsh Harrier, Buzzard. The Golden Eagle, the white-tailed Sea Eagle and the Kite have all been recently re-introduced.

Kestrel 2

Worksheet

Binocular vision:
This worksheets gets the pupils to experiment with using their eyes separately and together. Lining up an outstretched finger with a line on the board can only be done with one eye at a time. Using both eyes together means focusing on the finger or the line but not both together. Swans and other birds who use both eyes independently have a much wider field of vision to look out for predators.

Earthworm 1

Worksheet in two sections

Setting up a wormery:
A large clear container is essential to see what the worms are doing. Darkness is essential or the worms move to the centre and can't be seen, so do not leave the wormery uncovered for long.

Finding worms:
If all fruit fails, the worms can be cajoled to the surface by pouring soapy water over the area, although this is disliked by worms and leaves their habitat unusable for some time. The method described on the worksheet mimics the effect of heavy rain – altogether a more natural way of collecting worms.

Earthworm 2

Worksheet

Identifying common worms:
This worksheet encourages pupils to look for Tiger Worms and Angler Worms. Compost bins are a good place to look for Tiger Worms while Angler Worms may be found under dead plant material.

Colour

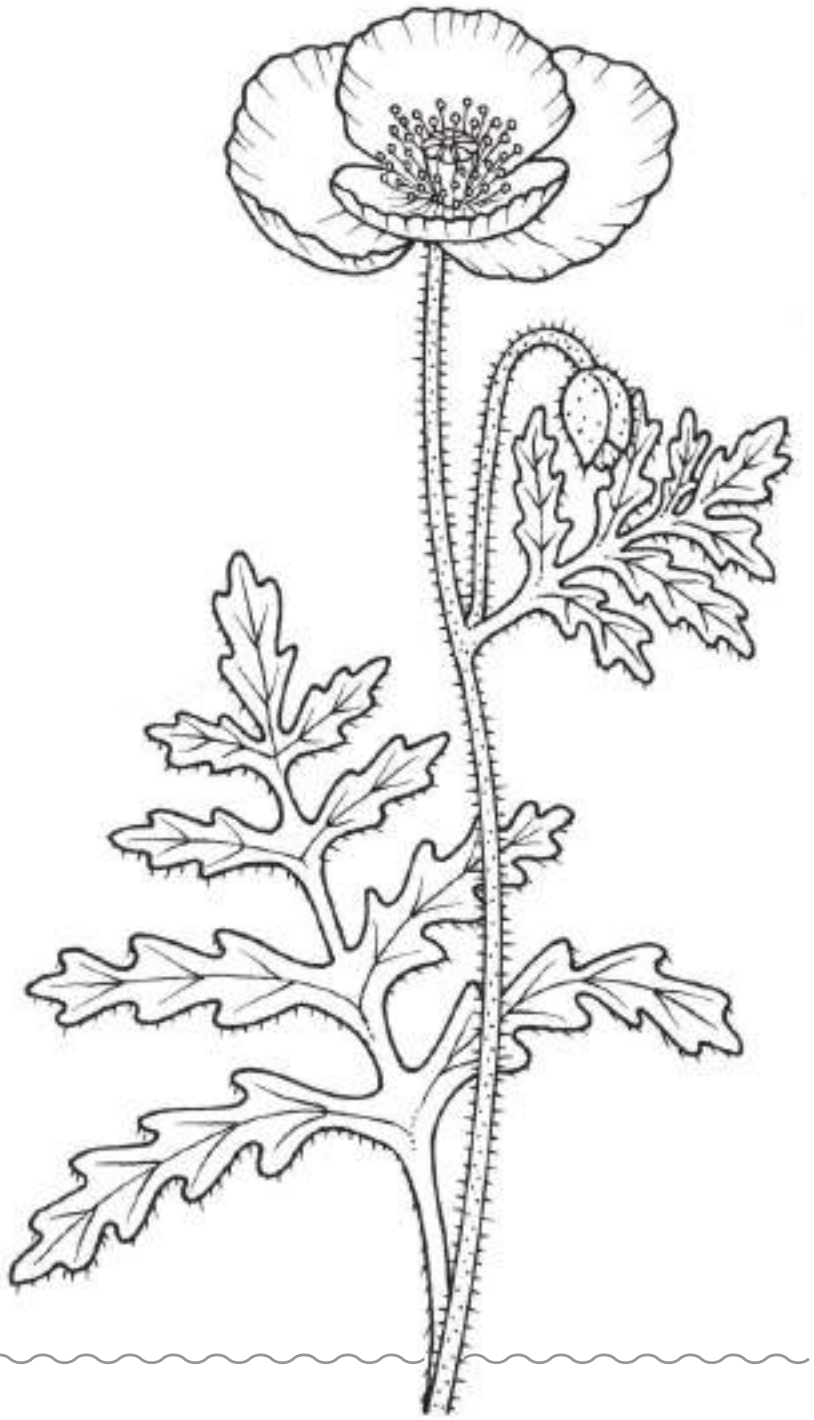
Poppies grow on ground that has been disturbed or dug up. They flower from late May until August. Look around the area where your school is and see where the poppies grow.

Poppies grow

_____

Colour in the poppy.

Poppies are red in colour to warn predators that they are not good to eat.



Other wild flowers and insects are red in colour for the same reason.

Name another red wild flower:

_____

Name a red insect:

_____

FIND OUT:

Look up the poem which begins:

"In Flanders fields the poppies grow / Between the crosses row on row"

What happened in Flanders fields?_____

Why are there crosses there? _____

Why did the poppies grow there? _____

Nowadays poppies are worn to remember what? _____

Fieldtrip

Areas with disturbed soil will have poppies.

Are there poppies in the school garden growing as weeds? _____

Are there poppies in an area of disturbed soil along the roadside? _____

Are there no poppies near your school? _____

TO DO:

Make a site on the school grounds where poppies can grow.

Devise a plan for this *(Hint: poppy seeds can last for 40 years in undisturbed soil).*

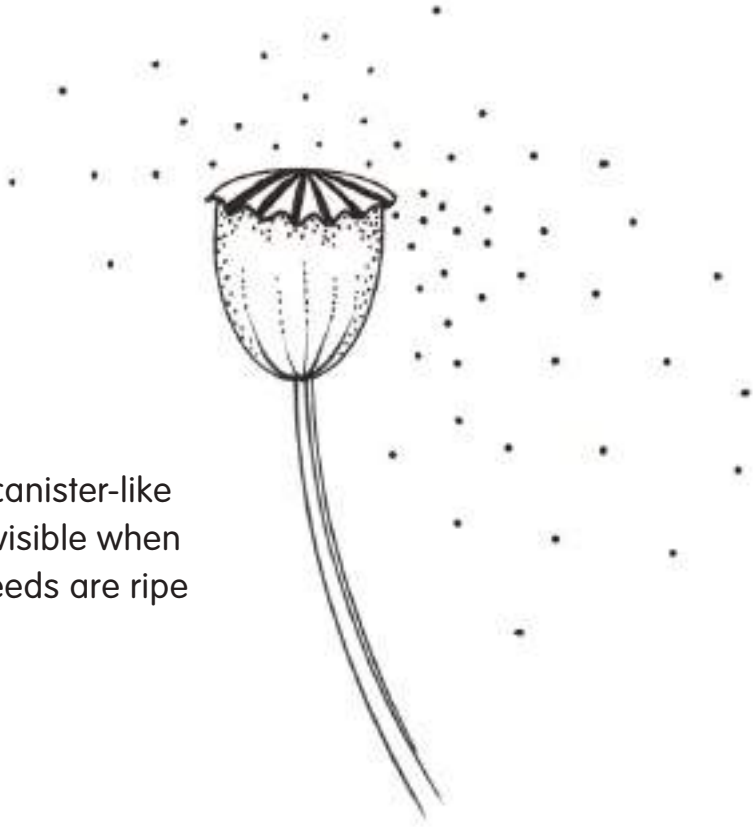
_____

_____

_____

_____

_____



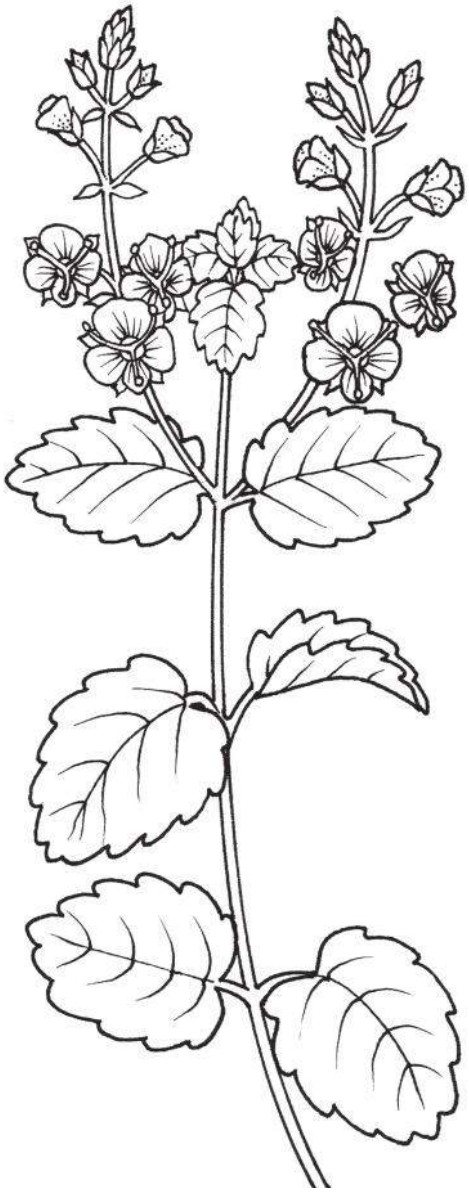
Poppy seeds are borne in a canister-like capsule on the plant. This is visible when the petals have fallen. The seeds are ripe when they are black.

FIND OUT:

Poppies had medicinal uses long ago. Look up what they were used for.

Colour and fill in the blanks

Speedwell grows in uncut areas of grassland. Look at the picture shown to you by your teacher and colour in the flower.



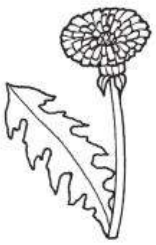
How many petals has one speedwell flower? _____

Are they all of equal size? _____

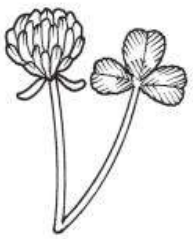
What is the position of the leaves on the stem?_____

Does the plant flower from the top down or the bottom up?_____

Speedwell is a grassland flower. So are all the others drawn below. Name each one.





REVISION

_____ and _____ have yellow petals.

_____ and _____ have white petals.

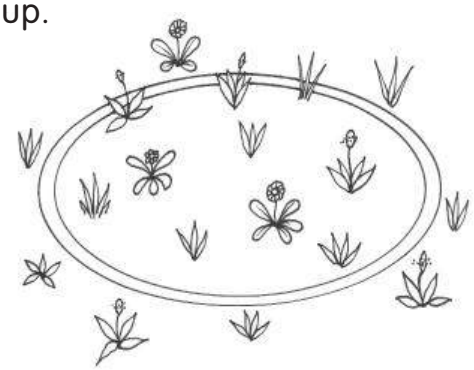
_____ has purple petals.

_____ has no petals; it is wind-pollinated.

Speedwell has _____ coloured petals.

Fieldtrip

Go to the school grounds to look for speedwell. It is in flower in May and June. You will need a hoop or a quadrant for each class group.



TO DO:
Find an area of grassland that has not been mowed. Put the hoop on the ground and list all the flowers inside the hoop that you know.

List of flowers in hoop in un-mown grass:

_____

_____

_____

_____

Now find an area of grassland that has been mowed regularly. Put the hoop on the ground here. Make a list of all the flowers you know inside the hoop.

List of flowers in hoop in mowed grass:

_____

_____

_____

_____

Which plants were found in both groups? _____

_____

Which plants were only in the mowed area?_____

_____

Which plants were only in the un-mown area? _____

_____

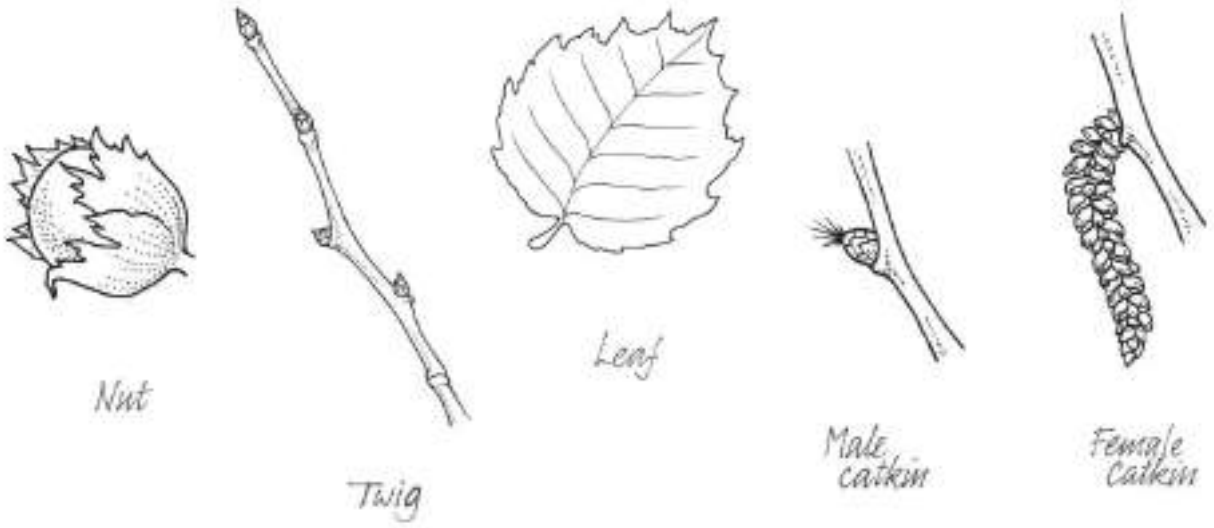
What conclusion can you draw from your work?_____

_____

Bring back a piece of speedwell and make an accurate drawing of it in class.

Fill in the blanks

Look at the picture of the hazel tree and the drawings here.



In February and March _____ open on the hazel tree.

These are pollinated by the wind.

In April, the _____ open on the hazel tree.

The _____ are fully ripe by early September.

These are food for _____ and _____.

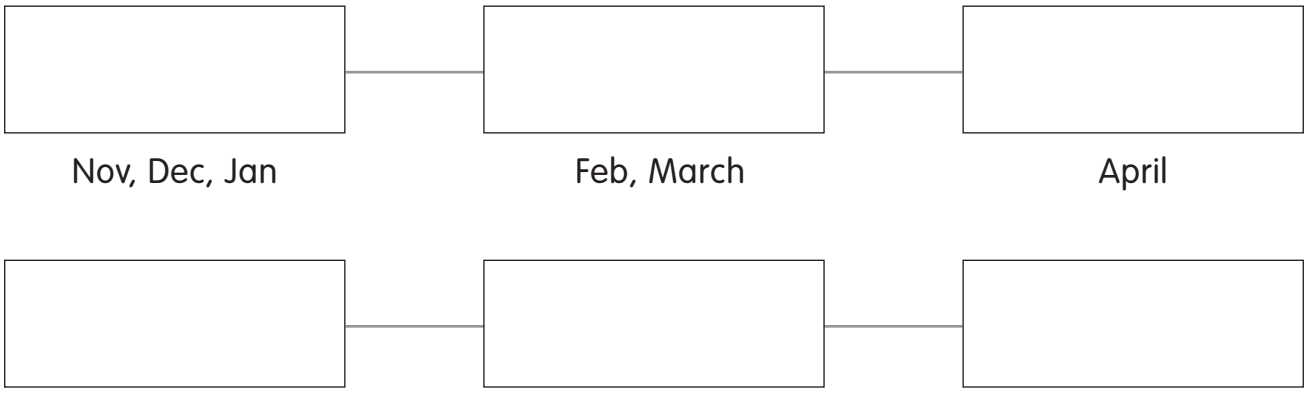
These bury them in order to store them for food to eat during _____ .

New trees will _____ from those that are not eaten.

In October, the _____ fall from the tree.

In December and January, only the _____ are to be seen at the end of the twigs.

LIFECYCLE



Fieldtrip

Hazel trees are one of the trees that grow in hedgerows.
Go to your nearest hedge to find out.

Are there hazel trees in your hedge – or in your school grounds?_____

If not – plant a hazel tree. You can collect a hazel nut and plant a young tree in the school grounds during TREE DAY in October.

Hedges are very good habitat for plants and animals.

There are four levels of plant and animal life in a hedge. Fill in the details of the four levels in your hedge.

CANOPY

The tallest trees get the most light on their leaves. The canopy trees in our hedge are

_____

SHRUB LAYER

This consists of smaller trees and shrubs and climbing plants that are lower than the main trees. There are _____

_____

_____

in the shrub layer in our hedge.

GROUND LAYER

This is where the flowers in the hedge grow. They have little light when all the leaves are on the canopy and shrub layer. In September, we saw _____

_____

_____

in the ground layer. In April/May, we saw _____

_____

_____

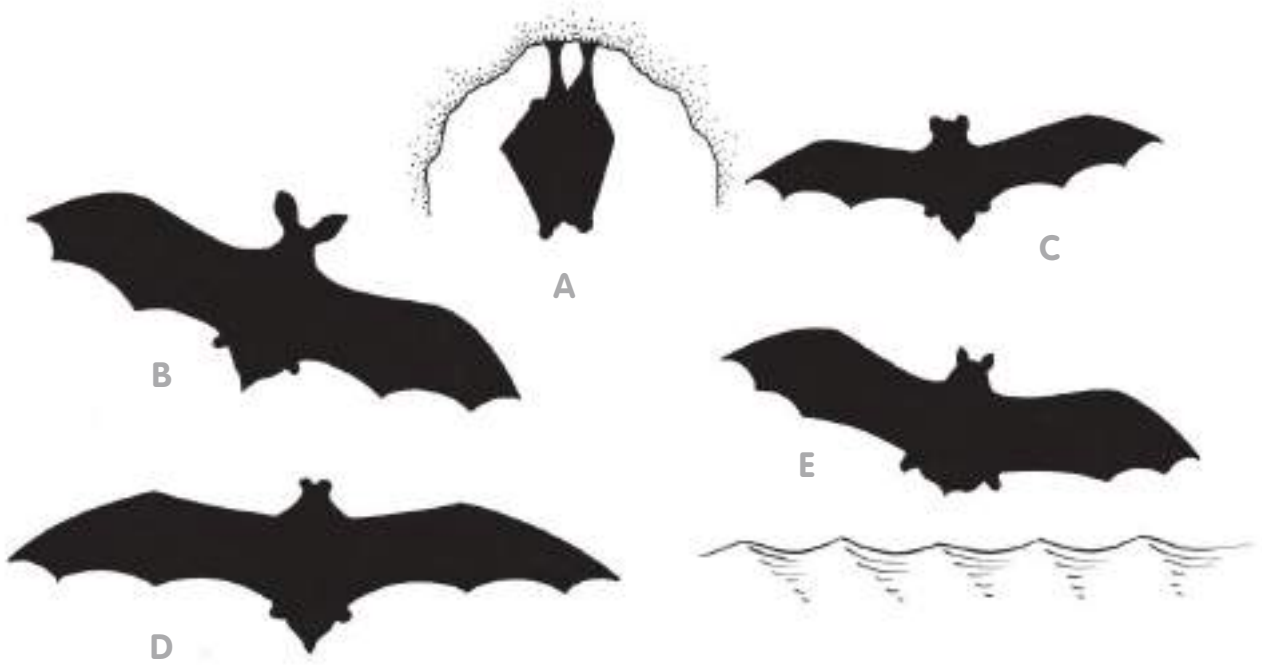
in the ground layer.

LEAF LITTER

This is where all the dead leaves are broken down into compost by creepy-crawlies.

Fill in the blanks

Bats are mammals that fly at night. There are ten different species in Ireland. Can you name them all? You can find out on the Bat Conservation Ireland website at www.batconservationireland.org



Outlines of some of our common bats are shown above. Examine them carefully and then answer these questions:

Which one is Daubenton's bat, also known as the water bat? _____

Which one is the long-eared bat? _____

Which one is the cave-dwelling species – the lesser horseshoe bat? _____

Our largest bat is Leisler's bat which is bat number _____

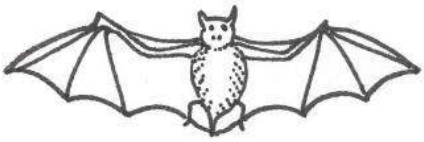
Our smallest bats are the pipistrele bats (of which we have 3) – which one drawn above is a pipistrele bat? _____

TO DO:

Using the dark outline as a template, re-draw the long-eared bat. Label the ears, tail, feet and the wings. Look at the picture in the teachers' book to see if you were accurate.

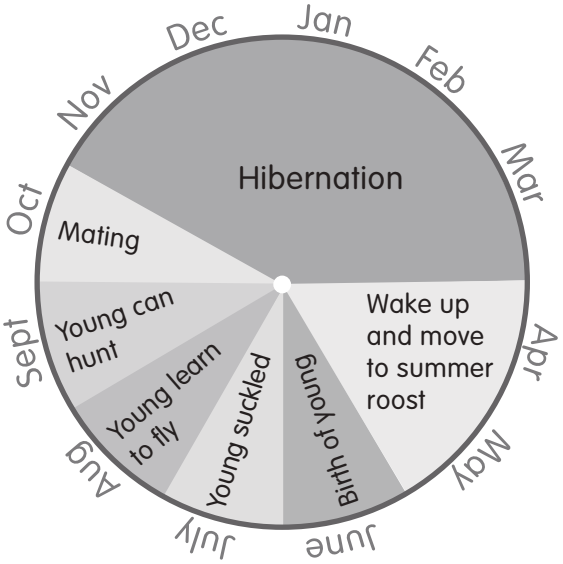
Food and Lifecycle

Bats are carnivores. They fly at night in summer feeding on aerial insects. Tick off which of the following are eaten by bats:



- ☐ Mosquitoes
- ☐ Woodlice
- ☐ Moths
- ☐ Worms
- ☐ Midges
- ☐ Slugs
- ☐ Bees
- ☐ Mayflies
- ☐ Mice
- ☐ Daddy-Longlegs

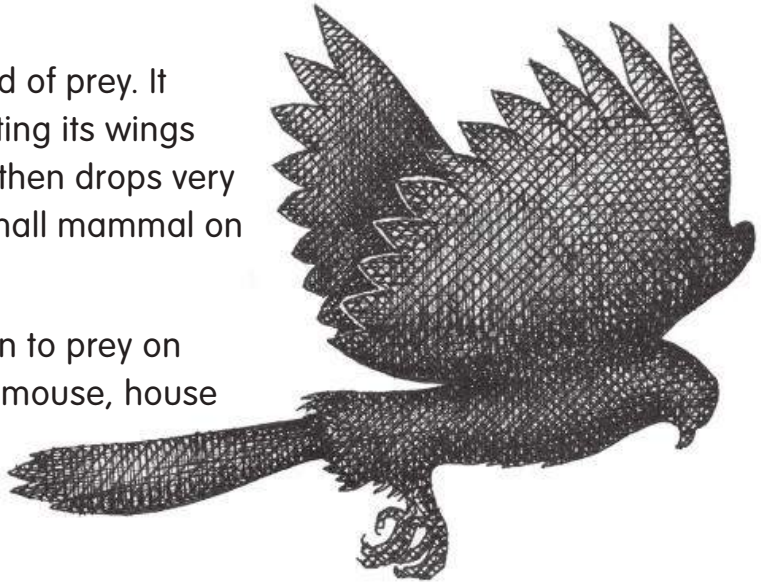
Here is a drawing of the life cycle of a bat.



TO DO:

Write a paragraph about a year in the life of a bat using this drawing to make sure that the points you make are accurate.

Look up



The Kestrel is our most common bird of prey. It hovers over fields and hedges, beating its wings very fast to stay in the one place. It then drops very suddenly on to its prey, usually a small mammal on the ground.

In Ireland, kestrels have been known to prey on the following small mammals: field mouse, house mouse, rat, pygmy shrew, white-toothed shrew and bank vole.

Look up each one of these and find out how common and widespread each one is.

Field Mouse _____

House Mouse _____

Rat _____

Pygmy Shrew _____

White-toothed Shrew _____

Bank Vole _____

Which of these are considered to be pests by humans? _____

_____

Are kestrels of benefit to humans? _____

Name 5 other birds of prey in Ireland.

_____ _____

_____ _____ _____

FIND OUT what 3 other species of birds of prey that once were native here, have been re –introduced in the last 10 years.

_____ _____ _____

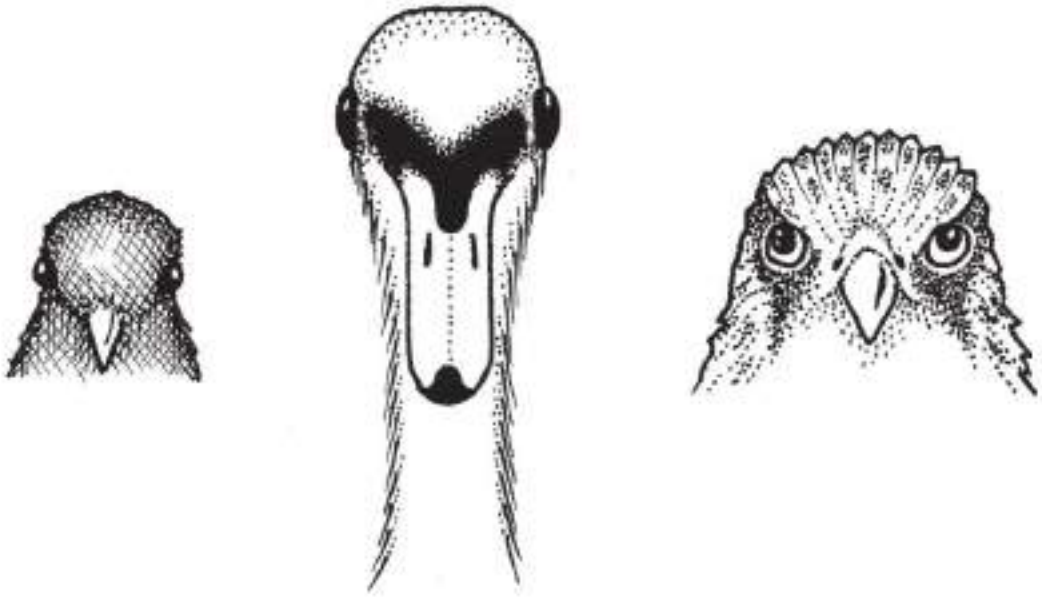
Why is this re-introduction such a good idea? _____

_____

_____

Experiment

How do kestrels see so well? Unlike swans and blackbirds, kestrels have **binocular vision.**



Birds like swans and blackbirds see out of each eye independently. You can try this by holding up a finger and looking at it with one eye at a time. This is fine for most things but when you have to pounce on something and catch it, you have to know exactly where it is. So you need to be able to focus on it with both eyes at the same time – which is what binocular vision means.

Line up your finger with a line drawn by your teacher on the board. You can only do this with one eye at a time. Using your two eyes together you can only focus either on your finger or on the line on the board – not both at the same time.

Kestrels, like all birds of prey and owls, use both eyes together and are very good at catching fast-moving prey.

Swans use each eye independently at the same time. This gives them an advantage which is very important to them. Can you work out what it is?

_____

_____

_____

_____

_____

_____

Experiment

Earthworms are decomposers. They feed on dead plant material and break it down to nutrients that can be used by other plants to grow. They are commonly found in soil.

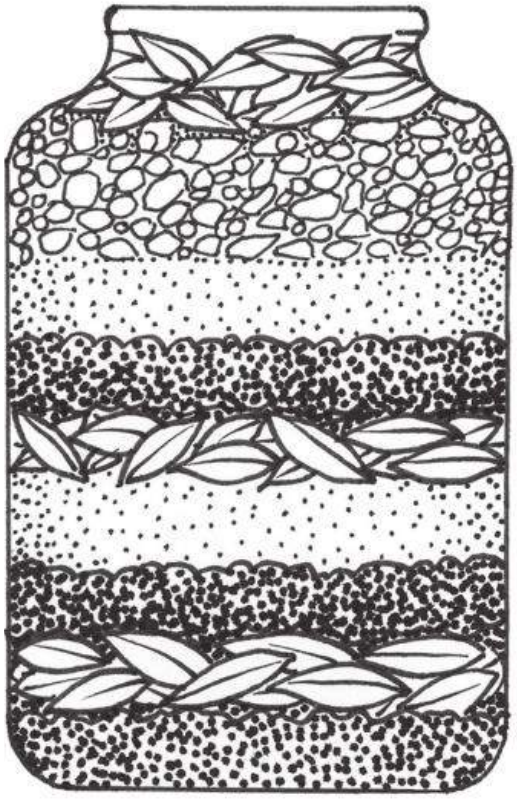
You can see how they break down leaves and make tunnels in soil by looking at a wormery.

How to make a wormery

You will need:

1. a large glass/plastic jar such as one for holding sweets;

2. layers of leaves, soil, sand and chalk.



If you put earthworms into the jar and cover the jar with a black plastic bag, the worms will work away in the darkness mixing up the layers and eating the leaves. Keep the soil slightly damp and open the black bags for just a few minutes every two days to see what is going on. If you leave the bag off, you won't see anything as worms keep away from the light.

How to capture worms to put in the jar

You have to convince the earthworms to come up to the surface of the soil.

Work in groups of 4. You will need a 5 litre bottle of water (or 2 smaller bottles) and an empty box to put the worms in.

Go outside and pick an area of grassland 1 metre square.

Water it with all the water. Then start stamping – carefully – on the ground you have watered. The worms down below will think that it is raining and will start coming up to the surface. This may take 5 minutes or so but keep at it.

Bring the worms back to the wormery and put them in.

Identify

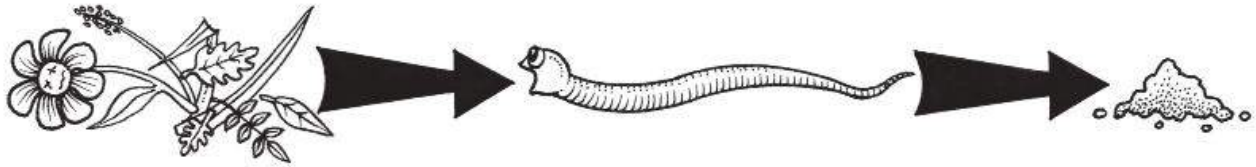
Worms eat dead plant material and turn it into soil nutrients. They work very well in compost bins.

What is a compost bin? _____

Is there one in your school? _____

Have you one at home? _____

What goes into the compost bin? _____



Go outside and look in the compost bin. Collect some of the worms you see there and bring them back to class.

Examine them carefully.

Are they all the same? _____

Are they the same as the earthworms in the soil? _____

Are they fatter/thinner than earthworms? _____

Are they red all over and wriggle violently on your hand? _____

If they do, then they are ANGLER WORMS which are red.

Are they striped – with red and pink circular stripes? _____

These are TIGER or BRANDLING WORMS which are very common in compost bins.

DID YOU KNOW?

Red light doesn't disturb worms at night, so if you put red cellophane paper over a torch you can find lots of worms in the garden at night.

Acknowledgements

The *Wild Things at School* series has been developed to help engage primary school children and teachers with nature. The original publication, *Wild Things at School,* a book for primary school teachers has been positively received by teachers all over Ireland and has proved to be a valuable teaching resource. This new publication of *Wild Things Worksheets* is designed to accompany the teacher's book providing material for use in the classroom. Exercises are divided into class groups, from the simplest counting for junior infants to stimulating debates and field studies for the older children.

The exercises have been created and developed by wildlife expert Éanna Ní Lamhna, who has many years experience visiting schools all over Ireland. Christine Warner's beautiful illustrations were specially commissioned to enhance the learning experience on every page. Photographs of all the wild things are included on a DVD along with the worksheets and original teacher's book. The worksheets are available in Irish and are also on the DVD.

This publication is funded by the Heritage Council Heritage Plan fund, Monaghan County Council Heritage Office and Meath County Council Heritage Office.

The publication design is by Connie Scanlon and James Fraher at Bogfire. Proof reading was undertaken by Graham Smith of Wordsmith. Irish translation of the worksheets is by Máire Mhic Thaidhg. Pronsias Ó Donnghaile proofread the Irish version. Photographs are mainly from Eric Dempsey and Shirley Clerkin.

I hope that the production of these worksheets will assist teachers to deliver the *Wild Things* programme. Enormous thanks goes to those who have been involved with this project, particularly Eanna and Christine whose creative partnership has resulted in a fantastic teaching resource. It has been a labour of love for us all; a love for nature that we genuinely wish to pass on to its future custodians.

We wish you luck with the *Wild Things* programme.

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About the Author

Éanna Ní Lamhna

Éanna Ní Lamhna is best known for her environmental expertise as a broadcaster on the radio programme *Mooney Goes Wild*. Her Co. Louth accent gives her one of the most instantly recognisable voices on radio. Her ability to bring her subject to life is legendary and her no-nonsense approach to romantic views about wildlife is well known.

She is first and foremost a botanist with degrees in both botany and ecology from University College Dublin. Her interest in the environment has expanded with her work over the years, to include birds, mammals and in particular creepy-crawlies whose doings hold a particular fascination for her. Her ability to awaken enthusiasm for these creatures in her listeners is exemplified by the remark made to her lately, "Whenever I see a spider I always think of you and put it outside instead of stamping on it."

She began work in 1974 in the Biological Records Centre — in its first incarnation in An Foras Forbartha. She quickly realised that if she was to receive any biological records from the Irish public she would first have to go and teach them about Irish wildlife. So began a career of teachers' courses, radio programmes, lecturing at third level, field trips with Secondary School pupils and most significantly of all, visits to Primary Schools to teach the pupils and indeed the teachers there, about the wildlife around them.

Her publications include *Talking Wild, Wild and Wonderful*, *Straight Talking Wild* and *Wild Dublin*. She has just completed a five-year term of office as President of An Taisce and is currently the Vice-President of the Tree Council of Ireland.

About the Illustrator

Christine Warner

Christine Warner is an illustrator and calligrapher working mostly in the field of education. She provides full colour illustrations, line diagrams and cartoons for textbooks, workbooks and posters. She has worked for many educational publishers and also for Dúchas, Forfás and Trócaire.

While she illustrates material on a wide variety of subjects, she specialises in science, having science degrees from University College Dublin and Trinity College Dublin. She particularly enjoys producing wildlife illustrations and cartoons. She has been an environmental activist for many years. Christine may be contacted via email at cwarner1@gmail.com

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