

# Rain Forests

Trees are not just important as homes for wildlife. Forests are also very important to this whole planet.

The most important area of forest in the world is the **tropical rain forest**. Rain Forests occurs in a belt all around the world at the Equator.

Half of all the species of **animals and plants** in the world live in the rain forests.

The **climate** of the world is affected by these rain forests. During photosynthesis, trees absorb carbon dioxide from the air and release oxygen.

Great amounts of **carbon dioxide** are stored in the trees of a tropical rain forest. If these trees are cut down and burned, the carbon dioxide goes back into the atmosphere.

An increase in the amount of carbon dioxide in the atmosphere causes the **greenhouse effect**.



## To Do

Rain forests occur in South America, West Africa and Asia. Find them on a globe or in an atlas.

**Q** Name one country in each of these continents where rain forests occur.

**South America** \_\_\_\_\_

**Africa** \_\_\_\_\_

**Asia** \_\_\_\_\_



## The Greenhouse Effect

Carbon dioxide in the atmosphere acts like a great **greenhouse** around the planet.

It absorbs the heat that comes from the sun and traps it, so that it cannot be reflected back into space.

The more carbon dioxide there is in the atmosphere, the warmer the earth will become.

As this happens the climate of the world will change, the polar ice-caps will melt around the edges, and sea levels will rise causing flooding in coastal areas.

Tropical forests should **not** be cut down and burnt.



# Trees and Climate



The destruction of tropical rain forests affects the world's climate in another way.

The areas where rain forests occur are very hot and very wet because they are along the equator.

The heavy rainfall trickles gently through the thick, leafy canopy and falls lightly on the forest floor.

When the forests are removed, the heavy rain falls directly on to the ground and washes away the soil.

This causes **flooding** and **landslides** and makes surrounding areas unsafe for people to live in.

**Half** of the world's rain forests have already been destroyed. Further destruction of rain forests must stop if these bad climatic effects are to be halted.



## Conservation

People who wish to conserve rain forests should not buy mahogany or teak unless it comes from areas where replanting is taking place.

The governments of the countries where the rain forests occur should be asked to set up nature reserves in tropical rain forests. This is happening in Brazil in South America.

Dublin Zoo is breeding Golden Lion Tamarin monkeys for reintroduction into these reserves.



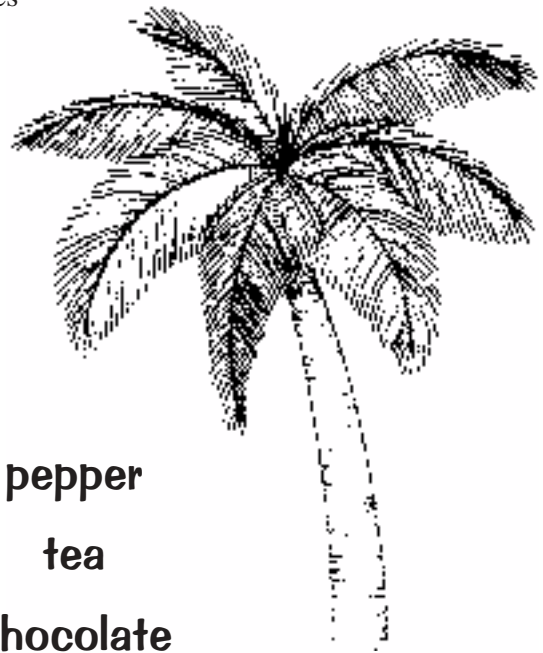
# Food from Plants

## Word Search



The Word Search contains the names of food and drinks that come from plants.

Can you find them all?



pineapple

banana

orange

lemon

bean

avocado

peanut

coconut

pepper

nutmeg

chewing gum

tea

coffee

cocoa

chocolate

c	o	c	o	a	v	o	c	a	d	o	b	b
c	h	i	l	e	c	c	o	m	f	r	a	e
a	c	e	p	t	o	h	f	e	f	a	n	a
e	h	l	w	o	f	i	f	s	s	n	p	c
l	o	i	n	i	e	l	e	t	t	g	g	o
p	c	m	e	e	n	i	e	o	h	e	v	c
p	o	t	b	e	r	g	r	p	m	v	o	o
a	l	o	p	e	l	v	g	t	i	l	n	n
e	a	t	p	i	a	a	u	u	l	o	i	u
n	t	p	m	a	e	n	m	t	m	i	h	t
i	e	b	a	n	a	n	a	e	a	o	h	c
p	e	a	n	u	t	m	l	o	n	u	t	c

# Tree Planting

**Trees** are living plants – they mature, get old and die, even without human interference.

When trees that die, they are replaced naturally by trees that grow from seeds in the woodland.

If we want to use trees for timber, furniture, firewood and other things, we must plant trees to replace the ones we have felled. As we have so little woodland in Ireland (only 7%), we should plant far more trees than we cut down.

**Deciduous trees** – trees that lose their leaves in winter – are our **native trees**.

If we plant these, we will be providing more homes and food for the birds, animals and insects that already live here.

**Coniferous trees** such as spruce, Leyland cypress and fir are not native to Ireland. They are not valuable to our wildlife.



## To Do

- 1 Survey your school grounds to see if it would be possible to plant trees.
- 2 Collect seeds from native trees in the autumn.
- 3 Plant the seeds in milk cartons and look after them for a year.
- 4 Plant out the young trees in the chosen place.



A **hedge** planted with ash, hazel and hawthorn is much more valuable to Irish wildlife than a hedge of Leyland cypress, privet or box.

Growing native trees is very easy. Seeds should be collected in autumn and either kept moist over the winter for planting in spring or planted indoors immediately. One-litre milk cartons are good containers for tree seeds. They are **biodegradable** and can be inserted directly into the soil.

When the trees in the pots are one year old, plant them out in the place where they are to grow. The milk carton will break down when it is placed in the soil and the tree will spread its roots. You can plant your classroom trees all together in the school grounds to form a woodland or in a line to form a hedge.

## After Care

Young trees must be kept free from weeds and watered well during their first year in the soil.

# Woodland Field Trip

There are **four layers** in a woodland. Identify and name four plants in each layer.

## The Canopy

Four trees

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_

## The Shrub Layer

Four shrubs or smaller trees

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_

## The Ground Layer

Flowers or small plants

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_

## The Leaf Litter

Identify some of the leaves on the ground.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_



# Woodland Field Trip

## Finding Animals

### Canopy Beating

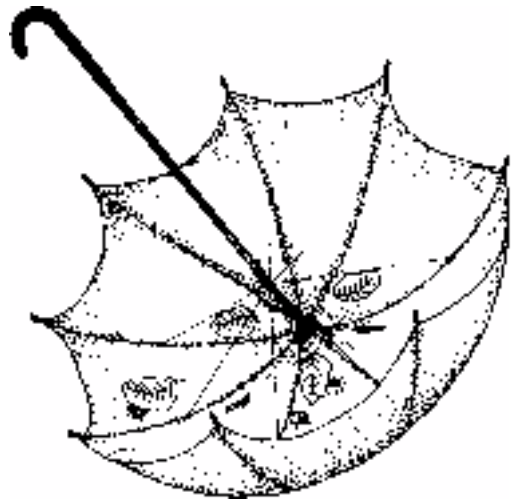
Do this to find the small animals that live on the leaves of a tree.

### You will need.:

an open umbrella

### What to do.:

- ☛ Two people should hold the umbrella by the edges, upside-down under the tree.
- ☛ A third person then firmly shakes the branches over the umbrella.
- ☛ The insects and small creatures living on the leaves will fall into the umbrella.
- ☛ Take the umbrella away and look at what's in it!



### What you will see

- \* There will be leaves and twigs in the umbrella as well as animals.
- \* The carnivores that live by catching other animals will run under the leaves. They include spiders and ladybirds.
- \* Herbivores such as caterpillars, greenfly and leaf hoppers won't move.
- \* Flies and bees that were just resting on the leaves will fly away.



### Observation

To see larger animals such as birds, divide into groups of two and stay quiet for at least 10 minutes. Note what you see and hear.

Examine the trunk closely to see if there are any animals in the cracks in the bark. A torch could help for this task.

# Woodland Field Trip

## Finding Animals

### Pitfall Traps

These are traps set in the ground to catch animals that move over the ground at night.

### What to do.

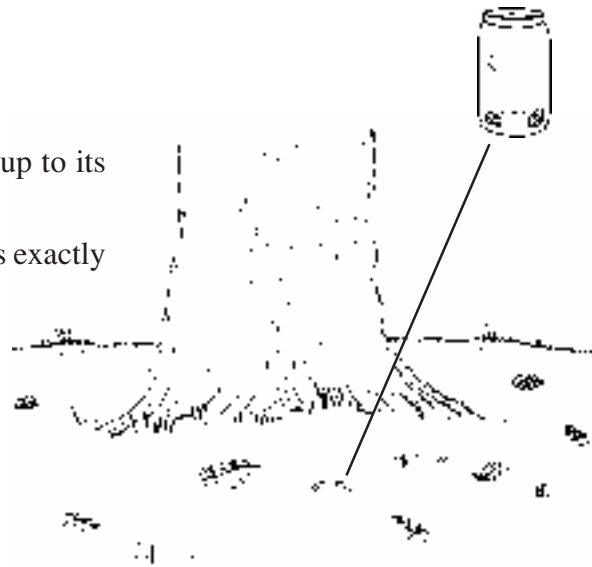
You will need a jar and a trowel.

- \* Dig a hole under the tree. Put the jar right up to its neck in the hole.
- \* Smooth off the soil so that the open jam jar is exactly flush with the level of the soil.

Small animals moving over the ground at night will fall in and won't be able to get out again because of the smooth sides.

You can catch **ground beetles** in this way.

Try baiting your pitfall traps with bits of meat or banana to see if your catch varies.



*Return all creatures to the wild after observing them!*

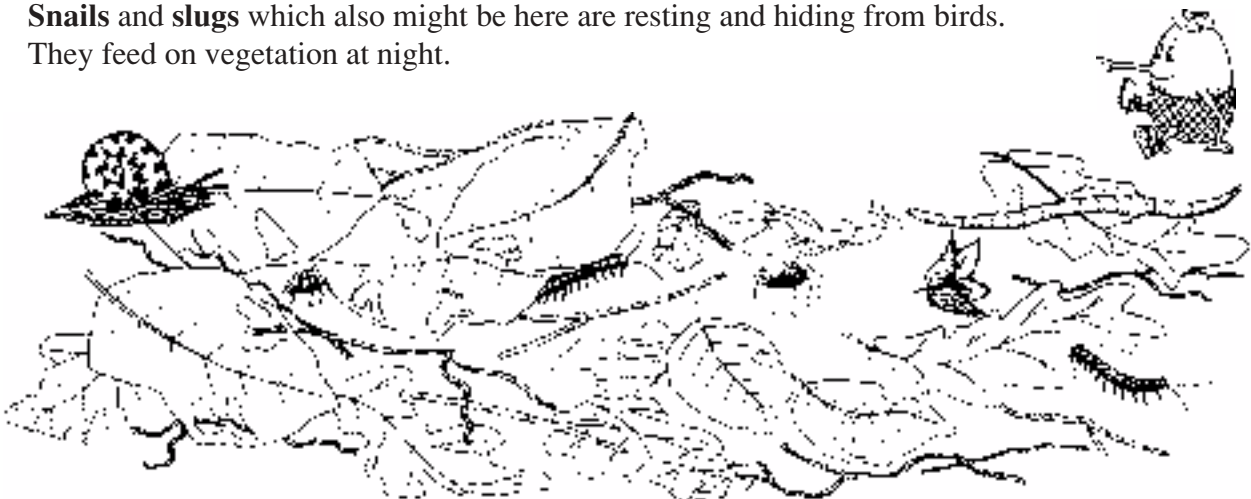
## Leaf Litter

If you look under leaves and under big stones or rotting timber, you will find animals that break down dead leaves (decomposers).

Look out for **woodlice**, **millipedes** and **earthworms**.

Faster moving animals such as **centipedes** and **spiders** are carnivores. They eat the decomposers.

**Snails** and **slugs** which also might be here are resting and hiding from birds. They feed on vegetation at night.

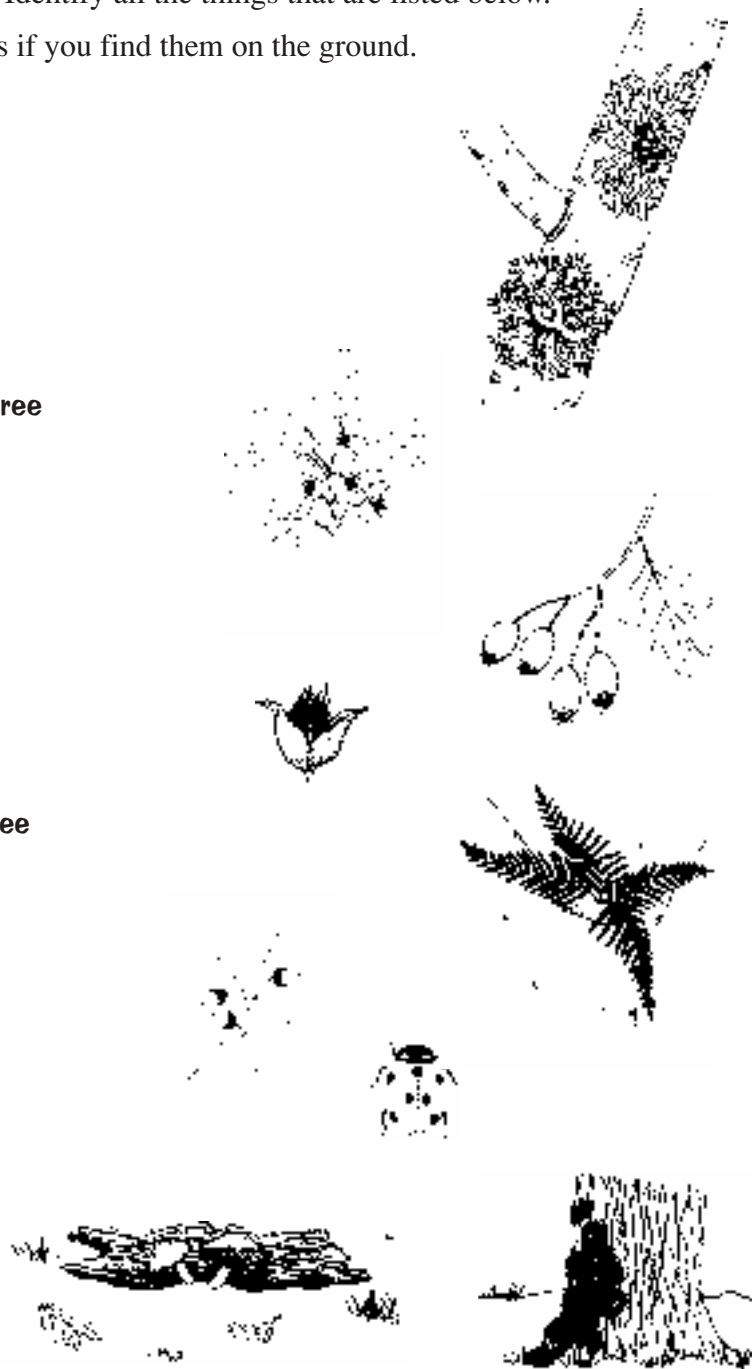


# Scavenger Hunt

Take this list with you on a field trip. Identify all the things that are listed below.

You may be able to collect some items if you find them on the ground.

- 1 A hawthorn leaf
- 2 A berry
- 3 A wind-dispersed seed
- 4 An animal from the bark of a tree
- 5 A herbivore
- 6 A feather
- 7 Three pieces of litter
- 8 A fungus
- 9 A lichen from the trunk of a tree
- 10 A leaf that is not green
- 11 A carnivore
- 12 A wild flower
- 13 A nut
- 14 A fern
- 15 Something unusual



Notes



# A Nature Trail

## Make a Nature Trail



Nature trails are made by people who know lots about the area.

Make a nature trail in a wood that your class or a younger class will enjoy.

### What To Do

- ✓ Decide on a number of stops on the trail, perhaps six.
- ✓ Identify something interesting at each stop.
- ✓ Draw a map and mark down where each stop is located.
- ✓ Make field notes for the nature trail.

Stop One



Stop Two



Stop Three



Stop Four



Stop Five



Stop Six

### Use Graphics

Include graphics to illustrate the nature trail.



**Eyes** when you are asked to look at things.

**Ears** when you have to listen.



**A Pen or Pencil** when you are to write things down.

**Footsteps** when you walk from one place to another.



**A Hand** to feel things.

**A Nose** when there is an interesting smell.



and so on.··