



Wildlife in Autumn and Winter

Roe Valley Country Park
Resource Book for Key Stage 2 Pupils

Introduction

This booklet has been prepared for use as notes for teachers of KS2 pupils. Older children may also find it useful. It may also be interesting to the general public. The booklet is based on the wildlife in the woods at Roe Valley Country Park, Limavady. This is a typical deciduous woodland so the material applies to any similar woodland or hedgerow. The park belongs to Northern Ireland Environment Agency (NIEA), who encourage schools and other groups to visit their sites which have educators on hand to provide an education service to schools and the general public. A visit to Roe Valley Country Park can be arranged by contacting:

The Educator
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Tel: 028 7776 7532

Wildlife in Autumn and Winter

Autumn is perhaps the best time to visit a woodland. The changing colours of the trees are very attractive. Most of the trees have their seeds which can be collected and propagated. Although there are not many flowers, autumn is the best time to study fungi. Most insects disappear during autumn but the invertebrates in the leaf litter carry on much as usual. Birds and mammals make preparations for the hard days of winter. In winter the woods become very quiet. There are no leaves on the trees. Flowers disappear. There are few invertebrates. Birds and mammals develop their own ways of coping with the harsh winter months.

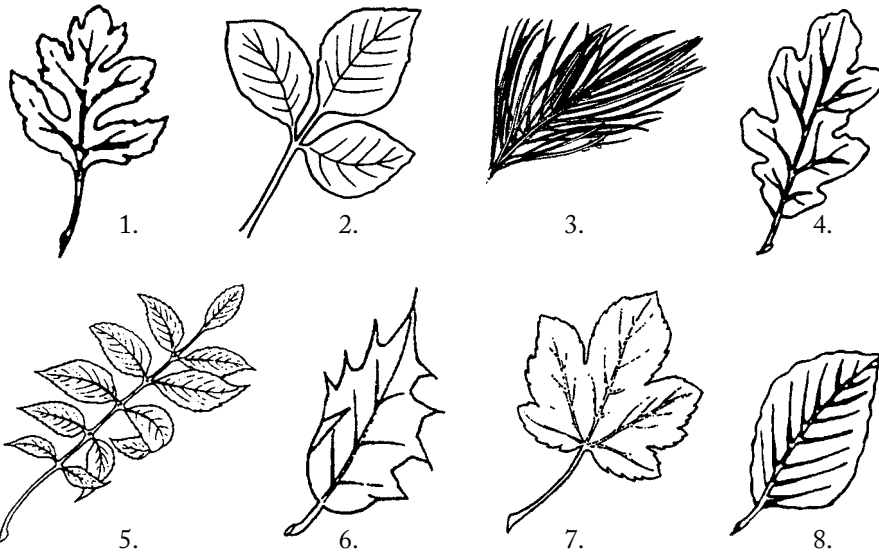


Leaves and Seeds

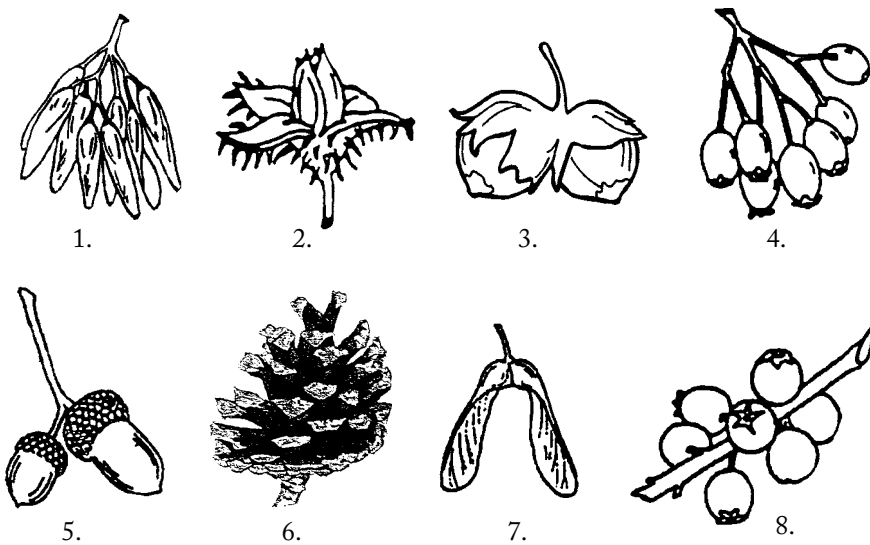
Autumn is the best time for collecting leaves and seeds. Draw these leaves and seeds and match each leaf with its correct seed. Label your drawings from this list:

Oak, Holly, Scots Pine, Hazel, Beech, Ash, Sycamore, Hawthorn

Leaves



Seeds



Leaves

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Seeds

- 1.
- 2.
- 3.
- 4.
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Trees

Broadleaf/ Deciduous and Coniferous/ Evergreen

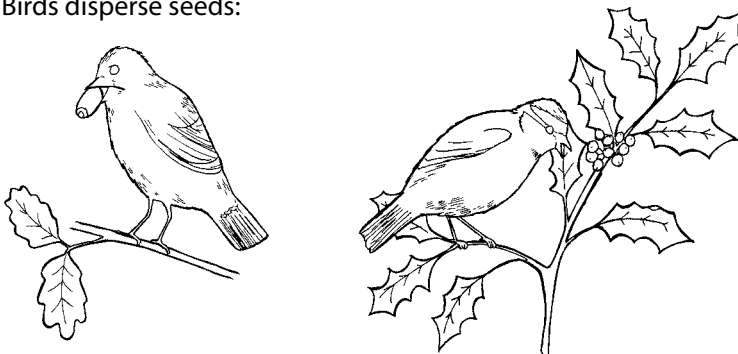
Autumn is the best time to study the difference between the main groups of trees. Broadleaf trees are almost all deciduous. The only exception is the holly tree. It is a broadleaf but it is evergreen not deciduous. Almost all coniferous trees are evergreen. Only the larch loses its leaves in autumn. The name evergreen can also cause confusion. You might think that evergreen means that the trees never shed their leaves. This is not true. If you look under evergreen trees you will see their leaves lying on the ground. Evergreen trees shed their leaves but not all at once in autumn. They shed them gradually.



Seed Dispersal

Autumn is the best time of year to collect the seeds of trees. The seed is the tree's means of reproduction. These can be berries, nuts, fruit or cones. The seed needs four essential things to grow: sunlight, water, minerals and air. The seed will not grow if it drops below the tree. The parent tree will deprive it of these essentials. Each tree has a different method of spreading its seed. The holly tree uses birds, the oak uses squirrels and the sycamore uses wind. Spreading the seed is called seed dispersal.

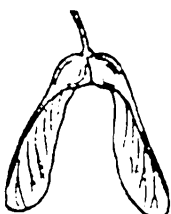
1. Birds disperse seeds:



2. Animals disperse seeds:



3. The wind disperses seeds:



Fungi

We like to divide fungi into mushrooms and toadstools, but to the scientist they are both classed as fungi. There are many kinds of fungi. There are about 7,000 different kinds in Ireland. The autumn is the best time to see them.

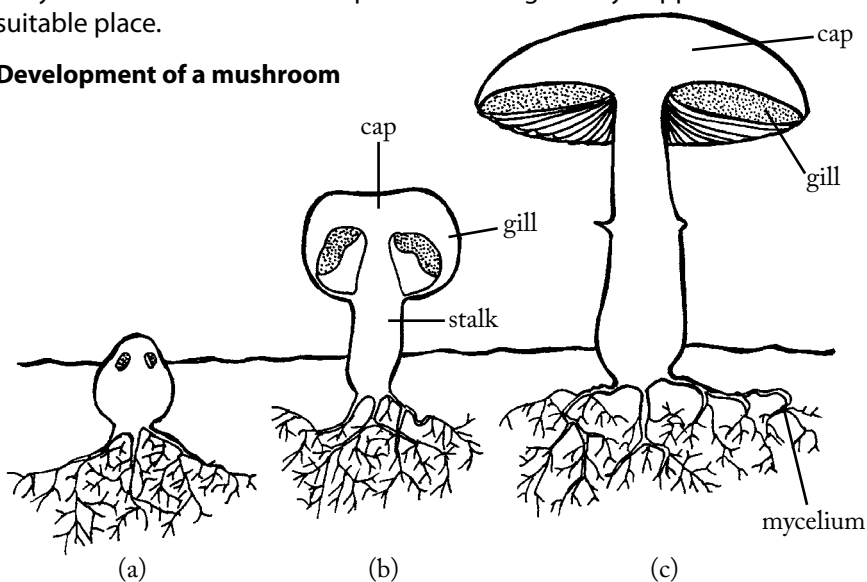
Fungi are neither plants nor animals. They are a separate group. They look more like plants but act more like animals. Plants are able to make their own food through the process of photosynthesis. This means they can capture the power of the sun. Fungi cannot photosynthesise nor do they eat in the proper sense. They live by breaking down and absorbing dead plants and animals. Animals need to eat. They do this directly by eating plants or indirectly by eating other animals, which have themselves eaten plants. Plant eaters are called herbivores. Meat eaters are called carnivores. By breaking down dead material fungi help recycle the essential minerals. These are taken back into the soil from dead leaves and wood as well as dead animals. The fungi, along with invertebrates and bacteria, do the same work of recycling dead material. They are called decomposers.



Structure of Mushrooms

What we think of as the mushroom is really its fruiting body. The fruiting body appears above ground for a short while, often in autumn. Most of the mushroom is hidden. It is a collection of tubes called hyphae that form a web called the mycelium. The hyphae are able to absorb dead matter such as wood or leaves. The fruiting body can take many forms. The most familiar are mushrooms. Often it has a cap and gills beneath. These gills release spores. These are not seeds but they allow other mushrooms to grow. They float in the air and develop into new fungi if they happen to land in a suitable place.

Development of a mushroom



Death Cap mushrooms

Mushroom or Toadstool?

We think of mushrooms as being edible and toadstools being poisonous. This is not very helpful as it does not allow us to tell which is dangerous and which is not. Some mushrooms can be eaten. Just a few are deadly poisonous, such as the Death Cap. To be sure it is best not to eat any of them.

Invertebrates

Invertebrates fall into many different groups, for example: molluscs, myriapods, crustaceans, arachnids and insects. In autumn each has its own way of surviving the difficulties of the winter. Bees hibernate in their hives. The wasps all die except the queen which hibernates to begin the colony again in the spring. Many insects survive the winter as pupa.

In the leaf litter the covering of leaves allows conditions to remain the same throughout the year. Beneath the leaves it is as if there are no seasons. It is always damp, dark and cool just underneath the leaves. Here the creatures of the leaf litter survive by eating leaves or each other. Their numbers may be much reduced but there are still slugs, snails, millipedes, woodlice and spiders to be found. There are not so many beetles.

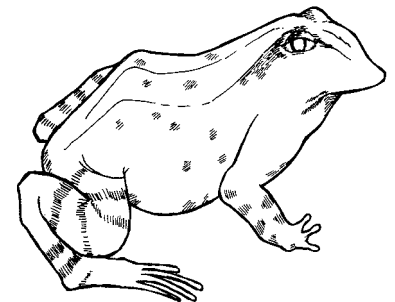
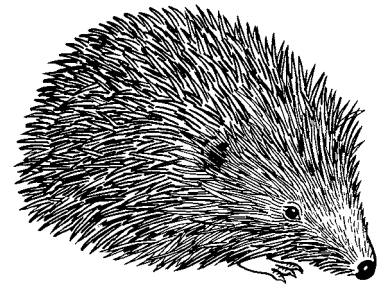
Mammals

Autumn is the time when mammals prepare for the winter where less food will be available. Most of them will put on fat to try and survive the months ahead where there will be less food. Most mammals become less active. The squirrels spend more time in their nests or dreys. They will eat acorns they have hidden in the ground as winter stores.

Hibernation

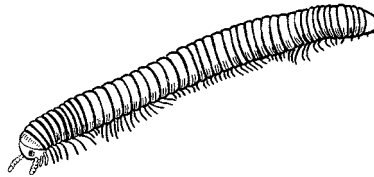
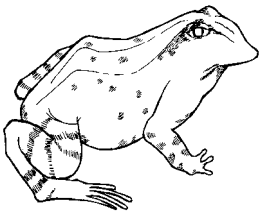
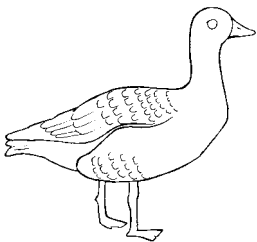
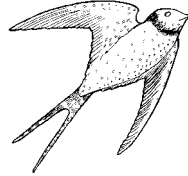
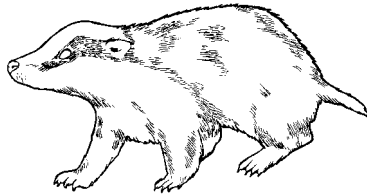
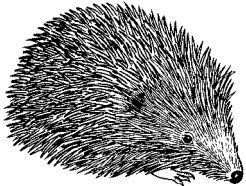
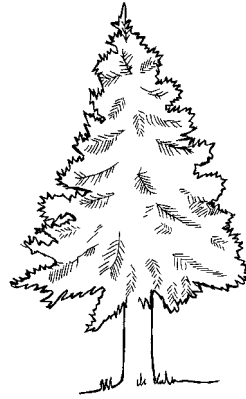
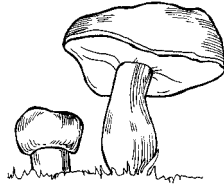
Hibernation is a way of surviving the winter used by many creatures including some insects, frogs and a few mammals. Only bats and hedgehogs hibernate. Bats will leave their summer roosts in buildings and will spend the winter in caves and tree holes fast asleep. Hedgehogs will gorge themselves on fruits. They will then curl up in a tight ball among deep leaves to sleep throughout the winter. Their heart beat and breathing will almost stop. This allows them to use less energy and survive through to the spring.

Frogs also hibernate. They hide in mud or in holes in the ground. They awake in the spring and head for the ponds to begin breeding again.



Surviving the Winter

Living things have different ways of surviving the winter. Draw these pictures. Label them with the correct name. Then match them with the sentence that suits them best.



1. I lose all my leaves and store food in my roots.
2. I continue to photosynthesise throughout the winter.
3. I pop out of the ground and spread spores.
4. I fly away to Africa.
5. I come to Ireland from the far north.
6. I continue as normal beneath the leaves.
7. I survive as a pupa in the ground.
8. I roll into a ball in deep leaves and sleep until the spring.
9. I spend most of my time in my drey eating acorns I have hidden.
10. I sleep in mud.
11. Winter makes no difference to me. I continue being nocturnal.

Birds

Autumn Activity

Birds do different things at different times of the year. In spring and summer they are very busy. They mate, build nests, lay eggs and raise their young. In autumn some birds will change from a summer diet. The blue tit eats caterpillars in the summer but changes to small seeds in the winter. In spring and summer it is a carnivore, in winter it is an herbivore. Birds of prey such as the sparrow hawk are carnivores all year round. In autumn there will be many young birds. Only a few of these will survive the winter to breed. In autumn many species of birds, such as the swallow, cuckoos and warblers, migrate south. Others such as swans, geese, ducks and waders arrive from the far north.

Birdsong

You will hear very few birds singing in the autumn. They sing in spring and summer to attract a mate and defend their territory. In autumn this is not necessary for most birds so they stop singing. The only common exception is the robin which defends its territory all year round.

Nests

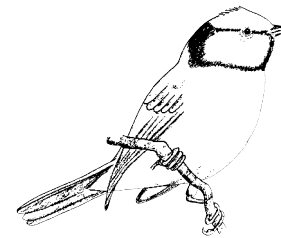
In autumn it is possible to look more closely at birds nests. The fallen leaves reveal nests which are more difficult to see in spring and summer. Each bird builds a different shape of nest in a place best suited to it. The rooks build their nests high in tall trees. There are many nests together forming a colony. The jackdaw will often build its nest in holes in buildings or even down the chimney pot. The wren will choose a hidden place low down in the roots of a tree. Here it will build its domed nest with the entrance hole at the side.

The Legend of the Wren

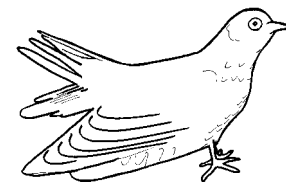
The wren is a bird that rarely emerges from its cover in low vegetation. This was observed long ago. People made up a legend about the wren. The birds decided to have a competition to decide which bird would be king. It was decided that the bird which could fly the highest would be king. Naturally the eagle was the favourite. It did fly higher than any other bird but the wren had hidden on the eagle's back. When the eagle became exhausted and could fly no higher, the wren jumped off and flew above the eagle. By cheating the wren had become king of the birds. Its skulduggery did it no good as from then on it was pursued by all the other birds. From that time it was forced to skulk low down among the bushes. It is rarely seen but it is often heard proclaiming its kingship with its loud voice. The legend of the wren is one of the many stories told about animals and birds. Can you think of any others.



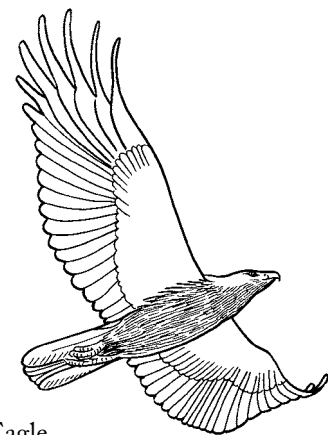
Sparrowhawk



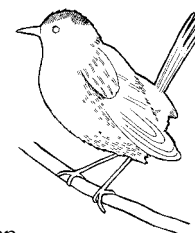
Blue Tit



Cuckoo



Eagle



Wren

What am I?

You will have read the material in this article. Here are five imaginary life stories that some of the things in the passage might give if they were able to talk. Try and guess which one is speaking. There are pictures to help you make up your mind.

1. There is an old saying 'Money does not grow on trees', but I do. I need to be carried away by something if I am to survive. It might be a bird, an animal or the wind that helps me move. After I make my first journey I remain in the same place for the rest of my life. I will use sunshine, rain and soil to grow. I begin life as something very small and insignificant but I end up as something huge, impressive and very old.

I am a _____.

2. I am neither plant nor animal. I cannot take in the strength of the sun and I do not move about. There are seven thousand things much like me in Ireland. Most of the time I cannot be seen. I remain underground for most of the year. In autumn I pop out very suddenly for a few days and then disappear again just as quickly. Be very careful. If you eat me, there is a chance you will be poisoned.

I am a _____.

3. I begin life as a little egg in a pond. Then I start to swim about. After about twelve weeks I leave the pond. By this time I have lost my tail but I now have four legs. At first I am a bit like a fish because I breathe using gills. Later I lose the gills and develop lungs. It makes little difference to me whether I live out of or below the water. In winter it is too cold for me. I bury myself in mud or find a hole to sleep for the whole winter.

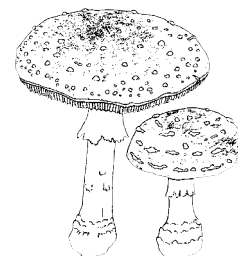
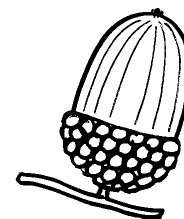
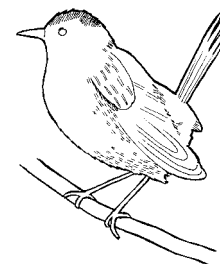
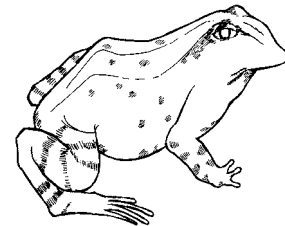
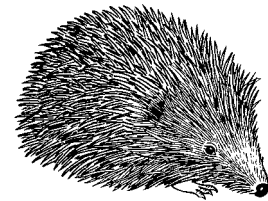
I am a _____.

4. I am one of the smallest and weakest of my kind. I have a very loud song but I am really scared to show myself. If I want to move from place to place, I go as quickly as I can. I spend all my life afraid that 'they are out to get me'. This is all because of a silly story told long ago that my ancestor became a king by cheating. I am not even sure the story is true. What do you think?

I am a _____.

5. I really like the summer but hate the winter. Normally I will eat any small creature but I am really partial to slugs. In autumn I find myself getting really hungry. I change my diet. I eat all the fruit that is lying about. I get really fat. I suppose I would prefer to fly away to a warmer country like some of the birds but I have to stay put. Eventually as winter gets nearer I can find very little to eat. I find myself getting really tired. I just find a quiet place, curl up in a tight ball and fall really fast asleep until the weather gets better.

I am a _____.



On the next two pages there are pictures of spring and autumn. Discuss the differences between the two seasons. Try and find at least ten differences.

Spring





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