

Fruit and Fungus Foray

Contents:

Teachers Notes

Work cards for:-

Fruiting type	Species	Similar species
Arils	Spindle	Yew
Cones	Scots Pine	Larch
Drupes	Blackthorn	Wild cherry
Floating seeds	Old Man's Beard	Dandelions
Fungi	Candlesnuff	
	Dryads Saddle	
	Fly Agaric	
	Hoof fungus	
	King Alfred's Cakes	
	Scarlet Elfcap	
	Sheathed Woodtuft	
	Stump Puffball	
Hips	Twig Parachute	
	Dog rose	Other roses and Hawthorn
	Nuts	Hazel nuts
Pomes	Acorns	Wild Pear
Winged Seeds	Crabapple	Ash and Lime
	Sycamore	

Appendix 1:- Definitions

Appendix 2:- Curriculum topics

Appendix 3:- An atlas and guide to the fungi of the Arnside and Silverdale National Landscape.

Dear Teacher,

These workcards are for use in the Autumn.

A fungus foray can be a rewarding experience in its own right but using the workcards will also allow you to cover several elements of the Key stage 1 and 2 curriculum in an interesting and meaningful way. These are given in Appendix 2.

Notes for the workcards.

Fungi are rather unpredictable. Unlike trees that are in the same place, year after year, fungi may or may not appear. Also the fruiting season for many can be very short.

While the cards mainly cover fungi we have added other types of fruiting bodies so if the fungi are few and far between there is still plenty to look for.

We have divided the fruiting bodies up into types. Some like nuts will be familiar to your students. Others like arils and drupes may be new to them. We hope that using these new names will be interesting and it also gives a way of dividing up the fruiting bodies so that you can be sure your students will be able to find at least one of each type as you walk round.

Before you go out, divide the students into small groups and share the appropriate workcards between them with no more than 3 workcards per group, we suggest you include at least 1 non fungi with each group. Ask them to look at the pictures and find any features that are worth looking for. Look at the shapes the fungi and other fruits make, (round, oblong, flat, thick, thin). Are there any obvious markings or coloration? Are they soft or hard? You might ask them to make notes of their own to help them remember.

This means that when you set off into the woodland the students have a small number of things to concentrate on.

The cards are all about fruiting bodies. They are divided into the following 9 sets

1. Fungi, which produce spores,
2. Nuts, like hazel nuts and acorns
3. Winged seeds like sycamore and ash
4. Arils like spindle and yew fruits
5. Drupes like cherries and sloes
6. Pomes like crab apples and wild pears

7. Hips and Haws like roses and hawthorn
8. Floaters like dandelions and wild clematis
- 9 Cones like scots pine and alder.

We have avoided the set of berries as so many things are mislabelled berry.

For example blackberries are not true berries nor are strawberries (see definitions).

You should find it easy to get at least one specimen of each set as you walk through the wood. It may not be the main one on the card but success is finding something to go in each of the 9 sets. So if you only find one fungi that will be OK.

Each card contains pictures of the main fruit with a set of others that fall into the same set on the back. This list is not exhaustive and you might want to ask your students to make their own list of things they see in each set. It is not important to get a precise species ID. Many fungi are hard to pin down to the actual species but can fit into a broader category like Puff Ball or Bracket fungi.

A specimen of most plant fruits can be picked and brought back to the classroom. However we suggest that fungi should be left in place and not picked. While there will be hundreds of sycamore keys in a wood and one removed will not make any difference, most fungi are solitary.

Please stress that fruits are to be looked at and not eaten.

Make lists of each type of fruit (talk about the difference between each type.)

Talk about life cycles of plants and their importance to wild animals and birds.

Explain about how the animals and birds help the plants to disperse their seeds.

Draw one of the fruits brought back and also write a description using lots of adjectives.

In this draft set there are 9 fungi cards, and one of each of the other types of fruiting bodies. There is more detail on fungi in the booklet attached.

We hope the cards help you enjoy your autumn walk in the woods.

Ann Kitchen and Caroline Howard

Fruiting Bodies - Fungi

Can you find me on a tree?

King Alfred's Cakes (All Year)

I live on dead and dying wood. Look at trunks of ash and other trees.

Each year I grow another layer. I have small pores all over my surface which shed black spores in the Autumn. I am rather brittle so just look at me and leave me for others to enjoy.



I am sometimes called Cramp balls because you can roll me in your hands if you get cramp.

If you cut me in half you can count the rings to see how old I am.



I grow from branching threads called hyphae that spread under the bark. They take their food from the tree.

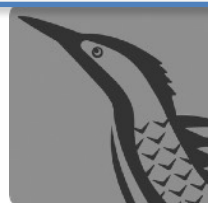
I am one of the Bracket Fungi.

My scientific name is Daldinea concentrica.



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies - Pomes

Can you find me in the wood?

Crabapple (Autumn)

Pomes are fruits like apples and pears.

They have a fleshy outer covering a core which holds the seeds.



This is a crabapple. Birds love to feast on me.

When I am ripe I fall off the tree. Hopefully a bird will eat me and my seeds pass right through its digestive system. They are then excreted far from my parent ready to grow into a new tree.



My scientific name is *Malus sylvestris*.



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies - Fungi

Can you find me on a stump?

Candlesnuff (All Year)

I live on dead and dying wood. Look at stumps and large logs.



I send up fingers from the rotting wood which are black at the base. These then fork so they look like antlers and are covered with white powder.

**I am very small,
about 2 cm, so
you will need to
get up close to
see me.**

**My spores are
black.**

**I eat the wood
until it crumbles
away into soil.**



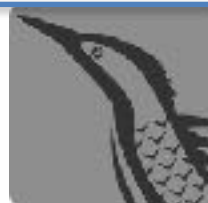
**Without fungi the forest floor would soon
be covered several feet deep in leaves
and fallen branches.**

My scientific name is *Xylaria hypoxylon*.



Bittern Countryside
Community Interest Company

and



**Arnside &
Silverdale**
National
Landscape

Fruiting Bodies – floating seeds

Can you find me in the wood?

Old Man's Beard (Autumn)

I grow in clusters on the clematis vine that scrambles through the hedges. Each seed is red brown and has a long thread with hairs attached to it.



When I am ripe the threads attaching me to the stalk weaken and the wind blows me away high into the air to find somewhere to grow. I can travel for miles.



My scientific name is *clematis vitalba*.

Other floating seeds are produced on flowers like dandelions. In the spring the willow trees produce balls of threads to waft their seeds away.



Fruiting Bodies - Fungi

Can you find me on a tree?

Dryads Saddle (Autumn)

I live on dead and dying wood. Look at stumps of ash and other trees.

I have one of the largest fruiting bodies, up to 60cm across, which grows fast in the autumn but by the early spring has disappeared.



While the top of my fruiting body is light brown with lovely red brown scales, the underneath is creamy white with lots of pores.



It grows from branching threads called hyphae that spread through the wood. They take their food from their host.

I am one of the Bracket Fungi

My scientific name is Polyporus squamosa.



Fruiting Bodies - Fungi

Can you find me growing
among the dead leaves?

Fly Agaric (Autumn)

You find my picture in lots of story books.

I am very poisonous.

Do not touch me.



I have white gills under my cap which hold my spores. You will be lucky to find me but I do show up well on the woodland floor.

When I am young I look like a red puffball with white spots.

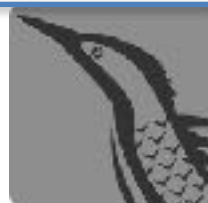


My scientific name is *Amanita muscaria*.



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies – Hips

Can you find me in the wood?

Dog Rose (Autumn)

I grow round the edges of woodland. I am bright red when I am ripe.

Watch out for the spines on my stems.



There are several varieties of roses in England. Their hips range from red to almost black.

If you cut me open you will find my seeds enclosed inside. They are covered by lots of tiny hairs which can irritate.

Take care not to get any on your fingers.

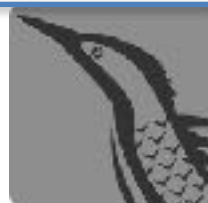


My scientific name is *Rosa canina*.



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies – Fungi

Can you find me on a tree?

Hoof Fungus (All Year)



I live on dead and dying wood. Look at trunks of birch and other trees.

Each year I grow another ring. I have small pores on the underside which shed spores in the Autumn. I am very hard and grip the tree trunk firmly.

I am sometimes called the Tinder Fungus because if you cut me in half with a saw you can use me as tinder to light a fire.



I grow from branching threads called hyphae that grow under the bark. They take food from the tree.

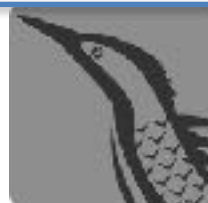
I am one of the Bracket Fungi

My scientific name is *Fomes fomentarius*.



Bittern Countryside
Community Interest Company

and



**Arnside &
Silverdale**
National
Landscape

Fruiting Bodies – Nuts

Can you find me in the wood?

Acorns (Autumn)

I grow in the tops of oak trees but you can find me under the tree too.

I have a cup that I sit in.

I start off green and turn brown as I ripen.



There are several varieties of oak trees that have acorns in England.



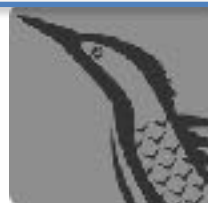
My scientific name is *Quercus petraea*.

Other plants like hazel and chestnut have nuts too.



Bittern Countryside
Community Interest Company

and



**Arnside &
Silverdale**
National
Landscape

Fruiting Bodies - Fungi

**Can you find me on
deadwood?**

Stump Puffball (Autumn)

**I live on dead and dying wood. Look at
stumps of ash and other trees.**

**I grow in large clusters, starting off white
and turning to brown. When my spores are
ripe they exit from a hole in the top.**



There several different puffballs in our woods. One is a Hedgehog puffball with spines. They all look like round balls.



Some puffballs have stems but they all shed their spores through a hole in the top of the fruiting body.



My scientific name is *Lycoperdon pyriforme*.



Bittern Countryside
Community Interest Company

and



**Arnside &
Silverdale**
National
Landscape

Fruiting Bodies – Fungi

Can you find me in the wood?

Scarlet Elfcap (Autumn)

I grow among the rotting leaf litter and on fallen twigs on the woodland floor.

I have a bright red cup shaped fruiting body, about 2cm across, which grows fast in the autumn but by the early spring has disappeared.



While the top of my fruiting body is bright red, the underneath is much paler, sometimes almost white, with lots of pores.



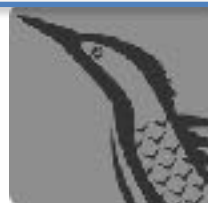
It grows from branching threads called hyphae that spread through the soil. I don't need sunlight to make food.

My scientific name is *Sarcoscypha austriaca*.



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies – cones

Can you find me in the wood?

Scot's Pine (Autumn)

I grow in the tops of tall pine trees. You can find me under the tree all through the year.





**When my seeds
are ripe my
scales open and
the seeds drop
out.**

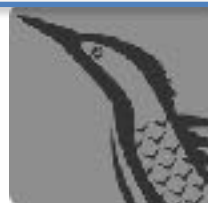
My scientific name is *Pinus sylvestris*.

**Other plants like larch and juniper have
cones too.**



Bittern Countryside
Community Interest Company

and



**Arnside &
Silverdale**
National
Landscape

Fruiting Bodies - Fungi

Can you find me on stumps?

Sheathed woodtuft (Autumn)

I grow on stumps of broad-leaved trees.

I send up lots of cinnamon fruiting bodies which get a white and tan centre as they age.



The underneath of my fruiting body has gills which hold the spores. The spores drop out when they are ripe.



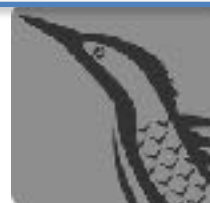
My scientific name is

***Kuehneromyces mutabilis*.**



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies - Drupes

Can you find me in the wood?

Sloes (Autumn)

I grow on Blackthorn trees and have a dark blue/black fleshy coat with the stone inside.

I am not nice to eat raw but I can be used to flavour things.



A drupe is a fruit which has a stone inside a fleshy outer coating. There is a single seed inside the stone.



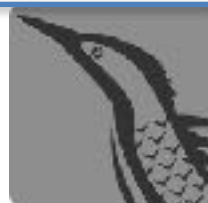
Other plants which have drupes are cherries, plums and peaches.

My scientific name is *Prunus spinosa*.



Bittern Countryside
Community Interest Company

and



**Arnside &
Silverdale**
National
Landscape

Fruiting Bodies - Arils

Can you find me in the wood?

Spindles (Autumn)

I grow on Spindle trees and am a bright pink aril. Inside are around 4 orange seeds.



Do not eat me!!!.

An aril is the fleshy outer coat of a fruit which opens to let the seeds fall out. My orange seeds are held by the pink aril.



My scientific name is *Euonymus europaeus*.

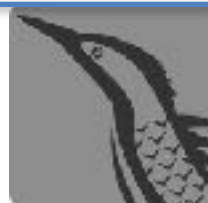
Yew trees also have arils.

Can you find any others?



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies - Winged seeds

Can you find me in the wood?

Sycamore Seeds (Autumn)

I grow in long bunches, called keys, on Sycamore trees. Each seed is light brown and has a wing attached to it.

When I am ripe the threads attaching me to the stalk weaken and the wind blows me away to find somewhere to grow.





Each flower in the spring grows into a pair of winged seeds.

Ash trees have winged seeds in Autumn and Lime trees have winged seeds in the summer.

My scientific name is *Acer pseudoplatanus*.



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Fruiting Bodies - Fungi

Can you find me on a twig?

Twig Parachute (Autumn)

I live on dead and dying twigs. Look up in the trees.

I am very small, about the size of your little fingernail.



I have a long delicate stem and a pinky white cap.



**You may find small black slugs eating me.
I have gills which produce white spores**

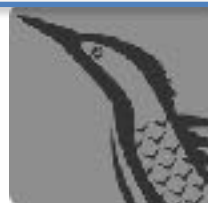
My scientific name is *Marasmiellus ramealis*.

**The Horsehair parachute fungi is similar
but has black stems.**



Bittern Countryside
Community Interest Company

and



**Arnsdale &
Silverdale**
National
Landscape

Appendix 1:- Definitions.

It can be hard to fit fruits into the right category but part of the aim is to talk about differences and not to worry too much about fitting them into a specific group. Some of the categories like floating seeds are not a botanical grouping but a descriptive one.

Arils: Arils are colourful extensions of the stems which grow to protect the seeds. Plants which have arils include yew and spindle as well as pomegranite and passion fruit.

Berries: This term is commonly used to denote any small fleshy fruit. Most however are not berries. A true berry has a thin skin covering a fleshy pulp which holds lots of seeds. It does not have a stone or pit. It grows from the complete ovary.

Thus strawberries, raspberries and blackberries are not true berries but are composite fruits. Elderberries, guelder rose berries and currents are true berries.

Cones: The conifers in our woodlands all have cones rather than flowers. The cones are woody and hard. As far as these worksheets are concerned you may want to add in alder “cones” which are woody and look like cones.

Drupe: These are fleshy fruits with thin skins and a central stone which contains the seed.

Floating Fruits: We have included here those fruits which disperse their seeds with the help of long strands that catch the wind. Plants which use this strategy include willowherbs, willows, poplars and old man’s beard.

Fungi: The fruiting bodies of fungi are really diverse. Some have gills which drop the spores onto the ground. Some have pores which perform the same function. Some have a hole in the top, like puffballs and when a raindrop lands on the ball it sends a puff of spores out of the hole. Fungi get all their food from decaying matter and none from sunlight.

Hips: Rose fruits have the special name of hips and hawthorn plant fruits are called haws. They are both a fleshy extension of the stem that surrounds the true seeds.

Nuts: A nut is a hard outer shell which contains a single seed. The most commonly recognised are Acorns and Hazel nuts but the small triangular beech fruits are nuts too. This adaptation helps seed dispersal as animals and birds are encouraged to plant them to retrieve in the winter. Lots are missed and can then start to grow.

Pomes: This is the name given to the fruiting bodies of apples and pears. They have a central core where the seeds are stored in sections surrounded by pulpy matter and a skin.

Winged seeds: This is a common adaptation to help seed dispersal. The most common trees are Ash, Elm, Lime and Sycamore and others in the acer family.

Many of the fungi have descriptive common names, thus King Alfred's Cakes are so named because they look like burnt cupcakes, like those King Alfred is reputed to have burnt.

Candlesnuff is named as it resembles the blackened stem of a candle with its white ash after it has been snuffed out.

You might want to discuss the others with your pupils.

Appendix 2

Mathematics.

Key stage 1

Recognise and describe different shapes and patterns.

Use a range of measures to describe length and area.

Key stage 2

Identify acute and obtuse angled triangles. Identify isosceles and equilateral triangles. Understand the difference between plan and elevation drawings.

Science

Key stage 1

Use simple features to compare living things and sort and group them.

Use simple measurements and equipment to gather data.

Record and communicate findings

Talk about the changing seasons

Look at the food chain.

Key stage 2

Identify that mammals and birds need food to grow.

Look at the difference between the life cycle of fungi and plants, and that of an animal.

Describe how living entities are divided according to common observable differences.

Look at species and sub species.

Analyse the advantages of different adaptations for dispersal. ie bright pigmentation against dull pigmentation or wings for airborne dispersal against hooks for animal dispersal.