edinburgh
LIVING LANDSCAPE

Education Resource Pack

This resource pack has been created to show the potential opportunities and outdoor learning topics that Edinburgh Living Landscape (ELL) sites can provide. It includes seasonal educational ideas, links to resources and information on how schools can get directly involved in having ELL changes made to their school grounds.

Contents

Background

Edinburgh Living Landscape is a partnership project that will create, restore and connect green areas of the city to make attractive biodiverse landscapes, enjoyed by residents and visitors.

For parks and greenspaces, Edinburgh Living Landscape will mean changes to how some of our outdoor spaces will look. The project involves a range of measures such as:

- Creation of floral meadows.
- Reducing how often some areas of grass are cut, and leaving some areas to grow naturally.
- Creating woodlands.
- Mowing walkways through areas of long grass so they can still be explored and enjoyed.

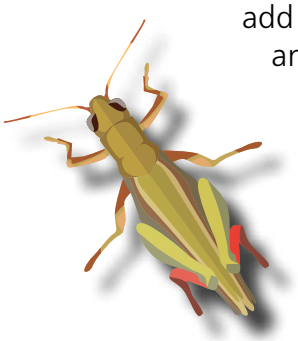
To find out where Edinburgh Living Landscape changes have been made to parks and greenspaces near you, visit the interactive map at *www.edinburgh.gov.uk/livinglandscape*

Floral Meadows

The City of Edinburgh Council has sown floral meadow sections across a number of sites within Edinburgh's parks and greenspaces using a variety of different meadow mixes. Some primary schools have been involved in helping to sow the seeds.

Benefits of floral meadows:

Floral meadows like these are a haven for pollinators, e.g. bees, hoverflies, beetles, moths and butterflies. They also add colour and diversity to parks and greenspaces for people to enjoy.



Example: Saughton Park 2015 (sown with the help of St Cuthbert's R.C. Primary School)

April 2015

July 2015

August 2015

Naturalised grassland

Along with the creation of floral meadows, various areas of amenity grassland have been naturalised. Areas adapted for naturalised grassland were chosen to be in locations where the grass was not used for any particular recreational purpose and was labour intensive to manage. In these areas, the Council is significantly reducing how often the grass is cut, allowing it grow and thrive. See picture below.

Benefits of naturalised grassland:

Longer, naturalised grassland is important for a variety of wildlife. As well as providing shelter for small mammals, longer grasses benefit many invertebrates including worms, beetles, slugs, snails, butterflies, spiders, grasshoppers, craneflies and crickets. To find out more information on the benefits of naturalised grassland, visit *www.rspb.org.uk* or *www.buglife.org.uk*

Integrating Outdoor Learning and Edinburgh Living Landscape within the Curriculum for Excellence

The outdoor learning activities within this resource pack cover a wide range of Curriculum Links including: Health and Wellbeing, Literacy/Languages, Numeracy/ Mathematics, Expressive Arts, Sciences, Social Studies and Technologies.

For more information about outdoor learning and specific Curriculum for Excellence links, visit the Education Scotland website at *www.educationscotland.gov.uk*

Example:
Corstorphine Hill (August 2015)

Mowed pathway through the naturalised grassland

Edinburgh Living Landscape in schools

We are looking to make similar changes in school grounds to encourage biodiversity and to raise awareness of the importance of protecting and enhancing Edinburgh's green space. This could include creating floral meadows, herbaceous and bulb planting and allowing areas of grass to grow longer. Don't worry if your school playground is mainly tarmacked, you can still get involved with the project and use it to encourage pupils to investigate local wildlife.

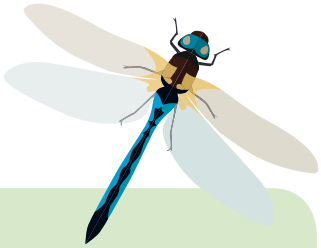
Options include:

- If your school grounds are maintained by the Council then changes to the grounds maintenance practises can be introduced. We would like to discuss options with you, your business manager and headteacher to introduce Living Landscape features into your school grounds. We will show how these features can be used to provide opportunities for outdoor learning and create interest in your school grounds.
- Following these initial discussions, we can offer the opportunity to work with pupils to get their input on possible changes and carry out sessions on how Edinburgh Living Landscape can be used to contribute to the Curriculum for Excellence.
- This educational resource pack includes topic and activity ideas that can be explored and that will complement the changes made in your school grounds. These activities can also support your John Muir Award and Eco-Schools work.
- We will be compiling a list of free-of-charge workshops from various different organisations that can support schools with related projects.

If you are interested in finding out more, contact *parks@edinburgh.gov.uk*

Nether Currie Primary School

Edinburgh Living Landscape and Outdoor Learning activities through the school seasons



Spring:

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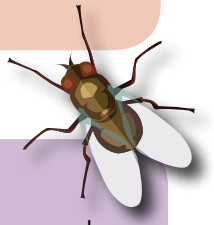
2. Purchase and sow your own seeds (pages 9-10)
3. Bug hunts and nature recording in areas of naturalised grassland (pages 11-12)
4. 'Adopt' your own ELL site (page 14)

Early Summer (before the schools break up):

1. Bug hunts and nature recording in areas of naturalised grassland (pages 11-12)
2. 'Adopt' your own ELL site (monitoring changes from spring) (page 14)
3. Visit floral meadow sites to see how they are progressing (page 13)
4. Starting to think about pollinators (pages 15-18)

Late Summer into Autumn (after the schools return):

1. 'Adopt' your own ELL site (monitor changes from early summer) (page 14)
2. Visit floral meadows sites to see how they are progressing (page 13)
3. Look for pollinators at floral meadows (pages 15-18)
4. Bug hunts and nature recording in areas of naturalised grassland (pages 11-12)



Autumn:

1. Purchase and sow your own seeds (pages 9-10)
2. Natural art (page 18)
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Winter:

1. Natural bird feeders (page 19)
2. Big Schools Birdwatch (page 19)
3. Making bug hibernation homes (page 20)
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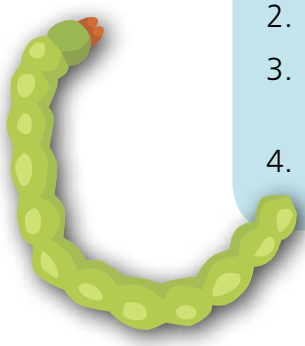


1. Getting involved in sowing wildflower seeds

In spring, the specialist grounds maintenance team prepare the ground for sowing meadow seeds. A number of different primary schools have been involved in sowing the seeds across different parks and greenspaces.

The seeds will start to grow throughout the rest of spring and summer, with full floral displays usually appearing in August – perfect timing for schools returning after their summer holidays.

If you would like your school to be involved in helping to sow the seeds at a nearby site, please get in touch with ***parks@edinburgh.gov.uk*** Make sure to look at the interactive map at ***www.edinburgh.gov.uk/livinglandscape*** to see where the nearest Edinburgh Living Landscape floral meadow site is to you.

"The children really got a lot out of the day."

"It was wonderful for them to revisit the flowers after the summer to see what they created."

Spring ✔

2. Sow your own seeds

Spring ✔
Autumn ✔

Schools can purchase their own seeds or plants and add some colour to the playground through a number of different sources, e.g. Grow Wild, either through school budget funds or through grant schemes. Schools and community groups can register for free Grow Wild seed kits (pictured right). Community groups can also get involved in project funding with Grow Wild.

© www.growwilduk.com/more-about-us

The Royal Horticultural Society (RHS) website is an excellent resource to use for choosing which flowers or plants the school might like to grow: ***www.rhs.org.uk***

Useful tips for sowing seeds:

You can plant/sow wildflower seeds in spring (usually for quick growing annuals) or in autumn time. If you sow seeds in autumn (September - October), the plants should sprout in spring/early summer time. Autumn sowing favours wild red poppy seeds and cornflowers, whereas spring sowing tends to favour corncockles and corn marigolds.

Your school might have some unused raised beds or even areas of bare soil in a sunny patch where the children can sow the seeds. There are some useful steps for doing this:

1. Remove all weeds from the site.
2. Dig into the soil, mix it up relatively well and firm it over.
3. Avoid using fertilisers – the rich nutrients can cause lots of unwanted grasses to grow, blocking the growth of the flowers.
4. You can either: lightly scatter the seeds over the soil and make sure to cover lightly with more soil; OR you can create little rows of 'drills' (shallow grooves) in the soil and place the seeds along the grooves. The grooves should be anywhere from 15-45cm apart (depending how large the eventual plants will be). Rake soil over the grooves to cover them. In both cases, it works best if seeds are spaced roughly 0.5cm apart.


© Kevan Davis

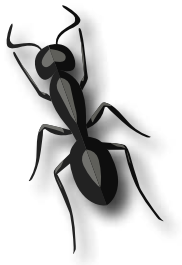
5. Another way to sow the seeds is to mix them with a bit of clay and soil into small balls called 'seed bombs' (see picture above). The children can then throw their seed bombs into the raised bed, which is quite a fun activity. For more information about making these visit ***www.kidsgardening.org***

For more information on planting and sowing wildflower seeds visit the Plantlife website at www.plantlife.org.uk

Other creative planting ideas:

Particularly for schools that have tarmac grounds, there are other creative ways to plant flowers around the school using recyclables, e.g. using empty milk bottles or plastic bottles. Get really creative and transform unwanted objects like old welly boots (or even an old toilet or sink!) into mini wildlife havens.

See Worksheet 4 (page 26) for how to make a milk bottle green wall like the one below.



"Mini bottle gardens"

1. First take a used plastic bottle (1.5/2 litre works well) and cut it so you are left with just the bottom half of the bottle.
2. Poke some holes in the bottom of your bottle to allow water drainage.
3. Fill your half bottle with potting soil and seeds – why not use sunflowers or a wildflower mix?
4. Decorate your bottles using paints, ribbons, fabrics, etc.
5. Give your mini-garden a good water and then place on a sunny windowsill where you can watch it grow.

3. Bug hunts and nature recording in areas of naturalised grassland

Longer, naturalised grassland is important for a variety of wildlife including small mammals, birds and above all, invertebrates (see page 5). Spring time is an exciting time for the insect world, with new generations beginning and many bugs waking up from hibernation. For the ELL grassland bug ID sheet see Worksheet 2 (pages 23-24).

If the school has got access to small bug pots, having a bug hunt within the naturalised grassland is a fantastic way of exploring, as well as also looking out for other wildlife. Check the interactive map to see where the naturalised grassland sites are: *www.edinburgh.gov.uk/livinglandscape*

Sweep nets are also a great piece of equipment to use to find insects in long grasses.

© John Rostron

If schools do not have access to bug pots or nets, materials like these can be borrowed from the Natural Heritage Service (see page 27 for contact details).

Why not try to make your own sweep net?

Step 1:
Open up the wire coat hanger and shape it into a circle. Uncurl the hooked end. If you have a second coat hanger, do the same and tape them tightly together to make it sturdier.

Step 2:
If your pillow case already has a hollow seam, feed it through the wires. If not, fold about 5cm of the pillow fabric over the wire and attach firmly either by sewing it, using double sided sticky tape or by stapling it.

Step 3:
Attach the coat hanger ends to a stick using plenty of strong duct tape.

Step 4:
Now you're ready to go sweeping for bugs!

What you will need:

- 1 pillow case
- 1 or 2 wire coat hangers
- 1 strong stick or piece of wood for the handle (3 feet long)
- Duct tape

Best techniques for using a sweep net:

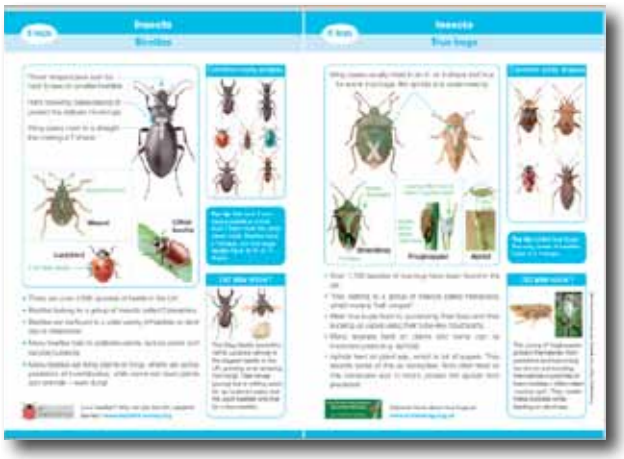
- In areas of long grasses, gently sweep the net from side to side or in a figure of eight motion for around 10-30 seconds. Do not thrash the net around – this could seriously harm the insects living in the grasses and could break your net.
- Try not to trample through the long grasses. If possible, sweep at the edges or from pathways within it.
- Have a look to see what you've found! Empty the net into a white tray to study your findings.
- Make sure to release the insects back to where they came from.

Why not record what you find?

Depending on the age group, classes could get involved in recording the types of insects that they find and compare it throughout different seasons. As well as using the ELL grassland bug ID sheet (Worksheet 2, pages 22–24) to help, there are also lots of other freely available resources to use.

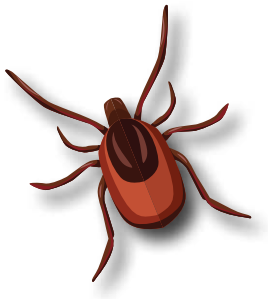
OPAL (Open Air Laboratories) is a UK-wide citizen science (wildlife recording) initiative that allows schools, community groups, families or individuals to get hands-on with nature and start discovering the wildlife in their local greenspaces. The OPAL website (*www.opalexplorenature.org*) offers fantastic free ID resources to download and use on six different topics including a 'Bugs Count' survey. Requests can be made for hard copies of the survey packs to be sent out. The Bugs Count survey has excellent bug ID guides that can help when doing a bug hunt.

Why not try to get the children to work out themselves what kind of insect it is using the OPAL ID guides?



Invertebrate identification guide

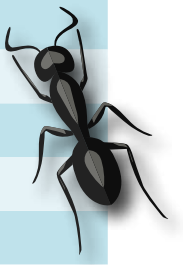
Spring ✔
Early summer ✔
Late summer ✔



The OPAL website is a valuable resource. The 'Bugs Count Survey' section offers a full invertebrate identification guide. The 'ID guides' section offers a selection of other useful ID guides covering plants and trees, along with other insect guides. OPAL also offers teaching supplements, links to the curriculum and ideas for further education.

A simple recording sheet like this could be created for classes to use:

Type of Bug	Number seen
Snails	III
Crickets/grasshoppers	
Slugs	
Earwigs	
Earthworms	IIII
Spiders	
Beetles	
Harvestman	
True Bugs	II
Woodlice	
True Flies	
Centipedes	I
Bees	
Millipedes	
Wasps	I
Insect Larvae	III
Ants	
Other invertebrates	
Butterflies/moths	III



Early summer ✔
Late summer ✔
Autumn ✔

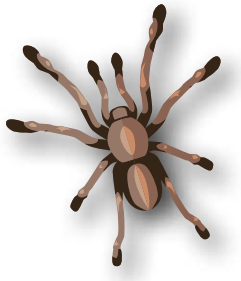
4. Visit floral meadow sites to see how they are progressing

Visiting local ELL floral meadow sites to see how they are progressing is a great outdoor classroom activity that allows children the ability to physically see the different stages in a plant's life. Activity ideas include:

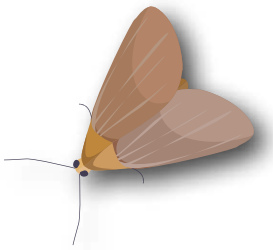
- **Art and design:** children could draw/ paint the different floral meadow stages. Photographs could be taken to create a storyboard.
- **Writing and poetry:** colourful flowers are a great inspiration for creative writing and poetry (see Worksheet 3 on page 25).
- **History:** the poppies growing could be linked with the history of the Poppy Appeal and World War One.
- **Science (life cycle of a flower):** an effective way of teaching how plants grow and why they are bright and colourful. Using simple ID guides, children could have a go at identifying what different flowers are growing. Field Studies Council (FSC) provide useful ID guides on plants and wildlfowers: *www.field-studies-council.org*

Cairntow Park (early June 2015)

Cairntow Park (late August 2015)



Spring ✔
Early summer ✔
Late summer ✔
Autumn ✔



5. 'Adopt' an Edinburgh Living Landscape site

We are looking to see if schools and community groups might be interested in 'adopting' ELL sites (floral meadow or naturalised grassland areas) by:

- visiting them to enjoy and base outdoor class lessons around.
- monitoring changes, e.g. how they look throughout the different seasons.
- recording the biodiversity in them.

Classes could make mini projects about the changes in the meadows or naturalised grassland over the seasons and the different wildlife they observe. If you are interested in finding out more about this and would like to get involved email *parks@edinburgh.gov.uk*

Did you know?

Pollinators are not just bumblebees! There are a whole range of other insects that help to pollinate flowers including: hoverflies, honeybees, solitary bees, moths, butterflies, beetles, wasps and other flies. A pollinator ID activity sheet can be found at the back **(Worksheet 2 on page 22)**. The next couple of pages demonstrate different fun, educational games that you could incorporate.

6. Starting to think about pollinators

The topic of pollinators and pollination can be introduced and explored through visits to ELL floral meadow sites after schools return in August. August is a perfect time to see bees, hoverflies, butterflies and moths in action feeding from flowers and helping to transfer pollen.

Example:

Following the school return after the summer holidays, a Parks Officer met up with some of the P5 classes to revisit the floral meadow sites that they were involved in sowing back in spring. The sessions evolved around what different flowers and pollinators pupils could spot using activity worksheets with helpful ID pictures. The classes became 'citizen scientists' and recorded how many different types of pollinators that they could identify. Using small bug pots, the children were able to collect different insects around the flowers to get a closer inspection before releasing them.

Discussion topics:

- What is pollination?
- Why do pollinator insects like bees rely on flowers for food?
- Why do flowers depend on insects for pollination?

This activity links in nicely with the biology of flowers and how they attract insects by being brightly coloured and smelling nice.

All of the classes that took part really enjoyed the session and particularly enjoyed searching for pollinators and working out what they were.

Some quotes from the children that took part:

"I know some flower names and enjoyed looking at the bumblebees."

"I got to catch a hoverfly, it was great."

"I saw butterflies."

"I had an amazing time finding things."

Early summer ✔
Late summer ✔

Bumblebee Run!

Background: This activity is designed to teach children about bumblebees collecting pollen and the challenges they face trying to get to the flowers.

Location: indoors or outdoors

Equipment:

- plastic balls or something to represent pollen
  (could be pom poms or pieces of yellow paper cut into circles)
- cones or markers

Doing star jumps could represent 'buzz pollination' – when bees have to buzz really loudly to loosen the pollen in the flowers.

Instructions:

1. Place all pollen pieces either together in a heap or spread out in a line.
2. Set up an 'assault' style course leading up to the pollen with the cones or markers. (You could make two courses – one for each team.)
3. Split the children into two teams. (Each team is a bumblebee family and nest.)
4. Decide on the rules of your assault course – you can make it as easy or as difficult as you like! It could include hopping, jumping, star jumps, etc.
5. Explain to the children that they must go and collect the 'pollen' by completing the assault course one by one and bringing back a piece of 'pollen' to their team's nest.
6. Whichever team has the most pollen at the end wins the game!

Do a waggle dance! Honeybees do 'wiggle dances' to communicate where the pollen is to other honeybees. This could be made into another fun part of the assault course.

If that's too easy and it's a nice day outside ... collect water instead!

Equipment:

- A basin or bowl filled with water (this will represent the pollen or even the nectar – a sugary drink insects like to drink from flowers for energy)
- 2 plastic cups (one for each team)
- 2 additional small bowls or beakers with a marked line (one for each team)

Instructions:

- The game is the same apart from this time, the children are collecting the water using their cups.
- Set up the assault courses as before with the bowl of water representing the pollen/nectar.
- The children must use their cups to collect as much water as they can, bring it back to their nest and pour it into their small bowl or beaker.
- The marker on the bowl/beaker will mark where it has to be filled up to. The first team to reach it wins!

Want to make it extra hard?

Poke a few holes using a pin in the bottom of the plastic cups. Not only will this make it harder to fill the bowls, it is a really good way of explaining how energy is lost during the bee's trip and how exhausting it really must be for a bee!

Other pollination games, activities and lesson plans can be found at:

The Bumblebee Conservation Trust (BBCT)

www.bumblebeeconservation.org

As well as providing useful information about bumblebees and pollination, the BBCT website offers downloadable educational activities for ages 4-6, 7-10 and 11+ covering:

- Introduction to bumblebees
- Bumblebees need flowers
- Nests
- Honeybees and bumblebees
- How bees see

Buglife – The Invertebrate Conservation Trust

www.buglife.org.uk

Free downloadable B-Lines school pack includes pollinator games and activities covering topics on:

- Our school grounds
- Making a buzz
- Pollinators and poetry
- Mapping a world for pollinators
- How plants attract pollinators
- Creating a pollinator home
- We're going on a bug hunt
- Making maths buzz
- Plants and pollinators
- As well as other useful pollinator and flower 'bingo' ID sheets

OPAL – Open Air Laboratories

www.opalexplorenature.org

OPAL offers seasonal education activity packs.
Their spring education pack explores:

- Pollination
- How plants attract pollinators
- How pollen is transferred
- How to label parts of flowers and plants

Why not try and make a solitary bee nest in your school grounds?

There are lots of different types of bee, but they can be broken down into three main groups (see the pollinator ID guide on page 22 for pictures):

1. Bumblebees
2. Honeybees
3. Solitary bees

While bumblebees and honeybees live in large colonies together, solitary bees (like the name suggests) do not. There are lots of different types of solitary bees with around 70% called mining bees that live underground. Many solitary bees like to lay their eggs in hollow tubes or holes (like in the picture above). Once they lay an egg, they leave a supply of pollen and seal each egg up in the tube with mud or leaves for protection.


© Leonora Enking


© innotata

Visit the 'Buglife' (*www.buglife.org.uk*) and 'Grow Wild' (*www.growwilduk.com*) websites to learn more about solitary bees, and how to make your own solitary bee nest using bamboo canes.

Any time of year ✔ (Autumn is best)

7. Creating natural art

With colder temperatures and less and less bugs and flowers, running outdoor activities can often be a struggle in late autumn into winter time. Even though there are fewer activities to get involved in at ELL sites during the colder months, there are still plenty of fun outdoor projects to get involved with either within your school grounds or at a local park or greenspace.

Autumn is a great time to get involved in natural art, using the natural materials around you to create a picture. Encouraging children to explore the outdoors to collect materials such as leaves, flowers (preferably already wilted ones), twigs, grass, moss, etc. is a fun, creative activity that allows children to discover new habitats and use their imagination.

Either create the art outside, or collect materials to make pictures in the classroom. Why not ask the children to create a picture of a classmate?

8. Making natural bird feeders

Putting up bird feeders is the best way to encourage more birds to visit your garden – especially during late autumn and winter when their food is so scarce. A nice activity to do with the whole class is to make natural bird feeders.

Step 1:
Collect pine cones. Look underneath conifer trees to find ones that have already fallen to the ground.

Step 2:
Tie a piece of string onto one end of your pine cone (the string will be used to hang it up once finished). It's better to do this first before it gets messy!

Step 3:
Cover the pine cone with lard or peanut butter using the spoon.

Step 4:
Pour some of the birdseed mix onto a plate. Roll your pine cone over the seeds (the lard or peanut butter acts like edible glue).

Step 5:
Once your pine cone is covered in birdseed mix, find a spot in the garden to hang it up, e.g. on a tree branch, on a bird feeding table, etc.

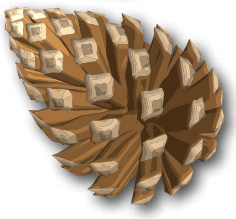
Any time of year (Autumn/Winter is best) ✔

Voila!

Don't worry if it's a bit messy or doesn't look perfect – that's all part of the fun. As long as there are some seeds stuck on, it will be a tasty treat for the birds!

What you will need:

- Pine cones – any size
- Lard or peanut butter
- Birdseed mix
- String
- Spoons
- Paper plates or kitchen roll (it can get messy!)



9. Big Schools Birdwatch

Making natural bird feeders fits in really nicely with the Big Schools Birdwatch with the RSPB which takes place in January and February. Schools record the different birds they see in the school grounds.

The RSPB offers free downloadable counting and ID sheets along with other bird resources. They will also send out free ID poster.

For more information visit the RSPB Big Schools Birdwatch website at *www.rspb.org.uk*

Winter is best ✔

© Michael Wallace

rspb giving nature a home

10. Making bug hibernation homes

During the winter, many bugs go into hibernation. They have to find snug, warm homes for the winter. Some go underground, while others crawl into small holes in walls or seek refuge inside plants or under leaves. Insects like ladybirds and lacewings are among some of the insects that look for a place to hibernate over the winter.

Another great autumn/winter activity to help the bugs in your school grounds over the winter is make mini bug homes using old plastic bottles. Children can either make their own or take part in pairs.

What you will need

- Plastic bottle
- Piece of paper/card
- Colouring pens/pencils
- Cardboard pieces
- Scissors
- String

Step 1:
Get creative! To add your own style to your bottle, draw pictures of your favourite bug or flower on the paper or card. The children may wish to draw their names on it, or maybe even a 'welcome' sign. The pieces of paper with the drawings will slot into the bottle at the end. Make sure that your piece of paper is the right size to fit inside your bottle.

Step 2:
Cut off the bottom end of your plastic bottle. Make sure there is an adult supervising. You may want to cut the bottles prior to running the activity.

Step 3:
Slide your piece of paper with the drawings inside the bottle with the pictures on the outside.

Step 4:
Fill your bottle with torn pieces of cardboard. The cardboard will create a snug home for the bugs. Fill it with as many

pieces as you can. Do the test: can the cardboard stay inside the bottle if you hang it up in the air?

Step 5:
Either tie a piece of string to the neck of the bottle and hang it up somewhere in the school grounds, e.g. dangling from a tree or a bush. If you do this remember to keep the lid on the bottle in case of rainfall! Or you can simply place the bottle in a sheltered spot in the garden/school grounds.

Step 6: Try and keep an eye on your bug home if you can over the winter to make sure that it's OK. Carefully have a look inside to see what bugs have made your bottle their home.

Winter is best ✔

11. Making bug hotels

Another great activity that will help to transform your school grounds into an insect friendly wildlife garden is introducing a bug hotel. This can again be a late autumn/winter project which will help the insects during the cold months.

Step 1:
Place the first wooden pallet on your chosen location. Insects will be more likely to use the hotel if it's situated next to bushes, trees, etc. and is in a fairly sheltered corner.

Step 2:
Place bricks on top of the pallet (on the corners and along the middle).

Step 3:
Fill the empty spaces within the first pallet with materials like cardboard, leaves, twigs, stones, etc.

Step 4:
Place the next wooden pallet on top and repeat. Repeat this process using around four wooden pallets (or however many you have). In order to keep it stable, make sure not to make it too high – do not make it higher than the children.

Step 5:
Keep adding and decorating it! Cut off the bottom end of plastic bottles and fill them with tightly packed bamboo canes which insects and solitary bees love to use. Place the bottles in between the pallets.
Why not add plants and flowers to the top of your bug hotel which will attract even more insects!

For more information about creating a bug hotel, visit *www.wildaboutgardens.org.uk*

© Janine Forbes

What you will need

- Wooden pallets
- Bricks
- Plastic bottles
- Bamboo canes
- Twigs and leaves
- Stones
- Cardboard
- Old carpet
- Moss

Any time of year ✔ (Autumn/Winter is best)

You don't need everything here. You can design your own bug hotel – that's the best bit! Just make sure that what you put on each pallet shelf is compact and has small gaps or holes for bugs to crawl inside.

Worksheet 1: Can you spot any pollinators?

Bumblebees

© James Lindsey

How many? .....

What colours are their tails? .....

.....

Hoverflies

© Charlesjsharp/ Richard Bartz

How many? .....

How many different types can you see? .....

.....

Honeybees and solitary bees

© James Lindsey / Gailhampshire

How many? .....

Can you see any honeybees with pollen baskets? .....

Beetles

© Kenneth Allen

How many? .....

What colours/shapes are they? .....

.....

Butterflies and moths

© Evelyn Simak

How many? .....

Other flies or wasps

© Trounce / Vera Buhl / USDA Flickr

How many? .....

Worksheet 2: What can you find in the grassland?

Grasshoppers

© Gary Rogers

Listen out for grasshoppers. They make loud noises to one another by rubbing their leg against their body – a bit like a violin.

They are very good at camouflaging themselves so it's much easier to hear them than to see them!

Spittle bugs or 'froghoppers'

Cuckoo spit and adult froghopper

© Gary Rogers / Charlesjsharp

Froghoppers are small bugs that get their name from their impressive jumps, bouncing from one plant to the next. Baby froghoppers are green, tiny and live inside what looks like bubbles or spit (often called cuckoo spit) for protection and to stop them from drying out. The baby froghoppers actually make the cuckoo spit themselves from their bottom!

Grass bugs or mirid bugs

There are lots of different types of grass bugs!

I'm also known as the meadow plant bug!

© S. Rae / wikimedia.org / James Lindsey

Grass moth

© Hedwig Storch

Large yellow underwing moth

© Jerzy Strzelecki

Cranefly

© Nono64

Harvestman

© Targuin

Harvestmen are not actually spiders!

They have very small round bodies, and long thin legs.

Ladybird larvae

© Rebecca Cairns

Adult ladybird

© Vera Buhl

Ladybirds go through a huge transformation stage from baby to adult.

Find the larvae hiding in the grasses feeding on aphids.

Garden cross spider

© Didier Descouens

Wolf spider

© Patrick Edwin Moran

There are many different types of wolf spiders, with cool colour and pattern variations. Wolf spiders also don't make webs!

They are scavengers and can be seen hunting on the ground in search of food.

Worksheet 3: Wildflower poetry

Background: Let pollinators and wildflowers inspire your creativity.

For inspiration: Take the class outside, either into the school grounds or your nearest park. Find some flowers or a wildflower meadow. If the weather is bad, you can bring some flowers into the classroom.

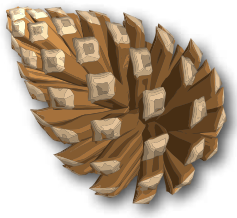
Things to think about: colour, shape, what uses the flowers, smell, touch. Ask the kids to list five things that they can see, hear, smell and touch.

Writing your poem:

Why not try using different techniques in your poem: alliteration, metaphors, similes, personification and onomatopoeia.

Experiment with different poem structures:

Try to use rhyme, a haiku or perhaps a limerick!



'I wandered lonely as a cloud
That floats on high o'er vales and hills,
When all at once I saw a crowd,
A host, of golden daffodils;
Beside the lake, beneath the trees,
Fluttering and dancing in the breeze.'

- William Wordsworth

Extension: Why not write the poems inside a flower template and create your own wildflower poetry meadow! For older pupils, why not analyse a poem about wildflowers – identify the rhyming structure, use of techniques and tenses to emphasise meaning.

Worksheet 4: Creating a green wall

Short on space? You don't need a large garden to benefit wildlife. Why not plant up a window box or have a go creating a green wall using plastic milk bottles?

To create your own recycled green wall, follow these simple instructions:

1. Wash out an empty milk bottle.
2. Cut a hole in the front of your milk bottle. This is where the plant will grow from. Punch 3-4 holes in the bottom to allow water to filter through.
3. Fill with potting soil and a seed or a plug plant. You can try planting herbs, vegetables or flowers.
4. You can decorate your bottle and then use string or a cable tie to attach it to a fence using the handle. Repeat with several bottles to make a green wall.
5. Water your plants everyday and watch them grow!

Useful links to online resources:

Education links:

Education Scotland (information on the Curriculum for Excellence links with outdoor learning): *http://www.educationscotland.gov.uk/learningandteaching/approaches/outdoorlearning/about/cfethroughoutdoorlearning.asp*

Eco Schools: *http://www.keepscotlandbeautiful.org/sustainable-development-education/eco-schools/*

Natural Heritage Service Edinburgh (for enquiries about borrowing outdoor learning equipment): *http://www.edinburgh.gov.uk/info/20064/parks_and_green_spaces/270/natural_heritage_sites*. Address: Hermitage of Braid, 69a Braid Road, Edinburgh, EH10 6JF. Tel: 0131 529 2401. Email: *Naturalheritageservice@edinburgh.gov.uk*

Planting and growing:

Royal Horticultural Society (information on gardening, plants, trees and flowers – where to purchase them, which ones to plant, when to plant them, etc.): *https://www.rhs.org.uk/*

Kid's Gardening (useful information about school gardening): *http://www.kidsgardening.org/*

BBC Gardening with children (useful gardening facts and creative gardening projects indoors and outdoors): *http://www.bbc.co.uk/gardening/gardening_with_children/*

Gardening with Children (information and guidance on composting, growing vegetables, flowers and plants, including how to grow guides for schools): *http://www.gardeningwithchildren.co.uk/*

Kids in the Garden (information on outdoor seasonal activities and plant/vegetable growing): *http://kidsinthegarden.co.uk/*

Plantlife (information on wildflower meadows and gardening): *http://www.plantlife.org.uk/*

Grow Wild (information on purchasing free wildflower seed packets and tips on planting): *https://www.growwilduk.com/*

Field Studies Council (FSC) (plant and flower ID resources): *http://www.field-studies-council.org*

Insects and other wildlife:

OPAL (Open Air Laboratories) (information on Citizen Science projects and useful ID sheets): *http://www.opalexplorenature.org/*

Bumblebee Conservation Trust: *http://bumblebeeconservation.org/*

Buglife – The Invertebrate Conservation Trust: *https://www.buglife.org.uk/*

RSPB: *http://www.rspb.org.uk/*

Partnerships:

The Edinburgh Biodiversity Action Plan aims to increase biodiversity across the whole city, including through an increase in natural habitats such as woodlands, natural grasslands, wetlands and ponds. Edinburgh Living Landscape contributes directly to the delivery of the Edinburgh Biodiversity Action Plan by creating more natural grass and meadow areas. Members of the Edinburgh Biodiversity Partnership include Council departments, government and research bodies, environmental trusts, volunteer conservation bodies, community groups and individuals. Several of these partners are involved in ELL delivery. ELL delivers benefits to the natural environment through meadow creation that enhances the green network and provides habitats for many species such as insects and birds. To find out more about the Edinburgh Biodiversity Action Plan, visit **http://www.edinburgh.gov.uk/biodiversity**

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