

## Science- Hosted a Guest Speaker

Áine from Irish Seed Savers visited the Senior Room (4<sup>th</sup>, 5<sup>th</sup> & 6<sup>th</sup> class). Áine Ní Fhlathartha is an Education Coordinator with Seed Savers. This organisation is based in Scarriff, Co. Clare.

***They grow, conserve and distribute Irish organic vegetable seeds, grains and fruit trees. Irish Seed Savers Association is a registered charity.***

*In this workshop the children learned about:*

- ✓ *Different types of bee species.*
- ✓ *Process of pollination.*
- ✓ *Lifecycle of a bumblebee.*
- ✓ *Importance of bees.*
- ✓ *How to use a compass and read it's four cardinal points.*
- ✓ *High value and low value pollinator plants.*
- ✓ *Where the prime areas were to help pollinators in the school environment and what measures we could take to help them e.g. planting lavender and herbs.*

This guest speaker was very informative and interactive with the children. They have a greater appreciation for biodiversity and they are aware that we have a responsibility to take measures to ensure sustainability in our environment.

The following are accounts typed by pupils after the workshop.

## Áine's Visit

*Seán Glynn*



On Tuesday the 2<sup>nd</sup> of April, we had a visit by Áine from Seed Savers. She told us about bees and how they are becoming extinct.

She also told us about what plants help bees. Áine told us as well about the different types of bees in Ireland. She also told us where they live.

Bees like certain plants like heathers and wild flowers so everyone should grow more of these plants.

The bees bring pollen to their nest to make honey. Honey is very good for you! We had a lovely day and we learned a lot about pollination.



# Seed-Savers Visit

On the second of April Kiltiernan had a visit from a worker from Seed-Savers! She came in the morning and taught us about **pollination**. Pollination is the process of an insect (**Bees**, **Butterflies** etc.) taking **nectar** from a **flower** and in the process of doing that, the bee unknowingly brings pollen from one **plant** to another allowing the plants to reproduce. She also taught us about how we can help bees pollinate by reducing our use in **pesticide** and to plant more flowers. The reason it would be helpful to reduce the use in pesticide is because the pesticide gets inside of the flowers and when insects are trying to get nectar the pesticide can poison the bees and in result kills them. Bees are an endangered species and by doing this we can help them and our environment will stay lush and beautiful! Later on we looked at a map of the school grounds and used numbers to depict which areas would be fitting for bees to pollinate and for us to plant flowers for them. Of course since it's still a playground a good few areas were not usable because the flowers would most likely get stomped on. I really enjoyed the experience and I would really like if we could learn more with Seed-Savers!

By: Hugo Proano 6<sup>th</sup> Class



**Pollination – Visit from Áine from Seed Savers**

On the 2nd of April we got a visit from Áine from an organisation called Seed Savers. When she arrived she told us what the organisation was and what its goal is. Seed Savers wants to protect native plants and pollinators and get people to stop using chemicals and leave a bit of grass in your garden to help bees pollinate – as well as other pollinators including butterflies and keep our local plant species thriving.

Firstly, she showed us a powerpoint about all the different types of bees –which there are around 100 species of! She showed us a really interesting picture of what our breakfast would look like if we did not have pollinators in our world.



One thing Áine talked about a lot was bees and how they pollinate. The most popular type of bees are solitary bees with over 77 different kinds however the most useful bee is the bumblebee. She showed us a picture of the lifecycle of a queen bumblebee in the different seasons.

Next we watched two short videos about the importance of bees and a video about the “waggle dance” a dance that bees

use to tell other members of the hive where there would be many pollinating flowers.

After that Áine took 6th class out for an outdoor workshop. First we used a compass to see which way North, South, East and West directions are facing. We learned about the high value and low value plants in our school grounds. Some high value pollinators include – daisies, ash trees, clovers and buttercups. We found out there was only two low value plants that we identified one of which was the daffodil which I was surprised by as we learned it had no pollen in the flower whatsoever!

When we came in we marked out the places on a map of the school where we could help the pollinators, including what we could plant to attract pollinators. We discussed planting herbs such as thyme and lavender, hanging boxes in which solitary bees could nest in and growing nettles in fenced off areas where butterflies could pollinate. At the end of the lesson Áine gave us flowers seeds to plant in our school grounds including poppies. Overall I thought Áine's visit was very interesting and I learned about a lot of things that were literally right on my doorstep.

By Erin Fahy

# Seedsavers

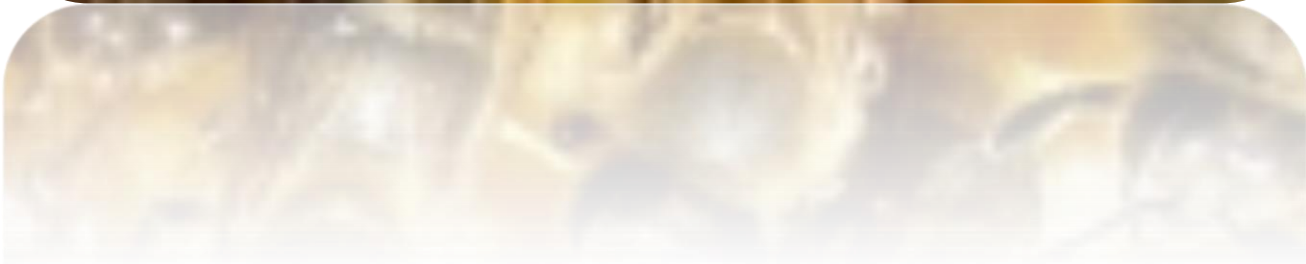
On the 2nd of April, Áine from Seedsavers came to teach us all about pollination and biodiversity. She came in the morning and was here till 2 o'clock. Firstly, she introduced us to what we were going to do. She showed us a powerpoint and we talked about pollination and the different ways that pollination happens. After break she showed us 2 videos to wrap up what we were talking about. Then she took 6th class out and we used a compass to figure out where was north, south, east and west. When bees nest or you are making a habitat for bees it is always important to face it southwards as the bees prefer it that way. Outside we made a list of high value and low value pollinator plants. High value plants are beneficial to bees and other pollinators and low value plants have little or no pollen so they are not beneficial. We had 36 high value and 3 low value plants in our grounds. Afterwards we went inside and we plotted

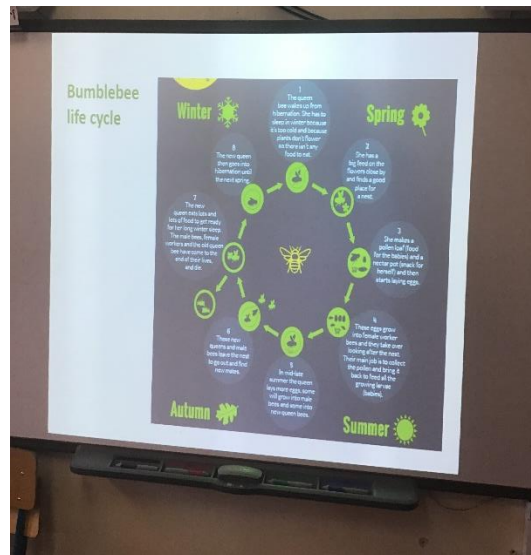
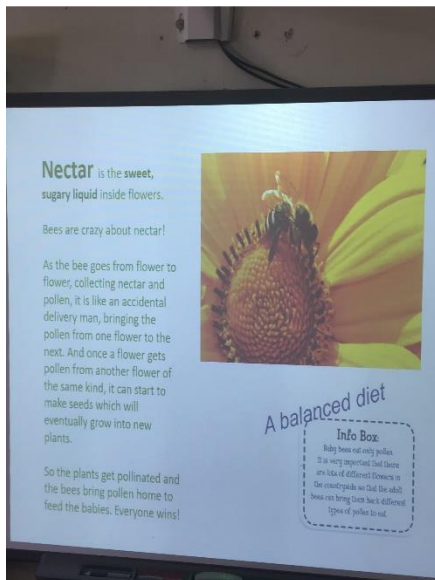
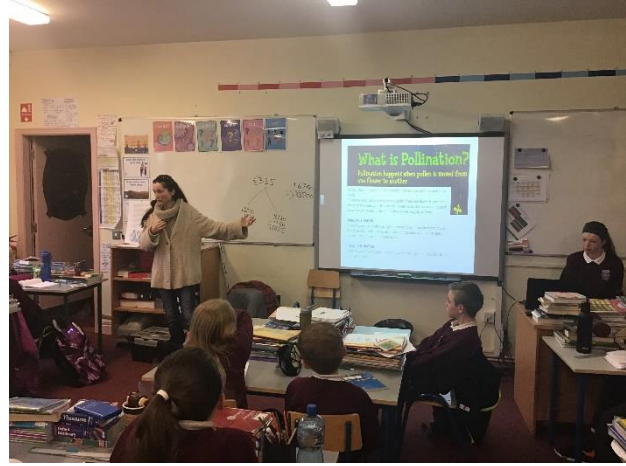


different areas on a map of our school, like areas with flowers or trees and places where a likely habitat would be. All in all, we had a fantastic, educational day.

By Erin O'Sullivan

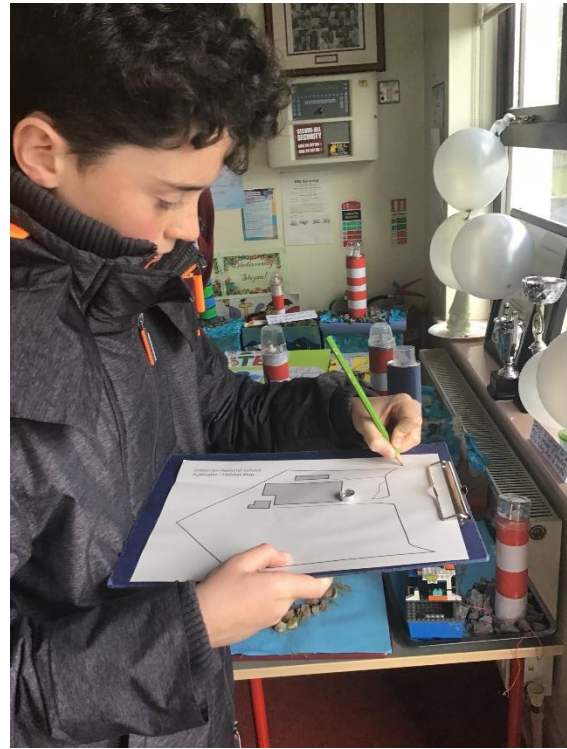
6th class





*Aine speaking to the class about Bees and pollination.*

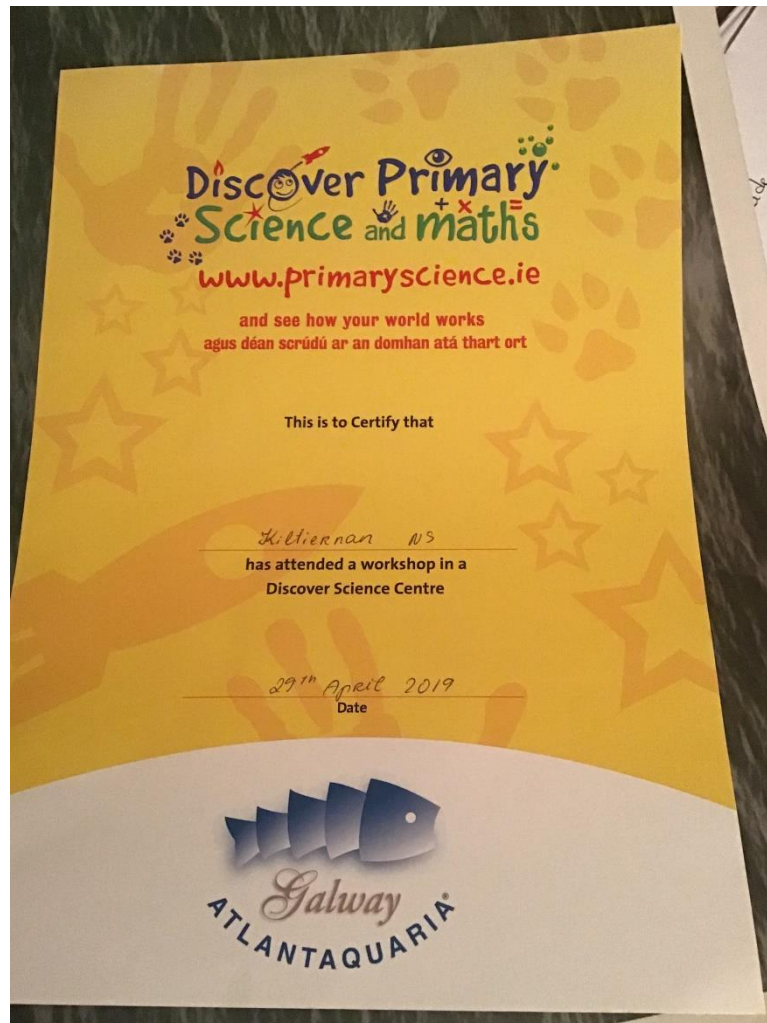




Fieldwork –Identifying high and low value plants for pollination.

(Above) Using a compass to identify cardinal points of their school environment.

## Science-Visited an SFI Discover Centre



On Monday 29th April, 1st- 6th class visited the Atlantaquarium in Salthill, Galway.

Here we were split up into 3 groups and each group got a guided tour of the aquarium. We fed trout and pike fish. We got to hold starfish and we learned that even though they do not have a brain or heart, they are very strong creatures. If you break their arms, another will grow in it's place and the only things stopping them from surviving is a lack of water and food. We also got to hold a crab. We saw many more species of sea creatures including eel, pirhaunas, sharks, flat fish, wreck fish, octopus, jellyfish and much more.

There was a model of a submarine there and we got to venture inside and explore it. We really liked the 'splash tank' every so often a wave of water would splash into the fish tank. Our guide told us that these waves loosen the gravel on the sea bed and help the fish to hunt for food that might be hiding or buried beneath.

After our tour, we went into a back room where we did an engineering workshop. There was a table with various materials like rocks, playdough, straws, sandbags, foam, lollipop sticks etc. There was a price list on the screen. Each group got a budget of €200 and we had to design a flood barrier. There was a container of water with a little toy

figure on a boat and we had to stop his 'home' from getting flooded. Our first model didn't work because the water came in each side of the large rocks. Next we used playdough to fill the gaps. This worked and our little man was safe for 2 minutes before the water poured in.

We had a great day at the atlantaquarium and we learned a lot!

**Here is a link to a video of our day out:**

<https://drive.google.com/file/d/1q0aPyKumW2Of S6c-7w7jdZ9CDZEY3py/view?usp=sharing>

## Science-Took Part in Science Week

Science Week took place from the 10-17<sup>th</sup> November this year. We celebrated Science week in Kiltiernan by carrying out lots of active Science investigations.

### **Fizz Bang:**

Children investigated what happens when a base is mixed with an acid and water.

What we used:

- ✓ Effervescent tablets (Berrocca)
- ✓ Vinegar
- ✓ Water
- ✓ Berrocca tube with lid.

When acid (vinegar) and water mixed with the base tablet the reaction happened. The mixtures started fizzing and it produced carbon dioxide. The pressure built up and then bang, the lid popped off and flew up into the air like a rocket!





### **Red Cabbage Rules:**

The children used cabbage water to investigate if different liquids were acids or alkaline(basic).

### **What we used:**


- ✓ Red cabbage
- ✓ Small cups/ containers
- ✓ Hot water
- ✓ A jug
- ✓ Liquids for testing: Milk, orange juice, lemon juice, ketchup etc

They learned that the cabbage water is neutral and would act as an indicator. When the children added different liquids to the cabbage water they found that the liquids either stayed as the neutral purple colour or it turned pink meaning it was an acid or blue meaning it was an alkaline.



Our Science Experiment  
 Experiment Title: Red cabbage juice!  
 Equipment Needed: Red cabbage, small cups, hot water, a jug, liquids such as milk, orange juice, lemon juice, Ketchup (anything you want, it is optional to use salt and/or bicarbonate of soda)  
 Method: For this experiment you will start off by soaking cut up red cabbage in hot water for around an hour then fill an equal amount into ten or so cups. The amount of cups you use depends on how many liquids you have. Put a small amount of the liquids (and other substances) into each of the cups and watch as they change colour.  
 Prediction: My team predicted that things such as lemon juice, orange juice and salt would

turn one colour as they are very acidic. We thought that toothpaste, baking soda and ketchup would turn another.

Diagram  
 cabbage water  
  
 - small cups filled with cabbage water  
 - colours of the cabbage water when tested

Results:

Liquid / Substance	Colour	Acid or Alkaline
Orange Juice	Pink	Acid
Toothpaste	Blue	Alkaline
Lemon Juice	Pink	Acid
Salt	Neutral	Alkaline
Baking soda	Neutral	Alkaline
Vinegar	Pink	Acid

Alkaline

Explanation: The cabbage juice is an indicator (it is neutral) so when you put different liquids in it it indicates whether it is an acid or alkaline. Pink or red means it is an acid. Blue, green or neutral means it is an alkaline.

Rate this experiment: I would give this experiment 9/10.



## **Volcanic Eruption:**

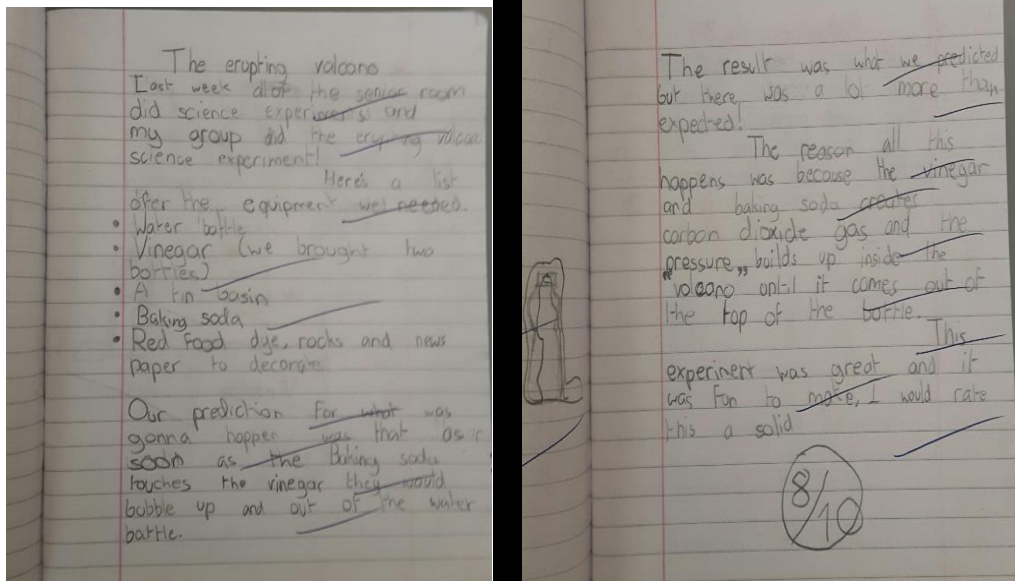
Children investigated what happens when a base (alkaline) is mixed with an acid and water.

### What we used:

- ✓ Red food colouring
- ✓ Water
- ✓ Vinegar
- ✓ Baking Powder

The children learned that when the vinegar was mixed with the baking powder, water and food colouring, a chemical reaction happened. The mixture started to bubble and fizz and erupt from the container similar to a volcano eruption! Carbon Dioxide was produced and that caused the mixture to bubble and fizz. The food colouring was used for effect.





### **Fire Extinguisher:**

Children learned that fire needs oxygen to exist and they investigated how to make carbon dioxide to quench the flame, similar to a fire extinguisher.

#### What we used:

- ✓ Baking soda
- ✓ Vinegar
- ✓ A candle
- ✓ Matches

When the vinegar was mixed with the baking soda, it produced carbon dioxide and the children could see the flame quench straight away.



### **Diving Drops and Sinking Feelings**

Children investigated the density of different liquids.

#### What we used:

- ✓ Jam jar & lid
- ✓ Cooking oil
- ✓ Food Colouring
- ✓ Syrup

Oil is lighter than water and so will sit on top of it. Syrup is heavier than water so will sink to the bottom.



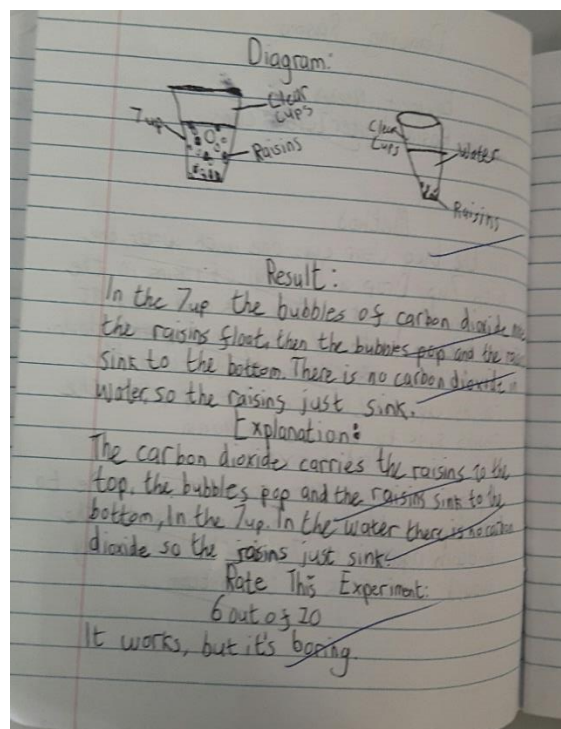
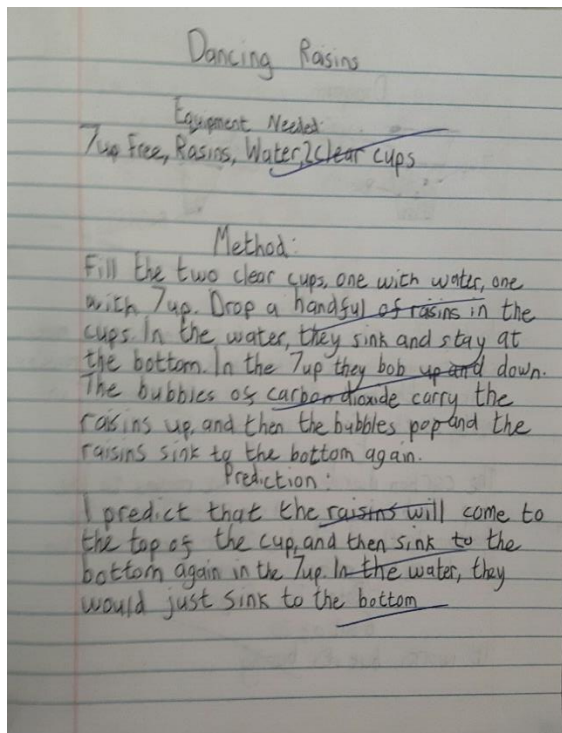
## Dancing Raisins

Children investigated the effects on raisins when carbon dioxide is present.

### What we used:

- ✓ A glass
- ✓ Water
- ✓ Raisins
- ✓ 7up

When the raisins were added to the water, they sank and remained still. When the raisins were added to the 7up, the carbon dioxide fizz made the raisins' dance'.







## **Odd Ooze**

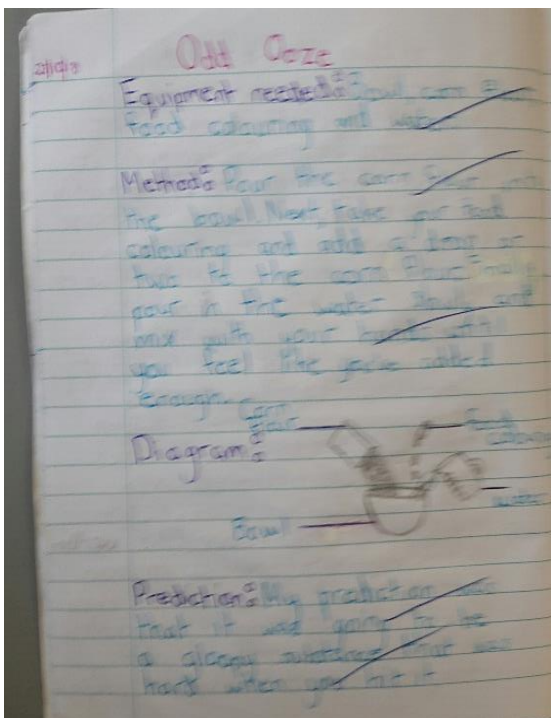
Children investigated a substance called a 'colloid'-tiny particles of cornflour suspended in water.

### What we used:

- ✓ Cornflour
- ✓ Water
- ✓ Food Colouring

The children found that the mixture behaved strangely, if you hit it hard, it would resemble a solid substance but if you placed your hand on it slowly, it would resemble a liquid. It all depended on the speed and strength of force they applied.





## Science-Used STEM in projects on Environment and Sustainability

Our school has been involved in the Green Schools Programme for 12 years. We are currently working on getting our 7<sup>th</sup> flag for 'Global Citizenship, Litter and Waste'.

Over the past years we have received Green flags for *Litter and Waste, Energy, Water, Travel, Biodiversity*.

When learning about Global Citizenship, Litter and Waste we are focusing on the areas of:

- Waste and Poverty
- Electronic Waste
- Climate Change
- Global Goals

Here are some actions that we have been involved in so far:

- ✓ Conducted an Environmental Review to see where problems are presenting.
- ✓ Read and analysed survey results.
- ✓ Completed checklists for Litter and Waste Audits.
- ✓ Updated our Green Schools notice board.

Kiltiernan N.S. Green School Committee  
2018-2020

Chairperson: Erin Fahy  
Minute Taker: Mark Bruen  
Time Keeper: Andrew Burke  
Committee Members:  
Lauren Kilduff  
Ellie Leyden  
Eimear O Donnell  
Sophia D'Arcy  
Marlon Mandaya  
Emma Keane  
Daniel Curley  
Síofra Greene  
Co-ordinator: Ms. O Doherty

6<sup>th</sup> Class replacements for 2019  
Meadhb Costello  
Alex Fahy



# Global Awareness Survey 05/02/2019

## Kiltiernan N.S.

Q.7 Have you ever written to a newspaper/ public figure about something you believe in?	3%	97%	N/A
Q.6 Do you have anything in common with people from a poorer country?	36%	39%	25%
Q.5 Does your family buy food grown by local farmers?	79%	13%	8%
Q.4 Does your family buy fair trade products?	16%	0%	84%
Q.3 Have you eaten or drank anything from an Asian, African or South American country this week?	0%	3%	97%
Q.2 Do you participate in community clean ups?	0%	16%	84%
Q.1 Does your family give unwanted items to charity shops?	10%	72%	18%
	Yes / Always	No / Sometimes	I don't know/ Never

\*61 children out of 68 surveyed



# Global Awareness Survey 05/02/2019

## Kiltiernan N.S.

Q.7 Have you ever written to a newspaper/ public figure about something you believe in?	3%	97%	N/A
Q.6 Do you have anything in common with people from a poorer country?	25%	99%	25%
Q.5 Does your family buy food grown by local farmers?	70%	63%	5%
Q.4 Does your family buy fair trade products?	50%	9%	84%
Q.3 Have you eaten or drank anything from an Asian, African or South American country this week?	9%	5%	97%
Q.2 Do you participate in community clean ups?	9%	66%	84%
Q.1 Does your family give unwanted items to charity shops?	10%	72%	18%
	Yes / Always	No / Sometimes	don't know/ Never

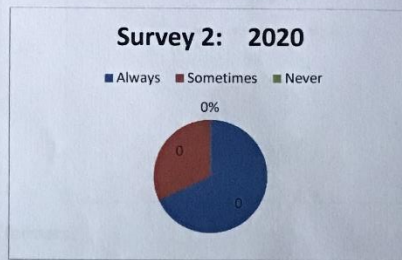
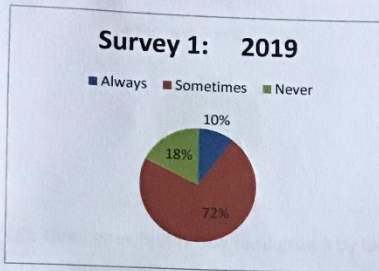
\*61 children out of 68 surveyed

- Q.1. Does your family give unwanted items to charity shops?
- Q.2 Do you participate in community clean ups?
- Q.3 Have you eaten or drank anything from an Asian, African or South American country this week?
- Q.4 Does your family buy fair trade products?
- Q.5 Does your family buy food grown by local farmers?
- Q.6 Do you have anything in common with people from a poorer country?
- Q.7 Have you ever written to a newspaper/ public figure about something you believe in?

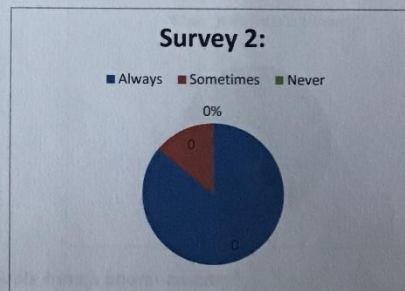
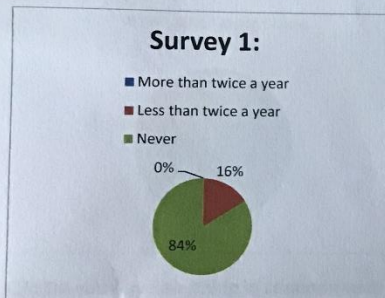


Global Awareness Survey – Kiltiernan NS Feb 2019

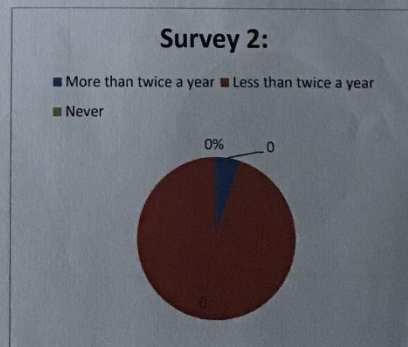
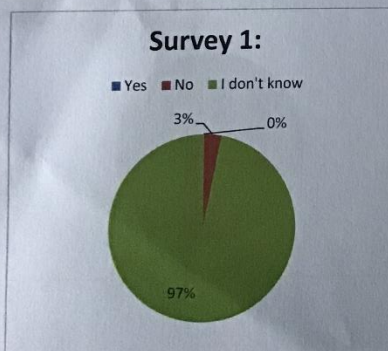
**Q1: Does your family give unwanted items to charity shops?**



**Q2: Do you participate in community clean ups?**



**Q3: Have you ever eaten or drank anything from an Asian, African or South American country this week?**



Does your family buy Fairtrade products?

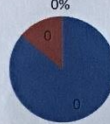
Survey 1:

■ Yes ■ No ■ Don't Know



Survey 2:

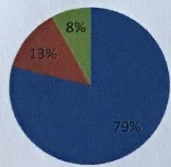
■ Yes ■ No ■ Don't Know



Q5: Does your family buy food grown by local farmers?

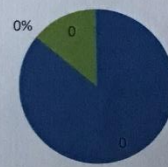
Survey 1:

■ Yes ■ No ■ Don't Know



Survey 2:

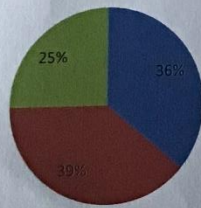
■ Yes ■ No ■ Don't Know



Q6: Do you have anything in common with people from a poorer country?

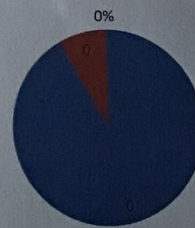
Survey 1:

■ Yes ■ No ■ Don't Know



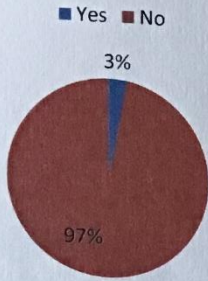
Survey 2:

■ Yes ■ No ■ Don't Know



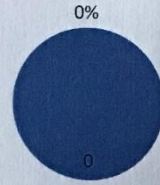
... you ever written to a newspaper/public figure about something you believe in?

### Survey 1:



### Survey 2:

■ More than twice a year ■ Less than twice a year  
■ Never







Completed  
Feb 06-2019

## Litter Checklist

The following checklist is an open-ended checklist looking at the schools impact on the environment in relation to litter. This checklist also has an educational function whereby the process of gathering data raises awareness and gives you a basis for developing your action plan. Each question in the checklist can be answered 'yes' or 'no'. 'No' indicates that improvement is possible. Quantifiable targets can then be set for area highlighted for improvement. The questions in the review below are suggested questions please feel free to add questions in order to examine a particular area relevant to your school.

Question	Yes/No	Action Notes: Litter
Does your school have a litter problem?	X	
Does your school have a policy on litter?		NOT SURE - CHECK UP ON IT
Is the school clean inside?	✓	
Are there any areas where litter is particularly bad?		CAR PARK
Are there any times of the day/week where litter is particularly bad?	✓	TREAT FRIDAY, WEEKENDS
Does the litter mostly originate from inside the school?		YES ON TREAT FRIDAY NO ON WEEKENDS
Are there enough litter bins inside the school?	✓	
Are there enough litterbins outside the school?	X	
Are they in the right places?		
Are certain types of litter more commons than others?	✓	RAPPERS
Has your school ever carried out a litter survey?	✓	
Do you take part in local (e.g. Tidy Towns) or national events (e.g. National Spring Clean) tackling litter?	X	PLAN TO DO
Is the topic of litter incorporated into the school ethos/curriculum?	✓	
Have the school ever been visited by a Litter Warden from the Local Authority?	✓	



Feb 2019

## Waste Checklist

The following checklist is an open-ended checklist looking at the schools impact on the environment in relation to waste. This checklist also has an educational function whereby the process of gathering data raises awareness and gives you a basis for developing your action plan. Each question in the checklist can be answered 'yes' or 'no'. 'No' indicates that improvement is possible. Quantifiable targets can then be set for area highlighted for improvement. The questions in the review below are suggested questions please feel free to add questions in order to examine a particular area relevant to your school.

Question	Yes/No	Action Notes: Waste
<b>Prevention/Minimisation</b>		
Is there a purchasing policy for materials such as toilet tissues, stationery, books, notepaper, etc?	No -	
Does the school have email addresses/mobile phone numbers for families?	Yes -	Update parent email list
Does the school use notice boards/circulars to give out information to staff instead of individual bulletins?	No -	Use photocopier to distribute notes/policies to staff
Are students encouraged to avoid excess packaging with their lunches?	Yes -	Review and encourage more often by committee giving spot checks
Are long life products chosen over short life ones?	Yes	
Are materials bought in large packs to avoid excessive packaging?	Yes	Bulk buy toilet/hand towels roll
Are copies/records saved electronically, not paper?	Both	Encourage electronic records to be held.
Is paper used on both sides?	Both	where possible, use both sides
<b>Re-use/Recycle</b>		
Is re-useable selected first, then recyclable?	No	Encourage to reuse where possible
Are old envelopes saved for re-use?	No	
Are casual notes written on scrap paper?	No	Buy staff notebooks to share notes
Is office waste paper recycled?	Yes	Used in junior rooms for drawing
Does the school have or use any recycling facilities? If so what materials are recycled?	Yes	Paper, food, plastic recycled
Does the school have a compost heap or compost bin?	No	Compost bin out fortnightly
Is the topic of waste and waste minimization incorporated into the school ethos/curriculum?	Yes	Green Schools Committee → flag renewal every 2 years