Lesson Plan 3: Who are the pollinators in Ireland?

Objectives

In this lesson, students will:

- learn about Irish pollinating insects, who they are and the diversity of insect groups.
- learn how to look for pollinating insects outdoors
- learn how to fill in a survey sheet & discuss their results
- learn about the main pollinators in Ireland: bumblebees, solitary bees, honeybee and hoverflies

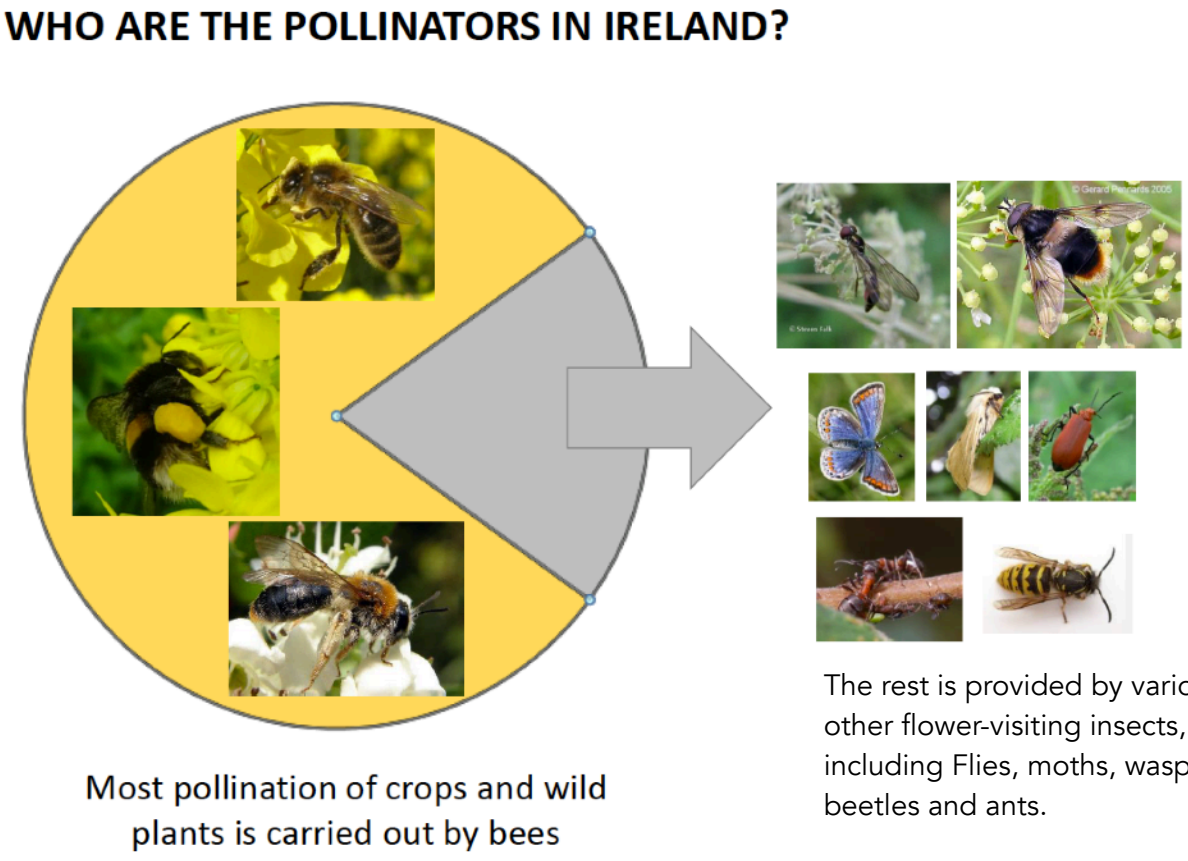
Refer to our resources at
www.pollinators.ie/schools
for background facts

What is a Pollinator?

Background

Pollinators are animals that help to pollinate plants.
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. And 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.



Ireland's Wild Bees

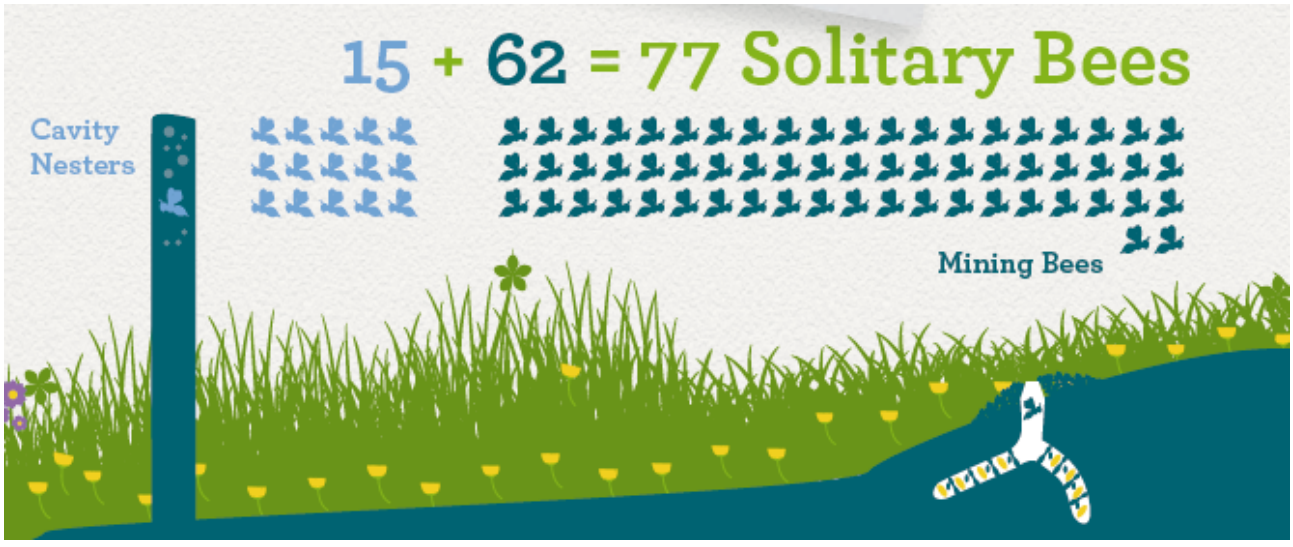
In Ireland we have 1 honeybee species; 21 bumblebee species and 77 solitary bee species.

Honeybee

Bumblebees

Solitary bees

WILD POLLINATORS



Activities for Junior Infants to 3rd Class:

Younger classes might enjoy colouring a pollinator drawing

Buff-tailed Bumblebee, *Bombus terrestris*

Free graphic from
SOURCE: http://www.divulgare.net/iconos-de-grupos-funcionales-de-polinizadores/?utm_campaign=shareaholic&utm_medium=twitter&utm_source=socialnetwork

Speckled Wood Butterfly, *Pararge aegeria*

Free graphic from
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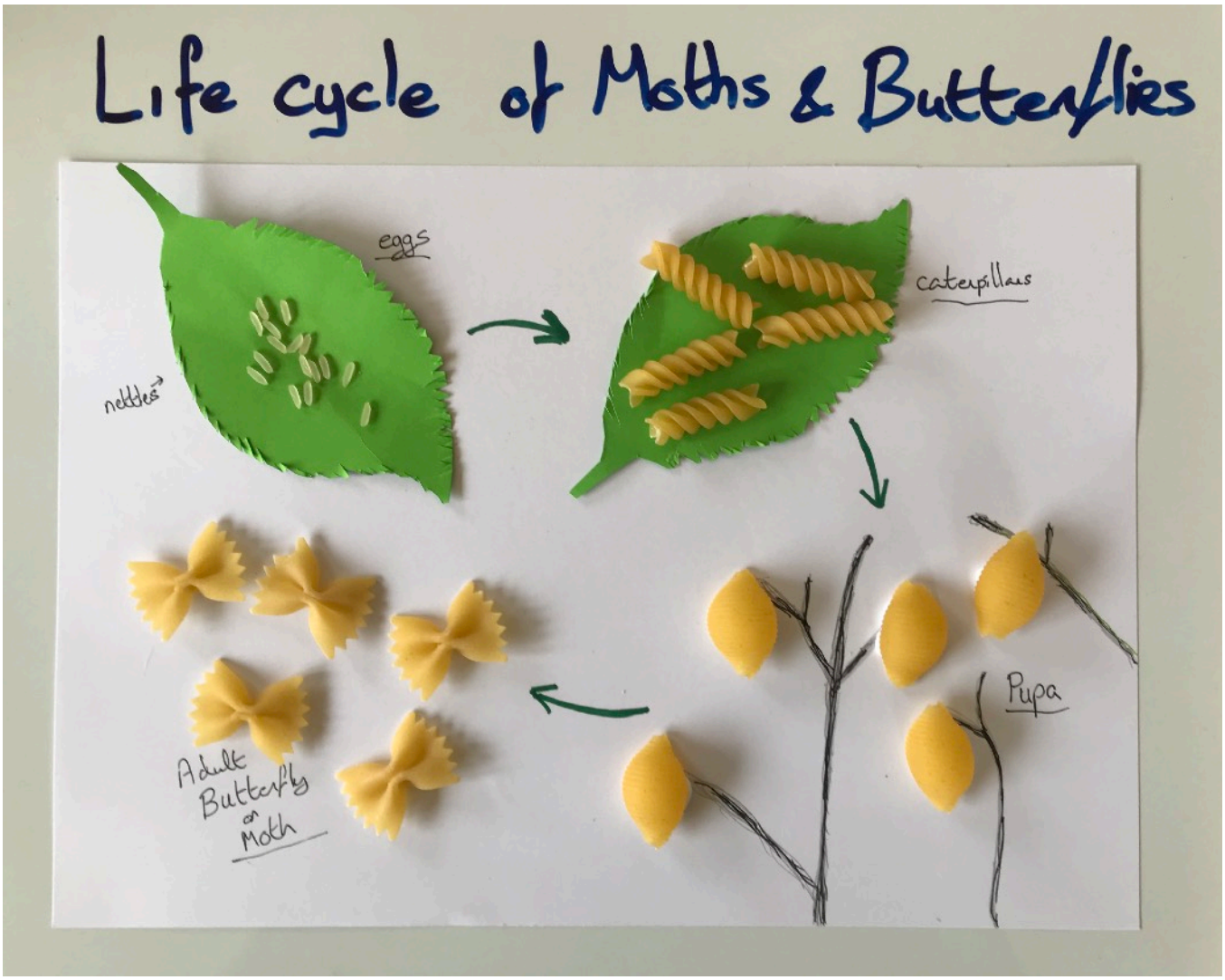


*Moths are important pollinators too.

Recreate the Life Cycle of Moths & Butterflies using pasta and rice!

You will need:

- Small amounts of rice, Fusilli, Bow Tie, and Shell pasta
- Paper and pens/marker/pencil
- Glue

Instructions:

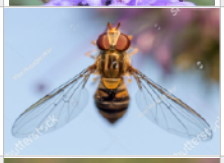
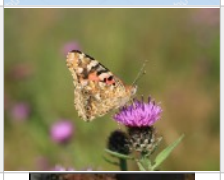
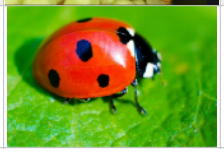
1. Plan your page and glue on rice and pasta where appropriate to represent each stage of the life cycle.
2. Label each stage: Butterflies and Moths lay their tiny eggs on the leaves of plants that will provide food for their caterpillars. When the caterpillar emerges (caterpillars can be represented by fusilli pasta) it eats and eats. When it has grown enough, it forms a 'chrysalis' (pupa) represented by the shell pasta. Within the chrysalis the caterpillar transforms into a butterfly or moth. Finally a butterfly or moth emerges from the chrysalis. Bow-tie pasta can represent a moth or butterfly

Activity – Pollinator Scavenger hunt

- Simple for Junior Infants to 2nd Class

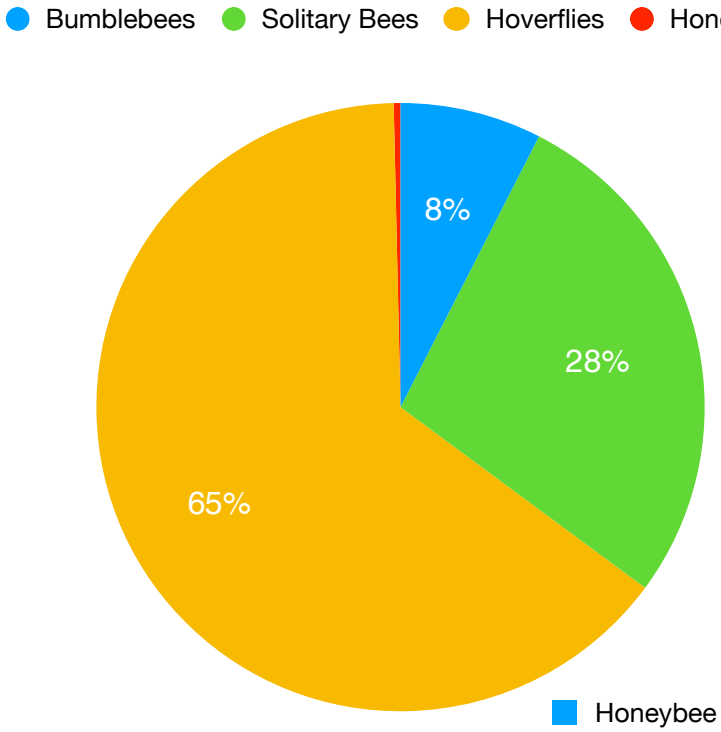
Get your students out into the garden, observing pollinators in action!
This activity works anywhere that you have lots of colourful flowers, whether in your own schoolyard, a garden, or on a field trip.

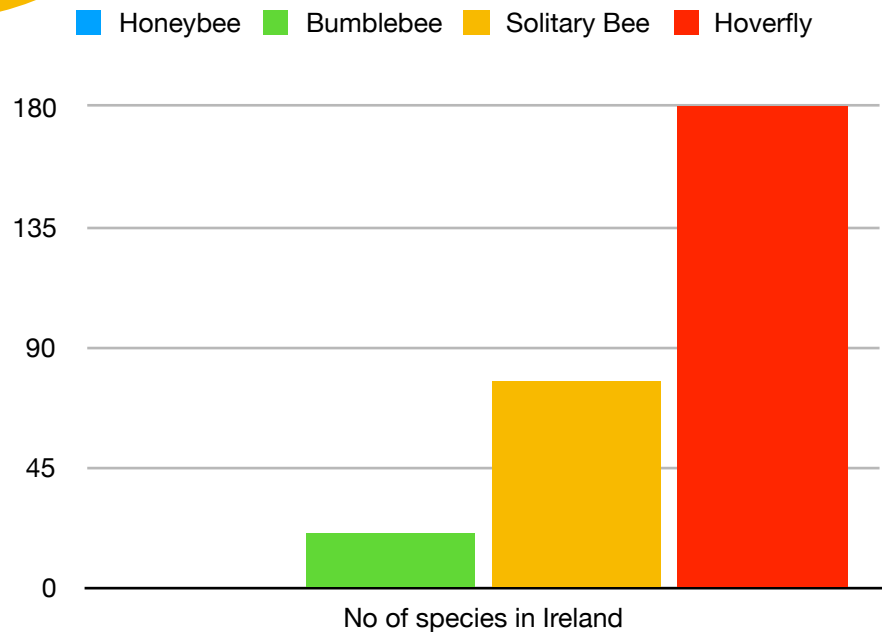
Scavenger hunts are one of those rare things that can truly be done with all ages. Younger students will enjoy simply finding and observing bees and butterflies, identifying flower colours, and learning to use a chart.

		Check off the insects you see on your Scavenger Hunt ✓	What colour was the flower it was visiting?
Bee			
Fly			
Butterfly			
Moth			
Wasp			
Beetle			

Create a chart to represent Ireland's different pollinating species

In Ireland we have 1 honeybee species; 21 bumblebee species, 77 solitary bee species and 180 Hoverfly species. These are the most important pollinators in Ireland.



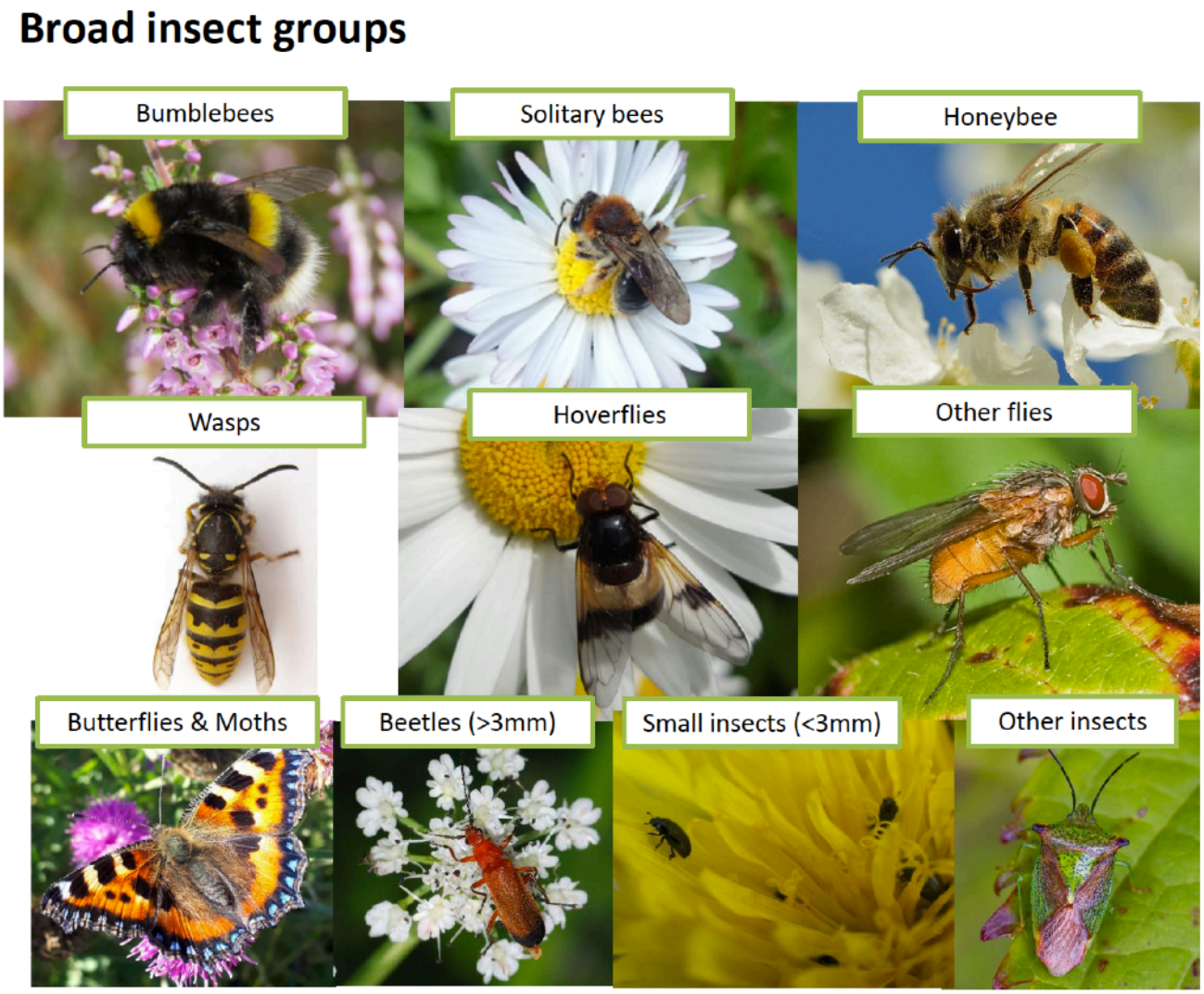


Activity 3rd to 6th Class – Pollinator Count

Older Classes can carry out an ecological survey, counting the numbers of each insect group and you can go into more detail in learning to identify the various groups.

Teachers can download this simple introduction to help identify the broad insect groups you will see:

https://pollinators.ie/wp-content/uploads/2020/03/FIT-Counts-guide-to-identifying-the-different-insect-groups.pdf



Activity Objectives:

For older students the Scavenger Hunt can set the stage for later lessons and great conversations and projects around what pollinators need and will help to start them thinking about food resources around the school for pollinators.

Download this simple guide to help you identify the broad insect groups:

https://pollinators.ie/wp-content/uploads/2020/03/FIT-Counts-guide-to-identifying-the-different-insect-groups.pdf

Sample Identification tips from this guide:

BUMBLEBEES

- ✓ **Very hairy**
- ✓ **Long antennae** that are often elbowed
- ✓ Have bands of distinct colours
- ✓ May have a pollen basket on back leg
- ✓ Two pairs of wings - this is difficult to see as hind wings are smaller and underneath the main wings

Remember not all bumblebees are black and yellow striped

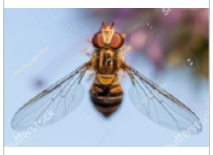
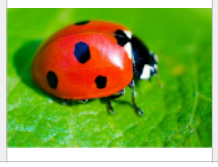
Photos © Steven Falk

HOVERFLIES

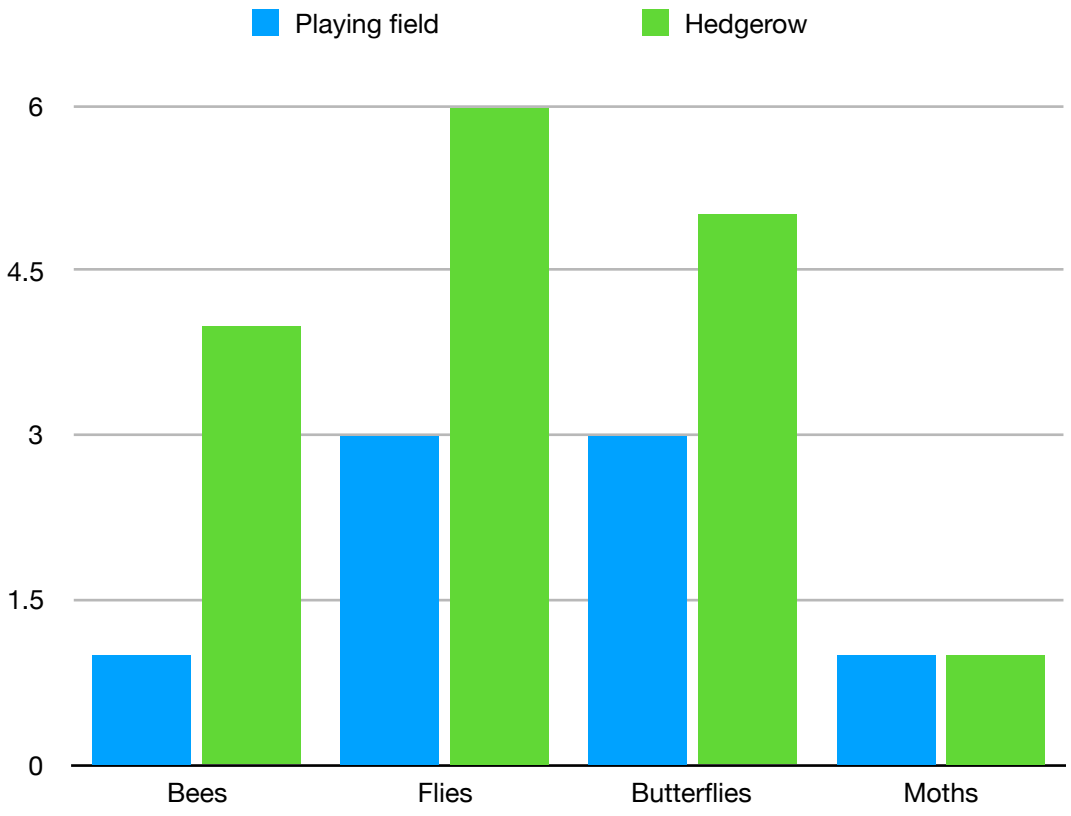
- ✓ Ireland's 180 species of hoverfly also come in all types and might be difficult for beginners to distinguish
- ✓ **Fast fliers and can hover in the air**
- ✓ **Large eyes covering most of head**
- ✓ **Antennae short and stubby, sometimes feathered**
- ✓ Many are shiny & black with yellow or other pale markings
- ✓ One pair of wings
- ✓ No pollen basket

Pollinator Scavenger hunt

(- this becomes more detailed for older classes)

		Check off the insects you see on your Scavenger Hunt	What flower did you see it on?	Can you name the flower	Where? Hedge, lawn, flower bed?
Bee					
Hoverfly					
Butterfly					
Moth					
Wasp					
Other flies					
Beetle					

Make a graph to show the number of insects you found in different areas



Conversation questions on Survey Results:

Which habitat seems to be the best for insects?

Why do you think this is?