



CLASSROOM GUIDEBOOK



DEAR TEACHER,



In 2015 bee experts in Ireland came together to produce the All-Ireland Pollinator Plan. It was decided to do this because lots of our bees are in big trouble and could disappear from Ireland if we don't do something to help. Without bees, our wild flowers would begin to disappear, and we wouldn't be able to grow our own fruits and vegetables.

We, at SuperValu, don't want this to happen, we want to hear the buzz of hard-working bees carrying out their important pollination work. We want them to be there so that we can grow healthy food to feed you, now and for generations to come.

To help stop bees disappearing from Ireland we have teamed up with Biodiversity Ireland and the All-Ireland Pollinator Plan. With your help we want to teach young children about the importance of bees, why we need them to pollinate and the significant role they play in conserving our natural environment.

We need your help us to tell everyone how important bees are. We also need you to make your school and outdoor areas a safe place for bees to live!

We have developed this booklet and this pollination pack as a classroom aid to facilitate a conversation about pollination and to help Save the Bees!

To find out more and to get access to a range of class resources, visit SuperValu.ie.

ACKNOWLEDGEMENTS

Dr Úna FitzPatrick (National Biodiversity Data Centre)
Chair of the All-Ireland Pollinator Plan Steering Group

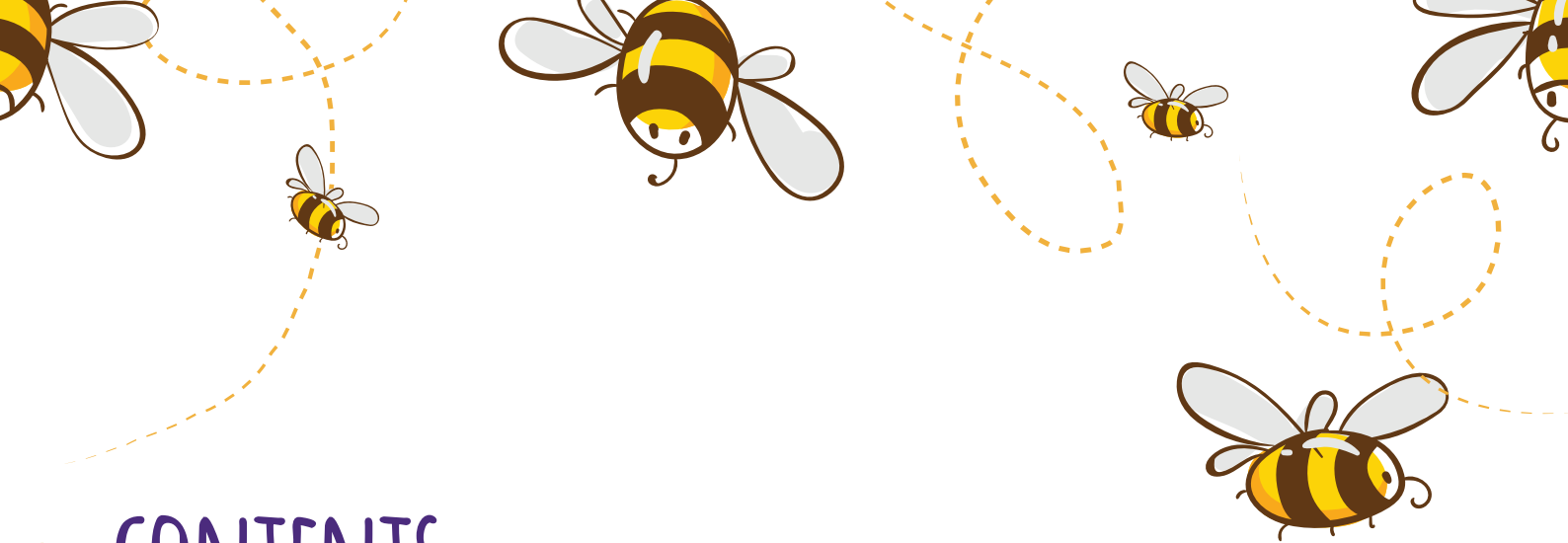
Ian Allen (Managing Director, SuperValu)

National TidyTowns Department

Why not enter your school in the SuperValu TidyTowns Schools Competition?

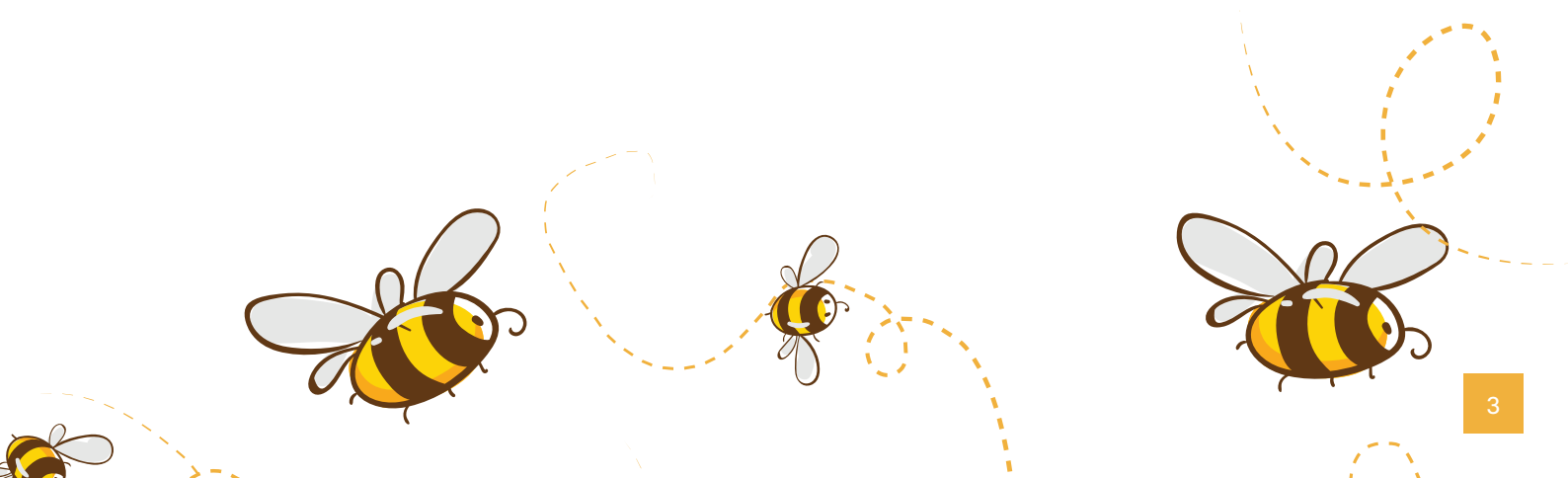
Visit TidyTowns.ie for more details





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WHAT IS POLLINATION?

Pollination happens when pollen is moved from one flower to another. Pollen is the powder that flowers have inside. They use it to make new seeds which are tiny little baby plants waiting to grow. To make a seed, plants need to move pollen from one flower to another flower of the same type nearby. It's hard for flowers to do this because they can't move like you or me. Instead, they have worked out lots of clever ways to get help. Some flowers have pollen that is so light the wind blows it from flower to flower. These are the plants that cause hay fever in Summer as the pollen gets blown up your nose or into your eyes! Other flowers have bright colours and sweet smells so that they will attract a **pollinator** to help.



AFRAID OF BEES?

The good news is that wild bees are not aggressive and have no interest in humans. They are solely focused on finding enough pollen and nectar to feed themselves and their young.



DON'T FORGET!

Visit SuperValu.ie for more classroom resources!



WHAT IS A POLLINATOR?

In Europe most pollination is carried out by insects, especially bees. When you see bees and other insects buzzing around the garden they are adults looking for food. Bees have special hairs on their body that pollen gets stuck to. When bees get covered in pollen, they spit on their front legs and then brush the pollen into a sticky ball that they store on their back legs. They do this because the baby bees (larvae) back in the nest need to eat pollen to grow strong. Adults need lots of energy to collect all this pollen for their babies. They get this energy from nectar.

Nectar is the sweet, sugary liquid inside flowers and bees are crazy about nectar!

As the bee goes from flower to flower throughout the day collecting nectar and pollen, they are like a delivery guy, bringing the pollen from one flower to the next. Once a flower gets pollen from another flower of the same kind it can start to make seeds which will eventually grow into new plants. In return for their help, plants make lots of pollen so that the bees can bring the extra pollen home to feed their babies.

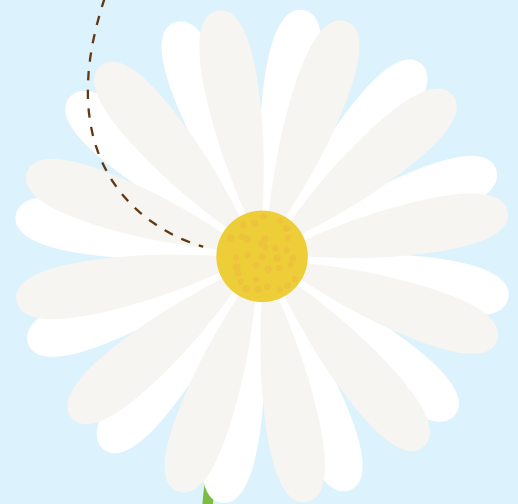


DID YOU KNOW?

Baby bees only eat pollen. It is very important that there are lots of different flowers in the countryside so that the adult bees can bring them back different types of pollen to eat.



Visit [SuperValu.ie](https://www.supervalu.ie) for fun pollinator games for your class!



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WHAT'S SO IMPORTANT ABOUT POLLINATION?

We know that pollination occurs when pollen is moved from flower to flower and that it means the plant can make seeds. These little seeds will grow up into new plants. We eat a lot of plants so it's very important that there are always enough to feed the people in the world. The plants we eat are called crops. Bees

are really important to make sure we keep on growing healthy and delicious food; so that when we go to the supermarket we can choose from lots of fruit and vegetables. Things would get pretty boring if it was just bread, rice and corn on the shelves day after day!

DO
NEED BEES FOR
POLLINATION

STRAWBERRY



APPLES



PEARS



PUMPKINS



BEANS



BLACKBERRIES



DON'T
NEED BEES FOR
POLLINATION

POTATO

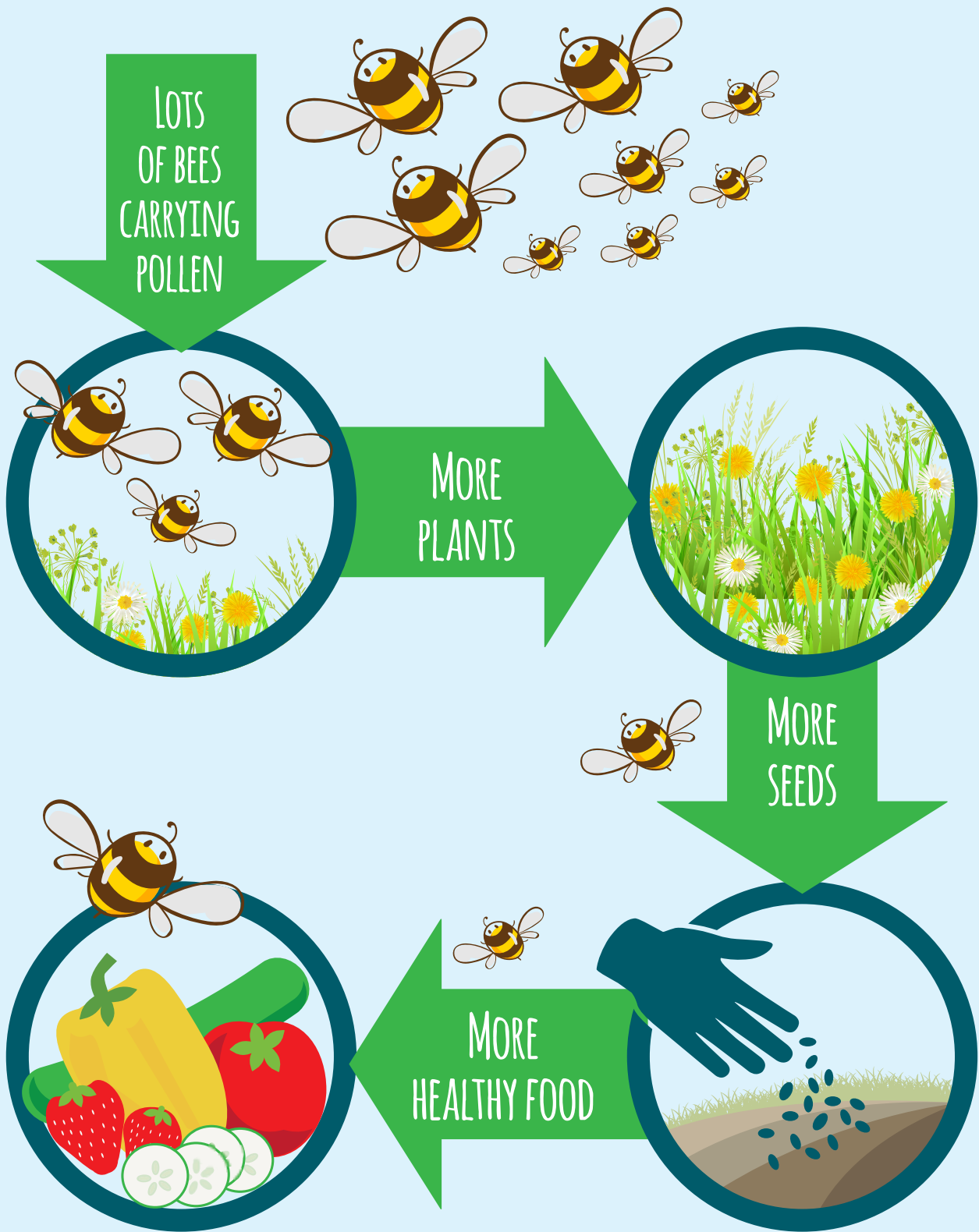


CORN



WHEAT





It's important for us to help bees and other pollinators to do their jobs, because it means we get to eat the juiciest pears, the sweetest strawberries and the tastiest apples there are. The number of pollinators buzzing around each

year is getting less and less. We need to make sure none of these bees and insects disappear forever. It wouldn't be just our healthy lunchboxes that would suffer, others need bees too...

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WHO ELSE NEEDS BEES?

FARMERS

Lots of crops are pollinated by bees and this helps the farmer with all the work that has to be done on the farm. If farmers had to pollinate the plants by themselves this would take too much time and cost too much money. We would also have a lot less fruit and veg!



ANIMALS AND BIRDS

Lots of our animals and birds feed on fruits and seeds from wild plants that grow in the countryside. Without bees and other insects pollinating these wild plants, they wouldn't produce the fruits and seeds that animals and birds need to eat. Fruits are the part of the plant that surrounds and protects the seed.



OTHER PLANTS

In Europe there are 264 crop plants that we eat. In Ireland alone we have another 2,300 flowers and trees that grow in the wild. They need to be pollinated too! We know that some of these wildflowers and trees provide important food for our animals and birds. They also provide them with shelter. Wild plants like buttercups and daisies provide us with a beautiful, colourful place to live. Without bees pollinating our plants, our countryside would be a very dull and boring place.

We all understand how important it is to look after the environment and know all the things we can do to take care of our planet. Pollinators do lots to protect the environment too.



POLLINATORS ARE IN DANGER

A lot of our hard-working pollinators are in danger of disappearing forever (becoming extinct). Changes to their homes, the use of chemicals on our crops and nasty diseases spell trouble for bees and insects. We need to work to protect them or they may not be around for much longer.



Osmia aurulenta nesting in a snail shell © Micheal O'Donnell

DID YOU KNOW?

Osmia aurulenta: better known as the Gold-Fringed Mason Bee, likes hanging out at the beach and will only nest in empty snail shells!



Large carder bumblebee © John Breen

LARGE CARDER BUMBLEBEE

This gorgeous blonde haired bumblebee is fairly common in Ireland but there are less and less of them in Europe.



Great Yellow bumblebee © Dara Stanley

GREAT YELLOW BUMBLEBEE

Unfortunately this bumblebee is in danger of disappearing forever in Ireland. It's a very fussy eater and now only has 4 places in Ireland where it can make its home.



Shril carder bumblebee © John Breen

SHRILL CARDER BUMBLEBEE

This bumblebee is also in danger of disappearing from Ireland. It has a higher pitched buzz than any of our other types of bumblebee.

Pop into your local SuperValu to collect your very own 'Save the Bees' cards!

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THE BUZZ ABOUT BEES...

WELCOME BACK IVY

The Ivy Bee (*Colletes hederæ*) has migrated from Britain to set up home in Ireland for the first time. The first sighting was made at the Raven Nature Reserve on the 12th October 2021.



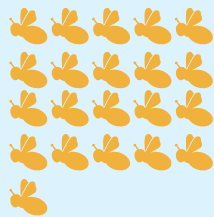
$$1 + 21 + 78 = 100$$

bee species

Honeybee species



Bumblebee species



Solitary bee species



Beekeeping © Pauline Walsh



DID YOU KNOW?

In order to make 1 pound of honey, 2 million flowers must be visited!



There are 100 different species (types) of bees in Ireland. We have one honeybee, 21 different bumblebees and 78 different solitary bees. The most important thing to know is that you shouldn't be scared of bees. To them we're just big boring giants that walk around their world. Unless you threaten them, bees will not attack humans. They won't chase after you if you leave them alone. If a bee comes close to you, attracted by your bright colourful t-shirt, or the nice smell from your shampoo, just sit still and it will fly off when it realises you're not a flower!

The Honeybee and Bumblebee are probably the ones you know the best.

DID YOU KNOW?

For a strawberry flower to turn into a strawberry it needs to be visited five times by a bumblebee or 15 times by a honey bee. That's just for one strawberry! Apples need to be visited even more times.

Visit our BeeHive on SuperValu.ie for fun classroom activities!



Honeybee collecting pollen © Jan-Robert Baars



Shrill carder bumblebee © John Breen

THE HONEYBEE

Honeybees make honey from nectar and are happy to live in hives that have been built by people. They store the honey and use it as food for themselves when it's too wet or cold to go outside. We love honey too and lucky for us Honeybees generally make much more honey than they can eat themselves – leaving the rest for us!

THE BUMBLEBEE

The Bumblebee is probably the most famous of bees (and cutest) with its fat, furry, stripy body. They are very important pollinators of crops like strawberries and tomatoes. So the next time you dig into a bowl of strawberries and ice cream, stop for a moment and think of the big bumbler that made it possible!

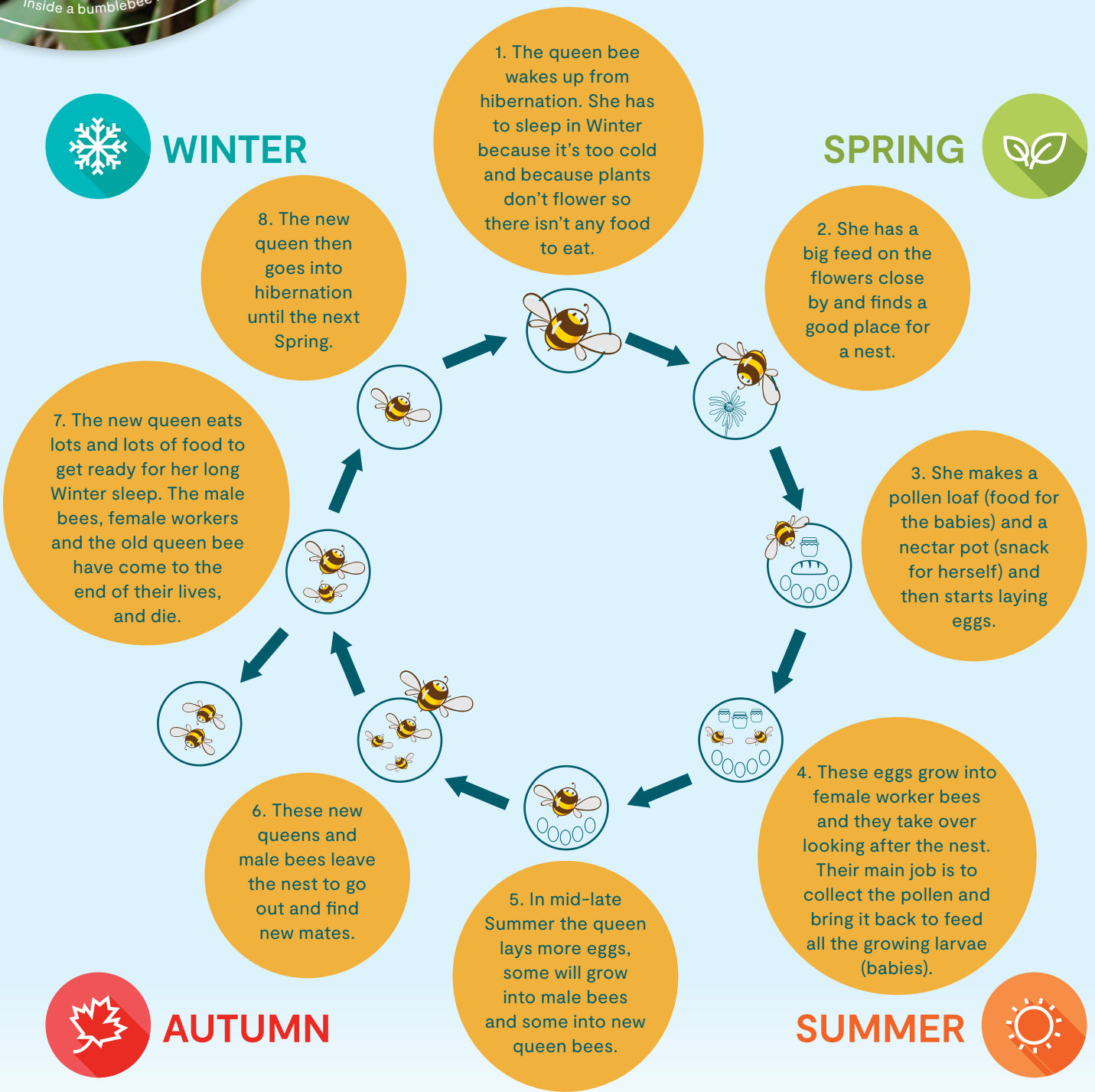
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Inside a bumblebee nest © Leif Barry

LIFE CYCLE: BUMBLEBEES

Most bumblebee queens come out of hibernation in early Spring. Some types of bumblebees are fussy eaters and like to feed on flowers that grow in grassland meadows. These bumblebees have to wait until early Summer to come out of hibernation so that the grassland flowers will be there when they wake up.

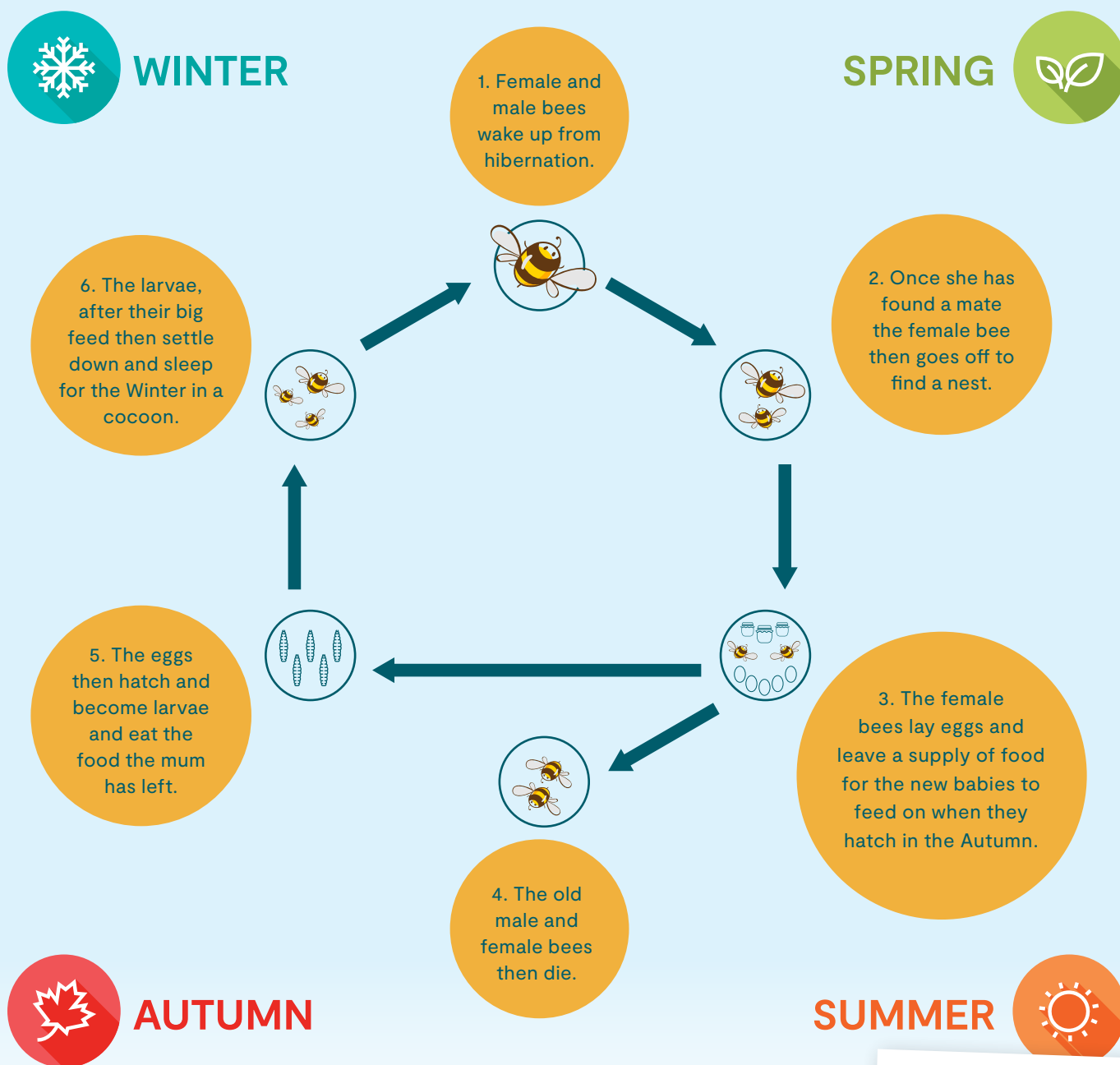


LIFE CYCLE: SOLITARY BEES

Solitary bees are bees that live alone and not in a hive or nest like honeybees or bumblebees. They take a whole year to grow into an adult bee. This means they don't have time to look after their babies when they are born. The mum leaves a supply of food and the young bees need to look after themselves. Most solitary bees collect pollen from lots of different plant species. A small number of solitary bees are very fussy eaters and will only collect pollen from one type of plant.



Solitary leaf cutter bee © Steven Falk



AUTUMN 🍁

SuperValu



OTHER POLLINATORS DOING THEIR BIT

It's easy to think that bees are doing all the pollinating work, but did you know that hoverflies, butterflies, moths, beetles, wasps and ants like to feed on flowers and do their bit for pollination too? In fact, an Irish flower called the Butterfly Orchid is only pollinated by moths that fly around at night. Wonder why it's not called the Moth Orchid then, hum?



Check out the Project Section on Page 20 for more ideas on how your class can help Save the Bees!



WHAT DO POLLINATORS NEED TO LIVE?

Honeybees live in hives and are looked after by beekeepers. Beekeepers do an important job by keeping an eye on their hive and making sure the honeybees are happy and have enough to eat, especially over the Winter months.

Bumblebees and solitary bees prefer to look after themselves. They don't live in hives but in nests that they make themselves. Bumblebees make their nests on the ground, hidden in long grass. Solitary bees nest in tiny burrows that they make in soil or wood.

It's very important that we help bees by providing habitats where they can live. These are areas where they can make a safe home and will have enough food (flowers) to feed their families.

Gardens, grasslands, sand dunes (keep an eye out next time you are at the beach), bogs, woodlands, parks and hedgerows are all very important. All these different kinds of spaces give the bees good places to nest and a choice of yummy things to eat – bees get bored eating the same thing for dinner every day too!





OUR CHANGING ENVIRONMENT

Bees and insects don't like change. They love routine and it is really important for them that the seasons (Autumn, Winter, Spring and Summer) come and go when they are meant to and that the climate (weather) stays the same. If the environment starts to change, then this can cause big problems for our insect friends. If the warm weather comes too soon, bees will wake up early from hibernation and because the flowers have not yet come out the bees will go hungry with no food to eat. Bees and insects find it hard to live in extreme weather like storms and floods, or snow and frost when it should be warm.

WHAT CAN YOU DO TO HELP IN YOUR SCHOOL GARDEN?

It doesn't matter if you have a large garden or a small garden – it can become a place where bees want to live or just to visit for a snack. Even if you only have a window box you could make sure to plant it with flowers that bees like.

Make sure you tell everyone about how important pollinators are and how we can help them. Why not do a Flower-Insect Timed Count (FIT Count). This means that you watch a patch of flowers for 10 minutes and count how many insects visit. You can record your results on pollinators.ie to help us keep track of what is happening. If the number of insects goes down we know they are in trouble. However, we hope that if lots of you make your schools and gardens bee-friendly then we'll see their numbers go up instead. Resources for this are available on SuperValu.ie

Collect our Save the Bees cards to help you identify the various different types of Bees in Ireland.

CHECK OUT THESE LINKS FOR MORE INFORMATION:

www.supervalu.ie

www.greenschoolsireland.org

www.pollinators.ie

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WHAT KIND OF THINGS WILL THE ALL-IRELAND POLLINATOR PLAN DO TO HELP?

The All-Ireland Pollinator Plan is a plan of action. A group of grown-ups decided that bees need our help, so they sat down and came up with a big list of things we could do. Lots of different people have agreed to help. We're doing this because we know how important bees are and we don't want them to disappear from Ireland. Bees need flowers and safe places to live right across Ireland, not just in the countryside. SuperValu is working with the All-Ireland Pollinator Plan, because by looking after where you're from, we can help Save the Bees together!



Roadside verges can look beautiful and provide important food for pollinators if we don't cut the grass so often

Here are some of the other things that are being done:

- Councils won't cut the grass along our roadsides as often so that flowers can grow amongst the long grass. Short grass looks neat and tidy but it doesn't provide anything for bees to eat – we know they need flowers.
- Parks will plant flowers that bees love. This will provide them with healthy and nutritious pollen and nectar.
- Parks will have areas where bumblebees and solitary bees can make their nests.
- Farmers will try to make sure their farms have lots of flowers for bees to eat. They will use fewer and less harmful weed and pest killing chemicals that can make bees sick.
- Scientists in Ireland will try to understand bees better so we know exactly what they need to stay healthy.
- We can all help by teaching as many people as possible to identify the different types of bees we have in Ireland.
- Did you know? There is a bee friendly map of Ireland on Pollinators.ie showing areas where people are doing something to help the bees. Anyone can record their results here, even you! This will help The National Biodiversity Centre of Ireland keep count and check they are all doing OK.



Check out your local SuperValu for the full range of Save the Bees cards and learn more about the different types of flowers that help bees survive!

POLLINATOR FRIENDLY FLOWERS

Although bees are hugely important, we must remember that without flowers bees would not exist. This list of plants are good sources of nectar and/or pollen for various types of bees. They will also provide food for other insects like butterflies.

| Flower | Flowering | Flower | Flowering |
|--|----------------------------|--|------------------|
|  Aster | Autumn |  Lamb's-Ear | Summer |
|  Borage | Spring Summer Autumn |  Lavender | Summer |
|  Crab Apple | Spring |  Oxeye Daisy | Summer |
|  Crocus | Winter |  Rosemary | Spring Summer |
|  Dandelion | Spring |  Sunflowers | Summer |
|  Grape Hyacinth | Spring |  Wallflower | Spring Summer |

Have a look out and see how many of these flowers are growing in your school garden!

You can find a much larger list of flowers that bees like at SuperValu.ie



HERE'S WHAT YOU CAN DO TO HELP IN YOUR SCHOOL!

We need everyone's help. We need you to make sure your school becomes bee friendly. Here's what you can do to help:

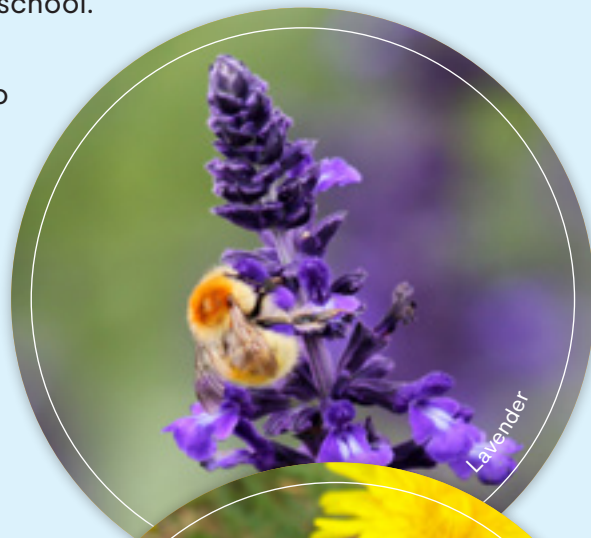
1 Plant Pollinator friendly plants and flowers in your school.

Make sure you signpost the area using the signage included in your pack. Your flowers should begin to flower in June.

2 Let it **grow!** Bees love weeds like dandelions, so let them grow instead of cutting them. If you have areas of grass around the school, ask if you can leave strips or small patches uncut until late Summer. The grass will grow long but flowers like Dandelion and Clover will also grow and provide food for bees.

3 Provide some safe places for bumblebees or solitary bees to make their nests:

- A.** If your school is in the countryside you might have some hedgerows. Bumblebees love to make their nests in long grass at the bottom of hedgerows.
- B.** Most solitary bees will burrow into banks of bare soil to make a little cosy nest. They like these banks to be south facing so the sun warms them up in the morning. You might have some areas around the school where you can scrape back some grass to create a bare bank of soil.
- C.** Bee Hotels provide a safe habitat for Bees and insects, Fix the hotel to a South or East-facing wall or fence, so it gets plenty of morning sun, around 1.5m off the ground. Plant bee-friendly flowers underneath your hotel to give them a nearby food source. Why not make your own bee hotel visit www.supervalu.ie to find out how.





Visit **SuperValu.ie** for more ways to Save the Bees!



4 If you find a nesting or hibernating bee in areas like long grass, bare soil or wood around the school, don't disturb it. Just leave it alone so that it can carry out its important pollination work. If your classmates are scared of bees, try to reassure them that they aren't frightening and don't want to harm them.

5 Don't use chemicals (pesticides) to kill weeds or pests around the school. These can be harmful to bees and make them sick.

6 Tell all your friends and family how important pollinators are. Talk to your teacher and see what projects you can come up to help our bees and insects.

7 If your school is working on the Green-Schools' Biodiversity programme, you can use your Habitat Map activity to identify what plants on your school grounds are good for bees.

8 Sit very quietly and watch a patch of flowers for 10 minutes and count how many insects visit. This is called a Flower-Insect Timed Count (FIT Count). You can find more details at SuperValu.ie. If you do it each year you can see if your actions are making a difference to the number of visitors buzzing and bumbling around your school!

9 Get involved in SuperValu TidyTowns. There are over 1,000 TidyTowns groups across Ireland working to make our communities better. To find out how you and your school can get involved visit www.tidytowns.ie



Early Bumblebee © Steven Falk



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GET CREATIVE!

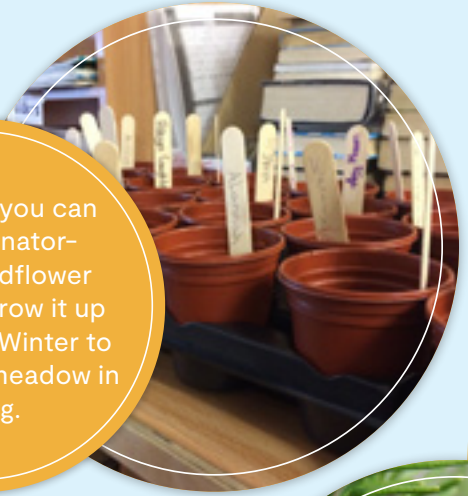
Try some of these projects to help make sure your school becomes bee friendly. We have lots more practical examples on SuperValu.ie



Why not try to change a mown grass bank into a border packed with pollinator-friendly plants.



In Autumn, you can plant pollinator-friendly wildflower seeds and grow it up in pots over Winter to add to your meadow in Spring.



Here's an example of an unused area transformed into a bee bank and feeding station.



Creating even small areas that are pollinator friendly will help.

Many herbs (e.g. Rosemary, Oregano, Thyme) are excellent sources of food for pollinators. Think about making a school herb bed or herb garden that can be used by bees and also by pupils, staff and the school canteen.



Raised beds aren't for bees to sleep in. They keep them busy!



Make a bee hotel for cavity-nesting solitary bees. Small bee hotels are recommended over very large bug hotels. See our how-to-guide on creating a Bee hotel on SuperValu.ie



SUPERVALU TIDYTOWNS NEEDS YOUR HELP!

SuperValu TidyTowns has been around for over 60 years. It was originally established to encourage local communities to care for their local towns and villages and make them beautiful places to live and visit.

Each year almost 1,000 TidyTowns communities take part in SuperValu TidyTowns. Over the last 60 years the SuperValu TidyTowns competition has become so much more than benches bins and flowerbeds it's about pride of place and where you're from.

Most importantly it's about Friends, families and communities coming together to dig in and protect our local landscapes and heritages now and into the future. The amazing work of TidyTowns groups would not be possible without the amazing volunteers who gather together every week to work on improving their communities.

But like the Bees they too have a problem and need your help. They need volunteers to help them make your community a better place. It can be as simple as planting pollinator friendly flowers in your garden to helping out with a beach or street clean.

Remember simple steps can make a big different and help us protect our beautiful bees, our lush and bountiful lands.

In the TidyTowns Competition there is a special award for schools to find out more about this special award and how you can enter your school visit www.tidytowns.ie



NOTE TO TEACHERS

THE FULL POLLINATOR PACK CONTAINS:

- 10 x classroom guidebooks
- 2 x 20g of Bee & Butterfly Seeds
- 200 x Bookmarks
- 1 x Collection Wall Chart
- 1 x Garden Sign
- 10 x A2 Posters

HOW TO ENTER TO SHARE IN €50,000 BURSARY

1. Hang your Save the Bees poster in your school.
 2. Collect limited edition cards for this poster in your local SuperValu, once you spend €30 in-store.
- For full entry details along with full terms and conditions, visit SuperValu.ie.

WHY SHOULD YOU GET INVOLVED?

Links to curriculum: Getting involved in the SuperValu Save the Bees campaign will help students develop skills through observing and exploring the richness of the immediate environs of the school. It will involve the children planting seeds, recording number of bees and questioning and experimenting with the features of the natural environment. It will also help to teach environmental awareness, living sustainably, what it means to be an active citizen with rights and responsibilities in local and wider contexts; and responsible consumption and production. Being part of this campaign will develop the following key skills: staying well; being creative; communicating, working with others, managing information and thinking.

The SuperValu Save the Bees Campaign will help students to learn about pollination and the importance of pollinators. They will also learn about how humans can successfully conserve ecological biodiversity and contribute to global food production; and appreciate the benefits that people obtain from the eco system. They will also learn about the various types of bees and plants through the collection cards available in SuperValu.

Eco-Schools/Green Flag: Getting involved could



really strengthen your schools application to becoming part of the eco schools program or winning a green flag.

Healthy walking route: Providing more flowers for pollinators will also make your school a more attractive place for everyone. You could create a pollinator/nature walking route that passes through all the different actions you've taken in your school grounds to help pollination. Create a map and measure your route so everyone knows how far they have walked.

Stimulating research: Getting involved in the Save the Bees campaign may initiate new areas of research by students such as insect and plant identification and monitoring. Students or staff could carry out Flower-Insect Timed Counts (FIT Counts) and upload results to the National Biodiversity Data Centre. This is a citizen science scheme where volunteers watch a patch of flowers for 10 minutes and count the number of insects that visit. In your Pollinator Friendly Garden area you could monitor how it develops as the seed grows. The most useful thing to do would be to count the number of different flowers that appear (just the colourful ones that pollinators like). You can take photographs and try to identify each wildflower species. Data from this patch or collected in a FIT count could be kept and added to each year. Over time, this can be used by senior students to create simple charts showing your school becoming more pollinator friendly.

For more information on species identification and more educational resources, visit SuperValu.ie.



FREQUENTLY ASKED QUESTIONS

Q: Will it be costly to take actions to help bees?

No! In fact, many actions will save time and money. SuperValu have already provided all the tools you need to set up your pollinator friendly garden in your pollinator pack.

Q: Will we get complaints that the school grounds look less tidy?

You might, but tidy grounds = less pollinators. We have to stop tidying nature out of our lives. It is important that we change the way we think about our landscape and no better place to begin than in a school! Use signage to explain what you are doing - i.e. that you are helping pollinators and are not just being lazy by letting grass grow longer or allowing Dandelions to flower in Spring.

Q: Is it dangerous to encourage wild bees within the school grounds?

No, wild bees are not aggressive. They are solely focused on finding nectar and pollen and have no interest in humans. If left alone, you won't even know they are there. If you are putting up bee nest boxes, it would be sensible to keep these away from the busiest areas so you don't disturb the bees.

Q: What about allergic reactions?

This is a very serious issue. Wild bees will not deliberately attack humans. However, it is possible that someone might occasionally get stung. This will only happen if a bee accidentally flies into you or if you put your hand down accidentally on a resting bee. For most people a sting is not something to be concerned about. It will hurt for a few minutes, just like a nettle sting would. However, a very small number of people are allergic to bees. If these people get stung it is a very serious issue and they have to get medical attention immediately. They will know themselves what to do and should have informed school staff about their allergy. We need to respect that people who are allergic to stings will be more afraid of bees than the rest of us.

Is the SuperValu Pollinator Pack environmentally friendly?

We have taken great care to ensure that all the elements within the pack have responsibly sourced with reduced carbon footprint and are fully recyclable. The collector cards can also be used for other classroom activities, for more ways to use the collector cards visit supervalu.ie



Q: Should we consider having a honeybee hive in our school?

Keeping a healthy hive of honeybees is very hard work. They take a lot of looking after and this requires specialised equipment. You also need to have experience in handling them. If you definitely want to do this, it should be done in collaboration with a local beekeeper who agrees to look after the school hive for you. It would also need to be very carefully placed as honeybees are much more aggressive than wild bees, particularly if disturbed in their hive.

For any additional queries please contact savethebees@supervalu.ie.

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Tidy Towns

Caring for our environment



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