

Outside learning information pack

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Outside learning information pack

Foreword by Chris Collins

Blue Peter Gardener



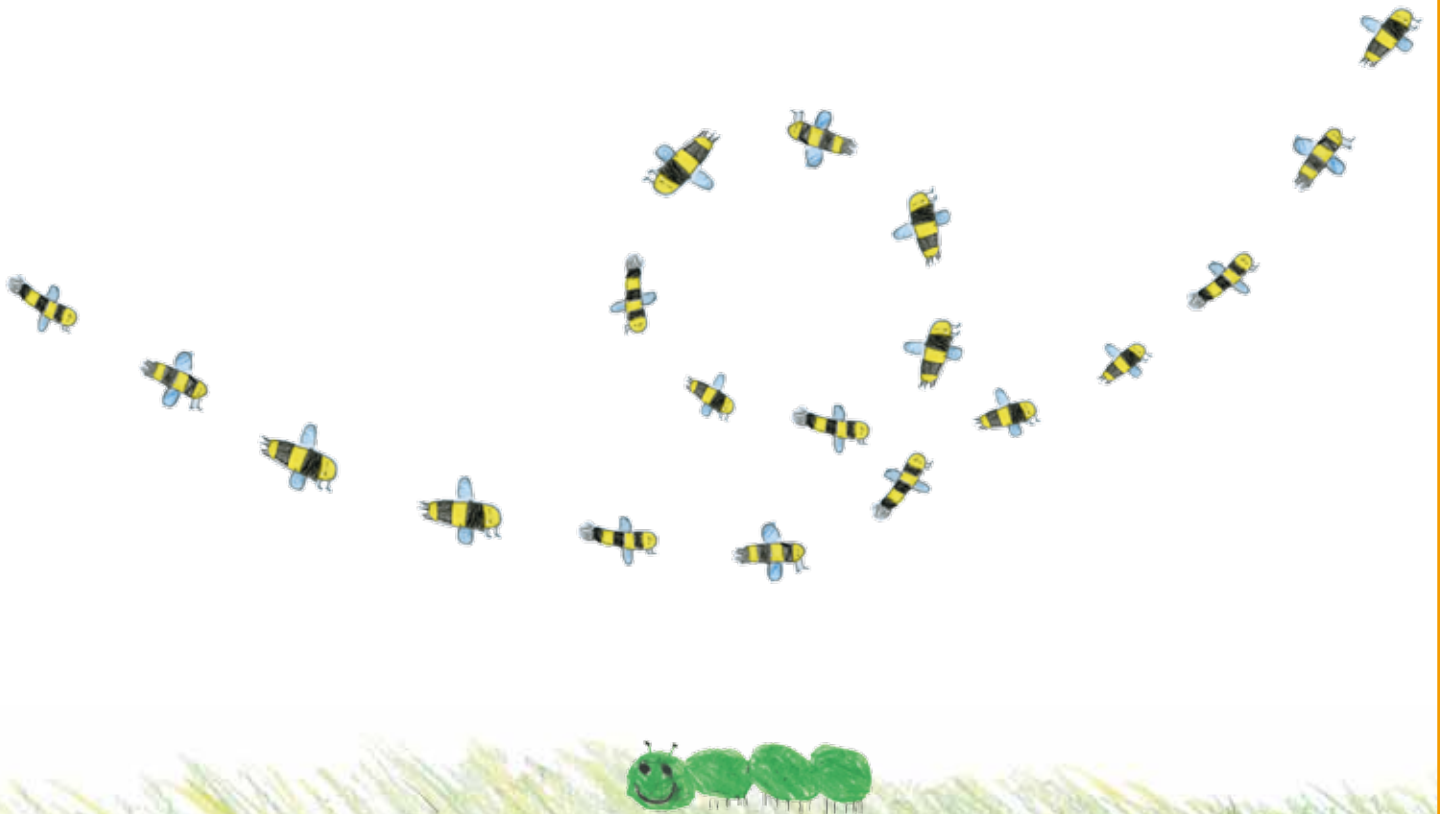
By far the most enjoyable facet of my media work is visiting schools and getting children to think about their impact on the environment whilst we garden together.

Children are easily the most receptive audience when it comes to the subject of gardening and I find that there is something spiritual about our relationship with the garden – it's a switch inside us that automatically turns on as soon as our fingers touch the soil.

This is extremely apparent when children nurture and grow plants. In six years of working with children in schools, I can honestly say, hand on heart, not one child has seemed not to enjoy this outside learning experience.

Gardening has a massive educational and social value. If a group of children are to design and build a small garden or vegetable plot, they need to perform a series of important tasks. Firstly, they need to measure and survey the area (Maths), identify the current flora and fauna (Science), then produce a drawn plan (Art). The area then has to be dug, raked and prepared (Physical Exercise) and marked out according to the plan (team work) and finally, they will grow plants and learn to nurture them (life skill). Gardening really is a magic subject.

I wanted to be involved in the Pods 'Outside Classroom' education initiative because of the value it brings in connecting children to their local environment, and providing teachers with a core set of lesson plans that stimulate and encourage children, but also meet National Curriculum requirements.



Outside learning information pack

Introduction

The Pod's Outdoor Learning activities have been developed in line with National Curriculum requirements for 4-11 year olds. The focus for this learning is to provide a number of new and exciting educational experiences that are linked to nature, and provide children with a more holistic view of how our local biodiversity works in a seasonal and cyclical pattern, and the role that they can play in protecting and enhancing it.

The learning resources are available individually, or as a seasonal framework, with lesson activities linked to the four seasons (Autumn, Winter, Spring and Summer).

The framework provides assembly plans, outside and classroom-based activities and a downloadable book.

This information pack can be used in conjunction with the Pod's Biodiversity information pack, which you can find in the Teaching Resources section.

What is outside learning?

The Government actively promotes the use of outside learning, and offers the chance for teachers to use their local environment throughout the year to study plants and animals in their habitat.

The first-hand experiences of learning outside of the classroom can help to make subjects more vivid and interesting for pupils and enhance their understanding. It can also contribute significantly to students' personal, social and emotional development (Ofsted Report 070219).

“Every child... born into this world has an innate pleasure, delight, interest and curiosity in the natural world.”

Sir David Attenborough



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Our local biodiversity

Local biodiversity is the life that goes on in and around your school and community. It describes the links and variety between all living things in your area – including humans. You may think of your local biodiversity as the environment around you, or as nature – wildlife, plants and animals that can be found in your local area, but the important thing to get across is that it is all inter-connected and links in with one another.

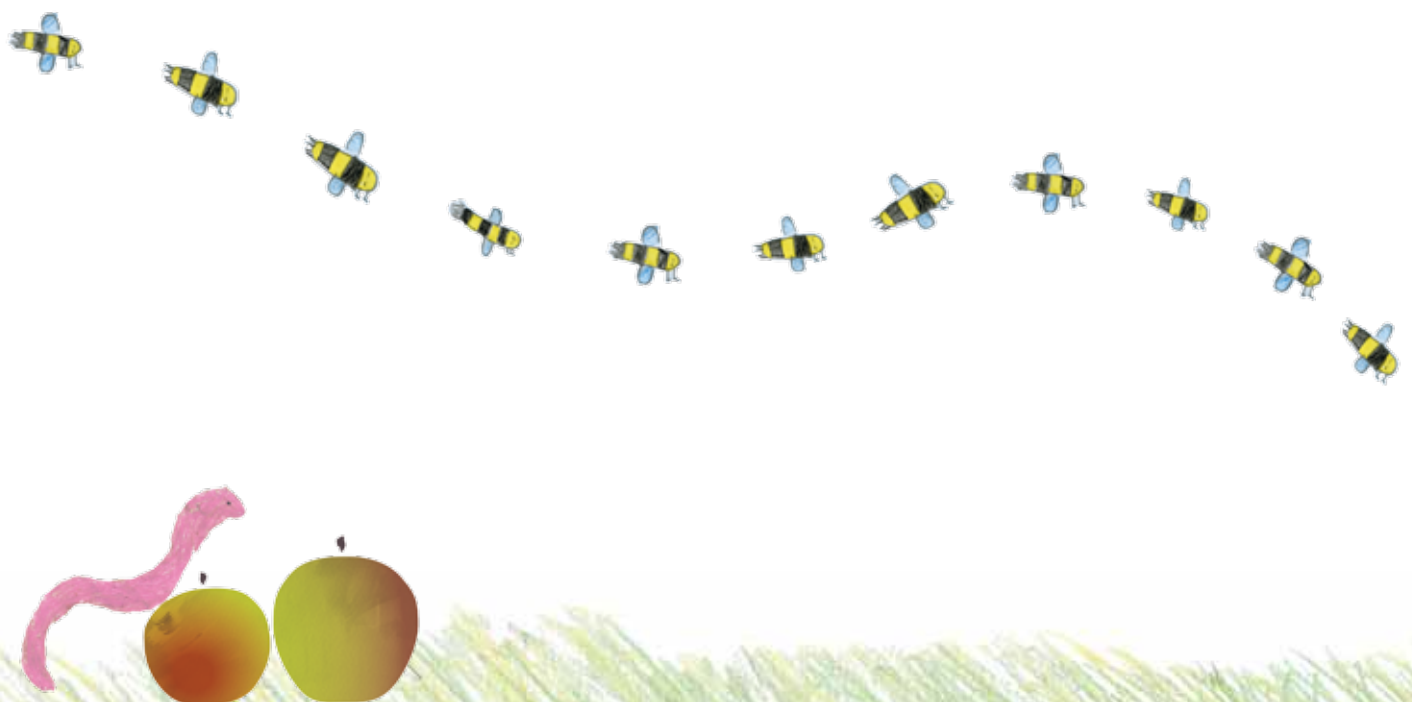
Local biodiversity is the fauna, flora and habitats that can be found in your local community environment, it encompasses all the forms of life that are living in your immediate environment – and this provides a valuable learning resource for teachers.

The lesson plans provide a specific focus around deepening young people's understanding of their local biodiversity and the role that they can play in protecting and enhancing it.

The learning activities provide opportunities for young people to;

- ▶ Reconnect with nature
- ▶ Learn about biodiversity in a local context, and
- ▶ Inspire them to carry out tasks to further improve that environment.

“It has often been said that bees are responsible for one out of every three bites of food we eat.”



Outside learning information pack

Pollination

Before flowers can produce they must be pollinated.

Pollination is the transfer of pollen by pollinators, wind, or other means.

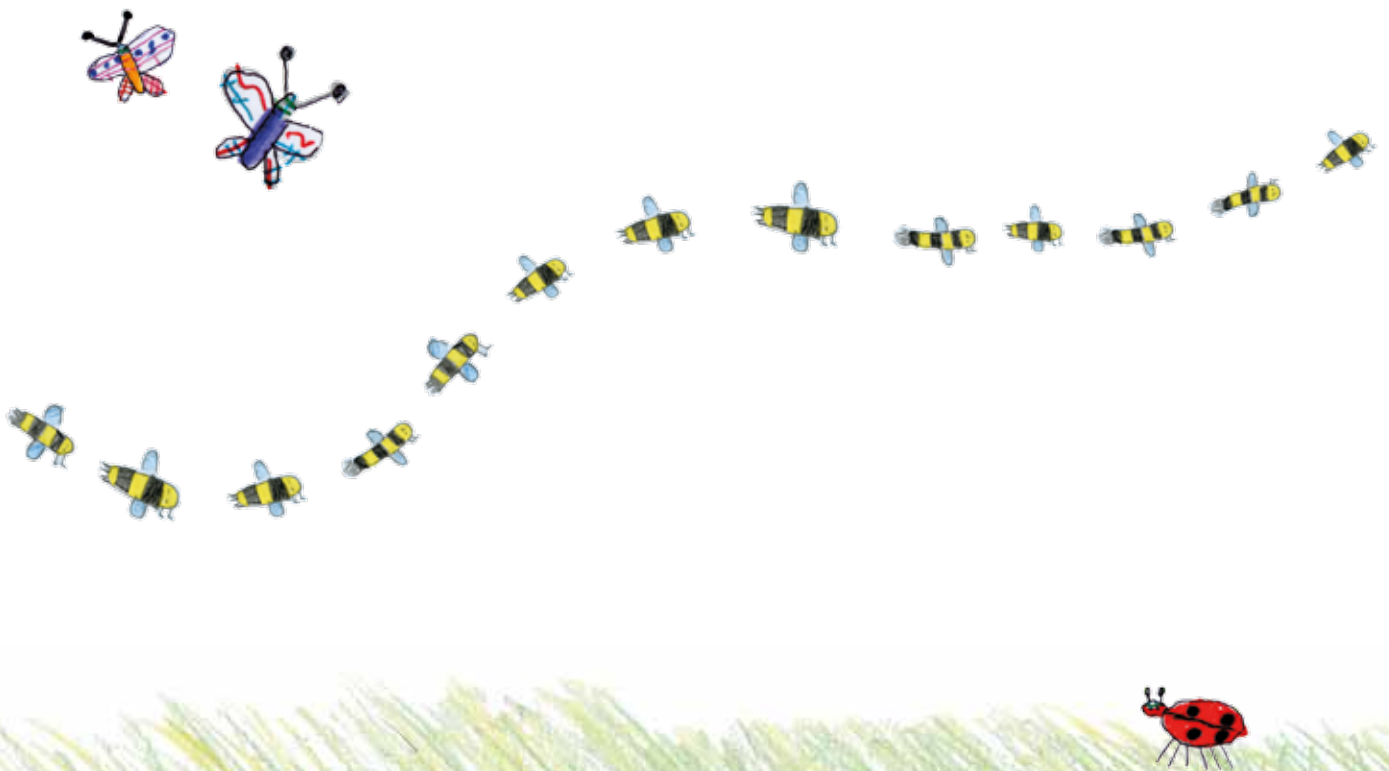
This process occurs when pollen, which is produced in the plant's male reproductive organ, or stamen, is exposed to the pistil found within the female's reproductive part. Once pollination takes place, seeds begin to develop. Without pollination, most plants could not produce fruit or set seeds.

Natural attraction

Pollination usually occurs naturally, this is called 'open pollination', and most often is the result of insects, birds, and small mammals. The sticky pollen from flowering plants clings to their bodies, where it is carried from one plant to another. Honeybees carry out more pollination than any other insect, which includes ants, beetles, butterflies and moths. Birds are also responsible for pollination, especially hummingbirds. Small mammals, such as bats, are pollinators as well.

Insects are attracted to specific flowers through colour, fragrance, and shape. The colour or markings of a particular flower help attract and guide insects to them for pollination. For instance, bees are often attracted to bright blue and violet colours. Hummingbirds are often seen on red, pink, fuchsia, or purple flowers. Butterflies also enjoy bright colours such as yellow, orange, pink and red as well as fragrant ones.

A flower's fragrance is another method of attraction, especially at night when moths and bats are out. The way in which a flower is shaped also attracts pollinators. For instance, butterflies prefer those having flat petals that act like a landing strip for them to sit on. Long, tubular flowers attract hummingbirds as their long beaks can easily fit into the flower when gathering nectar.



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Pollination by wind and other means

Pollination is also carried out by wind. Wind-blown pollen is normally dry and dust-like. Wind-pollinated plants are generally not as flashy as others are. These plants consist of feathery-looking flowers. Many trees and grasses rely on wind for pollination too.

Occasionally, pollination can occur by other means. For instance, water can sometimes carry pollen from one plant to another. This often takes place with pond plants, such as pondweed. There are also some instances when people transfer pollen as they handle flowers in the garden.

There are two methods of pollination. Cross-pollination is the most common and occurs when the pollen goes from the stamen of one flower to the pistil of another flower. Self-pollination takes place when pollen is transferred from the stamen of one flower to the pistil of the same flower or plant.

Why are bees important?

It has often been said that bees are responsible for one out of every three bites of food we eat. Most crops grown for their fruits (including vegetables such as squash, cucumber, tomato and eggplant), nuts, seeds, fiber (such as cotton), and hay (alfalfa grown to feed livestock), require pollination by insects. Pollinating insects also play a critical role in maintaining natural plant communities and ensuring production of seeds in most flowering plants.

Pollination is the transfer of pollen from the male parts of a flower to the female parts of a flower of the same species, which results in fertilisation of plant ovaries and the production of seeds. The main insect pollinators, by far, are bees, and while European honey bees are the best known and widely managed pollinators, there are also hundreds of other species of bees, mostly solitary ground nesting species, that contribute some level of pollination services to crops and are very important in natural plant communities.

Why are bees good pollinators?

Bees make excellent pollinators because most of their life is spent collecting pollen, a source of protein that they feed to their developing offspring. When a bee lands on a flower, the hairs all over the bees' body attract pollen grains through electrostatic forces. Stiff hairs on their legs enable them to groom the pollen into specialised brushes or pockets on their legs or body, and then carry it back to their nest.

Individual bees tend to focus on one kind of flower at a time, which means it is more likely that pollen from one flower will be transferred to another flower of the same species by a particular bee. Many plants require this kind of pollen distribution, known as cross-pollination, in order to produce viable seeds. The business of collecting pollen requires a lot of energy, and so many flowers attract and also reward bees with nectar, a mixture of water and sugars produced by plants.

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Germination

Lots of plants in our school garden can be grown from seed.

Germination is the process of a plant emerging from a seed and beginning to grow.

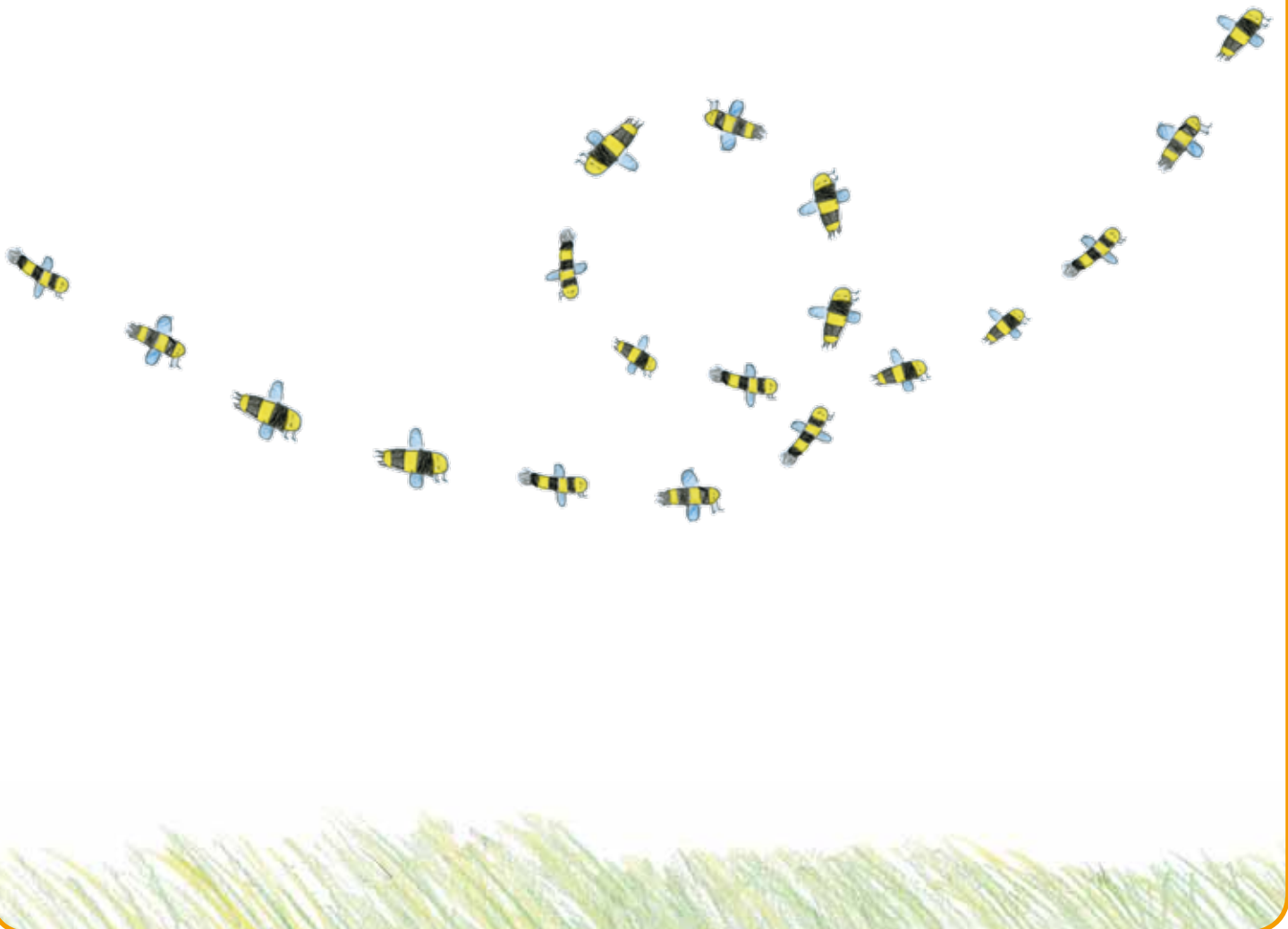
For seedlings to grow properly from a seed they need the right conditions. Water and oxygen are required for seeds to germinate.

Many seeds germinate at a temperature just above normal room temperature but others respond better to warmer temperatures, cooler temperatures or even changes in temperature. While light can be an important trigger for germination, some seeds actually need darkness to germinate.

Symmetry of nature

Using nature's symmetry to teach Art and Maths is becoming increasingly popular. Combining our local environment with these subject areas allow us to connect children to nature whilst teaching important concepts such as reflection, shapes and patterns.

Symmetry has much to do with harmony, order and balance, for example: the beauty of a flower and its petals, the majesty of a tree, and the formation of a snowflake can all exhibit nature's sense of symmetry.



Outside learning information pack

Find out more on the Pod:

Lesson plans

Autumn

Art - Leaf Printing
Maths – Apple Market
English – Snow White Revisited

Winter

Science – Measuring Trees
Art – Tree Silhouettes
English – A Winter's Tale

Spring

Science – Pollinate Me Please!
Art – The Stunning Symmetry of Flowers
English – Awakening

Summer

Art – Fruit Salad
Science – Growing Green Teams
English – 12 Fruit & Vegetables

Assemblies

Autumn

To understand the incredible potential every child has by comparing the potential that comes from one sunflower seed to create a sunflower.

Winter

To understand the importance of rest in helping us perform to the best of our ability.

Spring/Summer

To understand which vegetables come from which part of a plant.

Books

Applebee

The special three-way relationship between apples, bees and mankind.

Useful links

Department for Education - Top Tips for schools to engage with biodiversity:

<http://webarchive.nationalarchives.gov.uk/20130401151715/>

<https://www.education.gov.uk/publications/eOrderingDownload/00227-2010BKT-EN.PDF>



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Apple varieties, by county

The list of county apples below is as extensive as is possible. All the apples listed are available, and no extinct varieties have been included.

(C) = cooking or cider apple

(D) = dessert apple

Avon

Beauty of Bath (D)

Bedfordshire

Beauty of Bedford (D)

Bedfordshire Foundling (C)

Laxton's Exquisite (D)

Laxton's Fortune (D)

Laxton's Superb (D)

Lord Lambourne (D)

Berkshire

Arthur Turner (C)

Black Prince (C)

Charles Ross (D)

Cox's Orange Pippin (D)

Cox's Pomona (C)

Granny Shan (D)

John Standish (D)

Miller's Seedling (D)

Peacemaker (D)

Welford Park Nonsuch (D)

Winston (D)

Buckinghamshire

Ball's Pippin (D)

Bazeley (C & D)

Breedon Pippin (D)

Buckinghamshire Sheep's Nose (C)

Feltham Beauty (D)

Langley Pippin (D)

Long Reinette (D)

Mary Morgan (D)

Pitstone Pippin (C)

Summer Pearmain (D)

Underwood Pippin (D)

Cambridgeshire

Cambridge Pippin (D)

Chivers Delight (D)

Cottenham Seedling (C)

Emneth Earl (C)

Harvey (C)

New Rock Pippin (D)

Red Ellison (D)

Cheshire

Arthur W. Barnes (C & D)

Cornwall

Cornish Aromatic (D)

Cornish Gilliflower (D)

Venus Pippin (C & D)

Cumberland

Forty Shilling (D)

Cumbria

Bradley's Beauty (D)

Carlisle Codlin (C & D)

Fallbarrow Favourite (C)

Harvest Lemon (C & D)

Helmsley Market Apple (D)

Lady's Delight (D)

Rank Thorn (D)

Sheeps Nose (C)

Taylor's Favourite (C)

Wheaten Loaves (C & D)

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Derbyshire

Belledge Pippin (C & D)
Newton Wonder (C & D)

Devon

Devon Crimson Queen (D)
Devonshire Quarrenden (D)
Duke of Devonshire (D)
Golden Bittersweet (C)
Lucombes Pine (D)
Nine Square (C)
Oaken Pin (D)
Royal Wilding (C)
Sweet Coppin (C)
Teign Harvey (C)
Upton Pyne (C & D)
Wollbrook Russet (C)

Dorset

Moses Tree (D)
Profit (C)
Tom Putt (D)

Essex

D'arcy Spice (D)
Discovery (D)
George Cave (D)
Grey Pippin (C)
Monarch (C)
Queen (C & D)
Tun Apple (D)

Gloucestershire

Ashmead's Kernel (D)
Foxwhelp (C)
Golden Spire (D)
Puckrupp Pippin (D)
Arlingham Schoolboys (C & D)
Berkeley Pippin (C)
Blood Royal (C & D)
Bushy French (C)
Cambridge Queening (C & D)
Old Tankard (C & D)

Over Apple (C)
Overleaf (C)
Phelp's Favourite (C & D)
Port Wine Kernel (D)
Red Two Year Old (C & D)
Rhead's Reinette (D)
Shilling (D)
Siddington Russet (C & D)
Corse Hill (C & D)
Dymock Red (C)
Eden (D)
Elmore Pippin (D)
Gloucester Royal (D)
Gloucester Underleaf (C & D)
Hagloe Crab (C)
Hunt's Duke of Gloucester (C & D)
Lemon Roy (C)
Lodgemore Nonpareil (C & D)
Longney Russet (C & D)
Spourt Apple (D)
Sugar Pippin (D)
Taynton Codlin (C & D)
Tewkesbury Baron (C & D)
Tippets (C & D)
Transparent Codlin (C & D)
Upright French (C)

Greater London

Cellini (C & D)
Fearn's Pippin (D)
Lane's Prince Apple (C)
Islay Pippin (D)
London Pippin (D)
Reverend W. Wilks (C)

Hampshire

Beauty of Hants (D)
Bundy's Ringwood Red (D)
Easter Orange (D)
Hambledone Deux Ans (C)

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Herefordshire

Adams Pearmain (D)
Autumn Pearmain (D)
Bulmer's Norman (C)
Cherry Pearmain (C & D)
Discovery (D)
Eggleton Styre (C)
Eldon Pippin (D)
Genet Moyle (C)

Herefordshire Beefing (C & D)
King's Acre Pippin (D)
Lady's Finger of Hereford (D)
Lord Derby (D)
Maiden's Blush (D)
Pig's Nose Pippin (D)
Pitmaston Pine Apple (D)
Pomeroy of Herefordshire (D)
Red Ingestrie (D)
Redstreak (C)
Skyrme's Kernel (C)
Stoke Edith Pippin (D)
Ten Commandments (C)
Tillington Court (D)
Wormsley Pippin (C & D)

Hertfordshire

Brownlees' Russet (D)
Cottered Apple (D)
Golden Reinette (D)
Hitchin Pippin (D)
Hormead Pearmain (C & D)
Kings of Tompkins County (D)
Voyager (D)
Young's Pinello (D)

Isle of Man

Manks Codlin (C & D)

Isle of Wight

Howgate Wonder (C)
Painted Summer Pippin (C)

Kent

Bascombe Mystery (D)
Beauty of Kent (C & D)
Christmas Pearmain (C & D)
Colonel Vaughan (C & D)
George Neal (C & D)
Gooseberry (C)
Lamb Abbey Pearmain (D)
Mabbotts Pearmain (D)
Maid of Kent (C & D)
Orange Goff (D)
Saint Albans Pippin (D)
Nutmeg Pippin (D)
Sandling (D)
Smart's Prince Arthur (C)
Sunset (D)
Suntan (D)
Sweet Lading (C)
Tydeman's Late Orange (D)
Warner's King (C)

Lancashire

Gold Medal (D)
Hargreave's Greensweet (D)
Keswick Codlin (C)
Lady's Finger of Lancaster (D)
Lancashire Pippin (D)
Longstart (D)
Minshull Crab (C)
Old Pearmain (D)
Summer Strawberry (D)

Leicestershire

Annie Elizabeth (C & D)
Belvoir Seedling (C & D)
Dumelow's Seedling (C)
Marriage Maker (D)
Queen Caroline (C)

Outside learning information pack

Lincolnshire

Allington Pippin (C & D)
Brown Kenting (C)
Ellison's Orange (D)
Holland Pippin (D)
Lord Burghley (D)
Peasgood's Nonsuch (C)
Sir Isaac Newton's Tree (C)

Middlesex

Grange's Pearmain (D)
Sugar Loaf Pippin (D)

Monmouthshire

Saint Cecilia (D)

Norfolk

Baxter's Pearmain (D)
Adams Pearmain (D)
Beachamwell (D)
Caroline (C)
Foulenden Pearmain (D)
Golden Noble (C)
Hubbards Pearmain (D)
Norfolk Beauty (D)
Norfolk Beefing (C & D)
Norfolk Coleman (D)
Norfolk Royal (D)
St Magdalen (D)
Norfolk Stone Pippin (D)
Striped Beefing (C & D)
Winter Colman (C & D)
Winter Majetin (C)

Northamptonshire

Barnack Beauty (D)
Thomas Rivers (D)
Thorpe's Peach (D)

Nottinghamshire

Bess Pool (C)
Bramley's Seedling (C)
Herring's Pippin (C & D)
Kanes Seedling (D)
Radford Beauty (D)
Nottingham Pippin (D)

Oxfordshire

Annual Sweetening (D)
Bamfairs (D)
Beckley Red (D)
Beisly Codling (C & D)
Blenheim Orange (D)
Caudal Market (C & D)
Corner Cottage (C)
Corry's Wonder (D)
Deddington Golden (D)
English Codlin (C)
Eynsham Challenger (C)
Eynsham Dumpling (C)
Foulkes Foremost (D)
George Carpenter (D)
Golden Russet (D)
Greasy Jack (C)
Iffley Beefing (C & D)
Jennifer (D)
King Harry (D)
Meadfoot Wonder (D)
Milton Wonder (D)
Old Fred (C & D)
Oxford Beauty (D)
Oxford Conquest (D)
Oxford Hoard (D)
Oxford Sunrise (D)
Oxford Yeoman (C)
Peggy's Pride (D)
Red Army (D)
Redstart (D)
Sergeant Peggy (C & D)
Stanford Seedling (D)
Studley Crab (D)
Wardington Seedling (D)
Winter Greening (C)
Wolvercote Pippin (D)

Outside learning information pack

Shropshire

Onibury Pippin (D)

Somerset

Chisel Jersey (C)
Coker Seedling (C)
Court Of Wick (D)
Dabinett (C)
Golden Knob (D)
Hoary Morning (C & D)
Kingston Black (C)
Knotted Kernel (C)
Morgan Sweet (C)
Pomeroy of Somerset (D)
Powell's Russet (D)
Red Cluster (C)
Red Jersey (C)
Silvercup (C)
Somerset Stone Pippin (D)

Staffordshire

Yellow Ingestrie (D)

Suffolk

Kingsbury Priory Apple (D)
Lady Henniker (C & D)
Maclean's Favourite (D)
Saint Edmund's Pippin (D)

Surrey

Braddick Nonpareil (D)
Claygate Pearmain (D)
Cockle Pippin (D)
Duchess's Favourite (D)
Joybells (D)
Nonsuch Park (D)
Padley's Pippin (D)
Rathe Ripe (D)
Red Claygate (D)
Scarley Nonpareil (D)
Sops In Wine (C & D)
Wotton Costard (C & D)

Sussex

Aldwick Beauty (D)
Alfriston (C)
Ashdown Seedling (D)
Bossom (C)
Capper's Pearmain (D)
Crawley Beauty (C & D)
Dr Hogg (C)
Ducks Bill (D)
Egremont Russet (D)
First & Last (D)
Forge (D)
Golden Pippin (D)
Green Custard (C)
Grenadier (D)
Knobby Russet (D)
Lady Sudeley (D)
Mannington's Pearmain (D)
Nanny (D)
Saltcote Pippin (D)
Sussex Mother (D)
Tinsley Quince (D)
Wadhurst Pippin (D)
Wax Apple (D)

Warwickshire

Compton Wynyates (D)
Hanwell Souring (C)
Horsham Russet (D)
Shustoke Apple (D)

Wiltshire

Roundway Magnum Bonum (D)

Worcestershire

Edward V11 (C)
King Charles Pearmain (D)
Lord Hindlip (D)
Madresfield Court (D)
May Queen (D)
Pitmaston Russet Nonpareil (D)
Tupstones (D)
William Crump (D)
Worcester Pearmain (D)

Outside learning information pack

Yorkshire

Aromatic Russet (D)
Cockpit (D)
Flower of The Town (C)
Gladstone (D)
Grand Duke Constantine (C)
Lewis's Incomparable (C & D)
Red Balsam (C)
Ribston Pippin (D)
Rymer (C)
Sharlston Pippin (D)
Sykehouse Russet (D)
Yorkshire Greening (C)

Scotland

Bloody Ploughman (D)
Cambusnethan Pippin (D)
Dirleton Red (D)
George Neilson (D)
Hawthornden (C)
James Grieve (C & D)
Kerry Pippin (D)
Northern Greening (C)
Oslin (D)
Pine Golden Pippin (D)
Scotch Bridget (D)
Scotch Dumpling (C)
Stirling Castle (C)
Tower Of Glamis (C & D)
White Melrose (C)

Wales

Baker's Delicious (D)
Cissy (D)