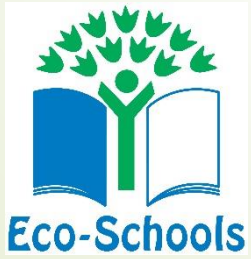
‘The Great Plant Hunt’



The Great Plant Hunt

- Focus on **biodiversity** with a particular emphasis on **plants** and their **associated species**

Partners

- The Foundation for Environmental Education
- TME – Toyota Fund for Europe
- Kew, the Royal Botanic Gardens

10 Participating Countries - year 1

Belgium	Latvia
Denmark	Poland
Germany	Slovenia
Ireland	Spain
Italy	Turkey

Objectives of the project

- Develop young people as advocates for conservation & promotion of local biodiversity actions
- Develop science based resources in line with the Convention on Biodiversity (CBD) principles to allow teachers to promote biodiversity education activity
- Meet Kew/FEE principles
  - Easy to apply
  - Promote critical thinking by "go and see", study approach (learn by doing)
  - Consistent with CBD/Green Corridor
- Help meet EU/UN targets for biodiversity education
- Develop module as part of FEE school programmes.

FEE Educational Principles

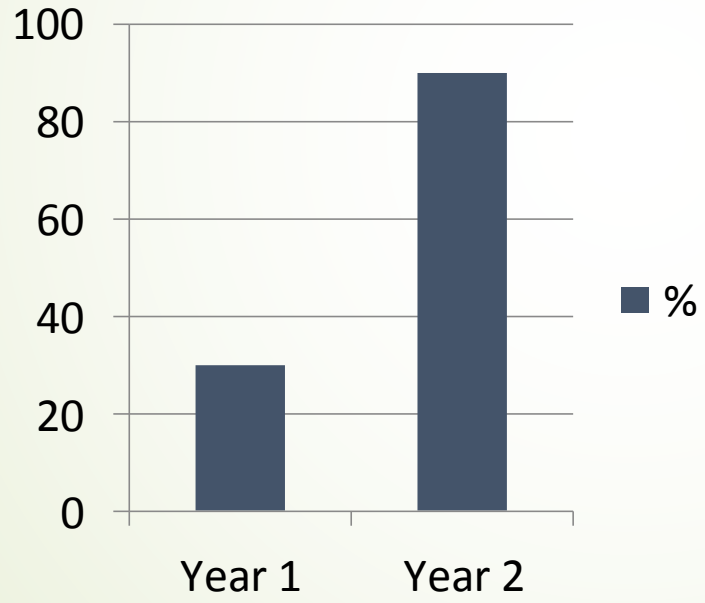
- Ensure that participants are engaged in the learning/teaching process.
- Empower participants to take informed decisions and actions on real life sustainability issues.
- Encourage participants to work together actively and involve their communities in collaborative solutions.
- Support participants to examine their assumptions, knowledge, and experiences, in order to develop critical thinking, and to be open to change.
- Encourage participants to be aware of cultural practices as an integral part of sustainability issues.
- Encourage participants to share inspirational stories of their achievements, failures, and values, to learn from them, and to support each other.
- Continuously explore, test, and share innovative approaches, methodologies, and techniques.
- Ensure that continuous improvements through monitoring and evaluation are central to our programmes.

Steps

- Step 1 – Registration
  - Schools register with National Operator
  - National Operators register schools on FEE database
- Step 2 – Review
  - Biodiversity Awareness Survey
  - Habitat Map
- Step 3 – Action
  - Increase levels of awareness
  - (Where possible) Increase the number of native species and the species diversity in the school's environs and/or local area.
- Step 4 – Monitor and Evaluate
  - Evaluate levels of awareness by revisiting the awareness survey carried out at the beginning of the year.
  - Evaluate progress on practical improvements
- Step 5 – Report
  - Schools report on progress made
  - National Operators report to FEE

Raising awareness is vital!

- Raise awareness about **biodiversity** and **its importance** among staff and students and show off any improvements made!



% increase in levels of awareness

What is biodiversity?

Biodiversity is the huge variety & variation of life that surrounds us, from the tiniest bugs to the biggest whales in the sea

Why is biodiversity so important?

'Eco-system Services'

- Gives us the air we breath!
- Provides us with food, medicine, fuel, fibre
- Pollination & biological control
- Protection from soil erosion & flooding
- Recycling of nutrients (composting)
- Monitors health of the environment
- Places to play, have fun & free the mind!

Furthermore,

- Many species are of know value to us (e.g. wheat, bees)
- Many species not yet discovered may be of value to us
- All biodiversity is intrinsically valuable for itself

What are the threats to biodiversity?

- Litter & pollution
- Climate Change
- Habitat loss & destruction
- Habitat fragmentation
- Over-exploitation of resources
- Invasive non-native species (also known as ‘Alien Species’)
- Intensive farming practices

Ways we can help biodiversity

Step 2 – Review

- Biodiversity Awareness Survey
- Create a Habitat Map

Biodiversity Awareness Survey (5-6yrs)

Biodiversity Awareness Survey 5 - 6 years

NOTE: Teachers for this age group ONLY, select a RANDOM group of students. Pick 5-10 names out of a 'hat' to avoid preferences. Go through the questions orally and write down the student's responses in the spaces provided.

Date: _____ **Class:** _____

Q1. Have you ever heard of the word 'Biodiversity'? Tick the box.

Yes ☐ **No** ☐

Q3. What does 'Biodiversity' mean?

_____

_____

Q4. Name the plants

A. _____ **B.** _____

Q5. Name the birds

A. _____ **B.** _____

Q6. Name the animals/insects

A. _____ **B.** _____

Biodiversity Awareness Survey (6-7yrs)

Biodiversity Awareness Survey 6 -7 years

Date: _____ Class: _____

Q1. Have you ever heard of the word 'Biodiversity'? Tick the box.

Yes ☐ No ☐

Q2. Do you know what the word 'Biodiversity' means?

Yes ☐ No ☐

Q3. What does 'Biodiversity' mean?

_____

_____

Q4. Name the plants

A. _____ B. _____

Q5. Name the birds

A. _____ B. _____

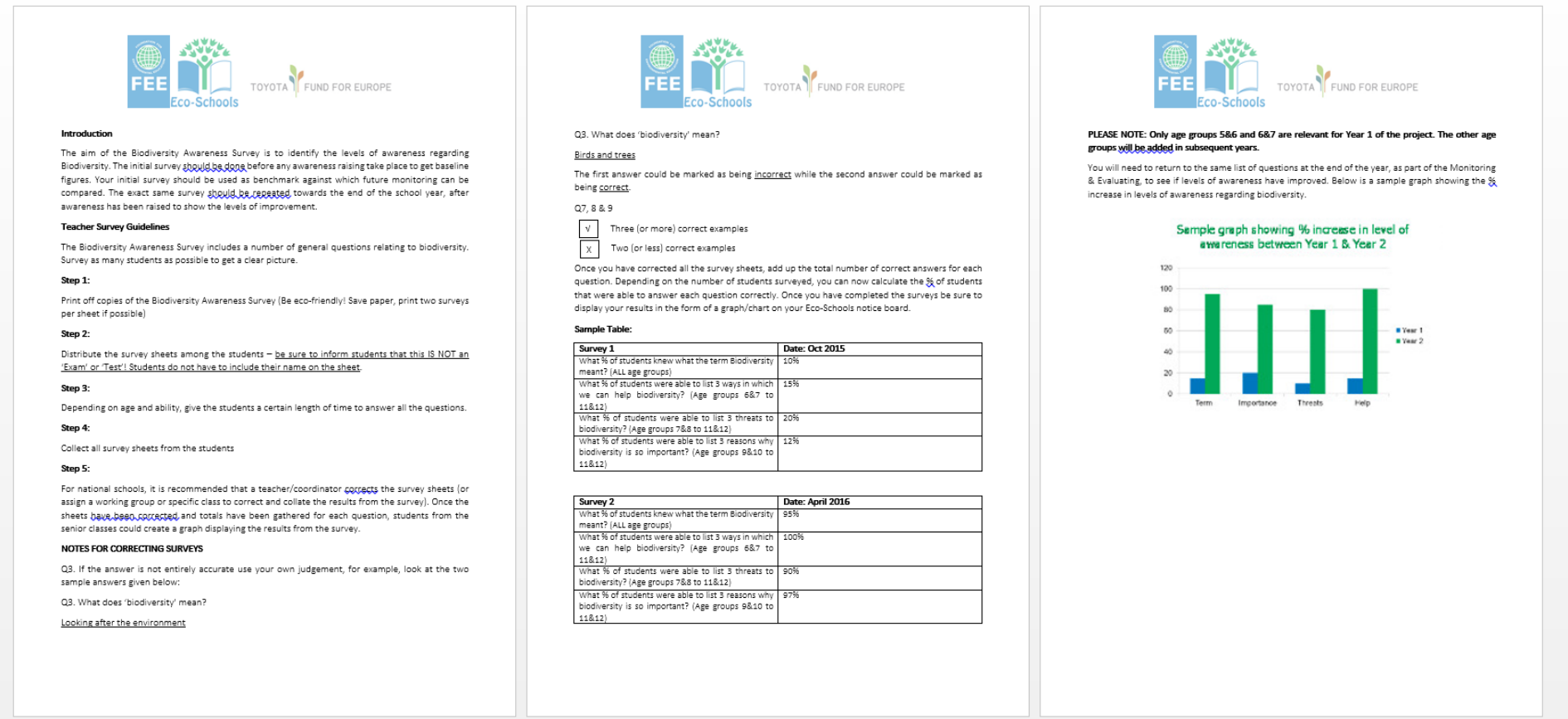
Q6. Name the animals/insects

A. _____ B. _____

Q7. Can you list three ways we can help the plants, birds and animals like those listed above?

1. _____
2. _____
3. _____

Biodiversity Awareness Survey Guidance Notes available



Introduction

The aim of the Biodiversity Awareness Survey is to identify the levels of awareness regarding Biodiversity. The initial survey should be done before any awareness raising take place to get baseline figures. Your initial survey should be used as benchmark against which future monitoring can be compared. The exact same survey should be repeated towards the end of the school year, after awareness has been raised to show the levels of improvement.

Teacher Survey Guidelines

The Biodiversity Awareness Survey includes a number of general questions relating to biodiversity. Survey as many students as possible to get a clear picture.

Step 1:

Print off copies of the Biodiversity Awareness Survey (Be eco-friendly! Save paper, print two surveys per sheet if possible)

Step 2:

Distribute the survey sheets among the students – be sure to inform students that this IS NOT an 'Exam' or 'Test'! Students do not have to include their name on the sheet.

Step 3:

Depending on age and ability, give the students a certain length of time to answer all the questions.

Step 4:

Collect all survey sheets from the students

Step 5:

For national schools, it is recommended that a teacher/coordinator corrects the survey sheets (or assign a working group or specific class to correct and collate the results from the survey). Once the sheets have been corrected and totals have been gathered for each question, students from the senior classes could create a graph displaying the results from the survey.

NOTES FOR CORRECTING SURVEYS

Q3. If the answer is not entirely accurate use your own judgement, for example, look at the two sample answers given below:

Q3. What does 'biodiversity' mean?

Looking after the environment

Q3. What does 'biodiversity' mean?

Birds and trees

The first answer could be marked as being incorrect while the second answer could be marked as being correct.

Q7, 8 & 9

√ Three (or more) correct examples

X Two (or less) correct examples

Once you have corrected all the survey sheets, add up the total number of correct answers for each question. Depending on the number of students surveyed, you can now calculate the % of students that were able to answer each question correctly. Once you have completed the surveys be sure to display your results in the form of a graph/chart on your Eco-Schools notice board.

Sample Table:

Survey 1	Date: Oct 2015
What % of students knew what the term Biodiversity meant? (ALL age groups)	10%
What % of students were able to list 3 ways in which we can help biodiversity? (Age groups 6&7 to 11&12)	15%
What % of students were able to list 3 threats to biodiversity? (Age groups 7&8 to 11&12)	20%
What % of students were able to list 3 reasons why biodiversity is so important? (Age groups 9&10 to 11&12)	12%

Survey 2	Date: April 2016
What % of students knew what the term Biodiversity meant? (ALL age groups)	95%
What % of students were able to list 3 ways in which we can help biodiversity? (Age groups 6&7 to 11&12)	100%
What % of students were able to list 3 threats to biodiversity? (Age groups 7&8 to 11&12)	90%
What % of students were able to list 3 reasons why biodiversity is so important? (Age groups 9&10 to 11&12)	97%

PLEASE NOTE: Only age groups 5&6 and 6&7 are relevant for Year 1 of the project. The other age groups will be added in subsequent years.

You will need to return to the same list of questions at the end of the year, as part of the Monitoring & Evaluating, to see if levels of awareness have improved. Below is a sample graph showing the % increase in levels of awareness regarding biodiversity.

Sample graph showing % increase in level of awareness between Year 1 & Year 2

Habitat Mapping

Habitat Diversity

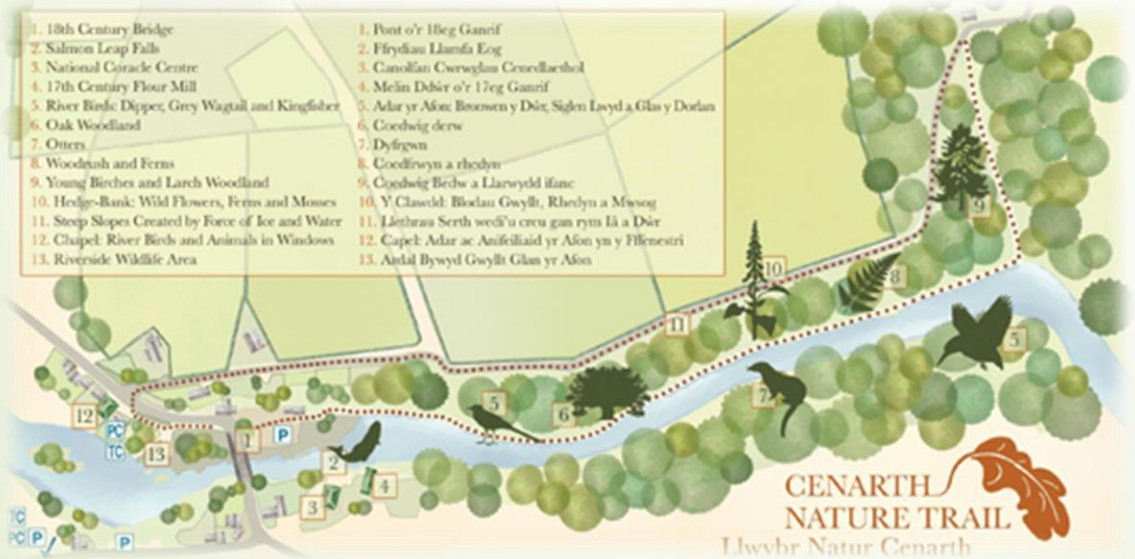
- Inland water and wetlands
- Marine and costal
- Woodland
- Grasslands
- Hedgerows
- Farmland
- Mountain and Mooreland
- Cities and Towns

Habitat Mapping

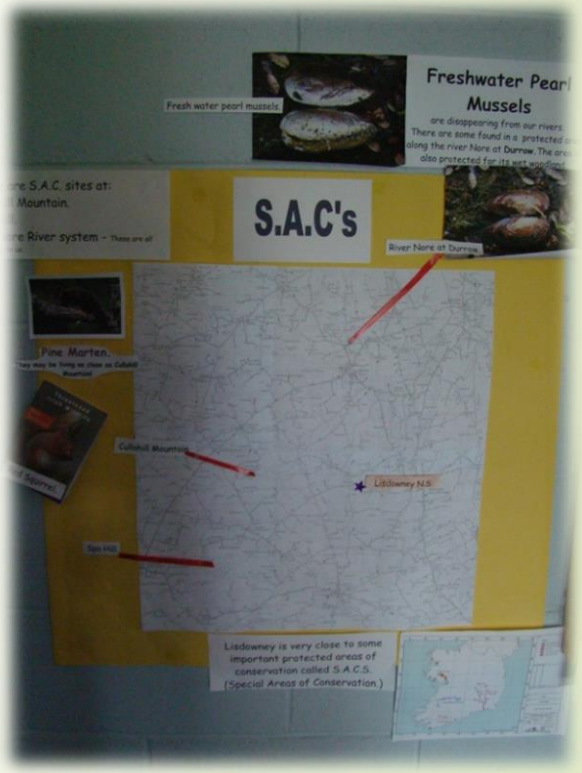
- A Habitat Map shows the geographic distribution of different habitats within a particular area.
- What is the purpose of habitat mapping?
  - Increase the levels of biodiversity
  - To help protect the area/species present
  - Simply interested?

Samples

Map promoting a certain area



Map showing protected sites in an area



Preparation

- What size is the area to be mapped?
- What level of detail do I need?
- What resources are available (time/funds/data)?
- Biological and physical parameters?
- Is the area safe (e.g. free of toxic plants)?

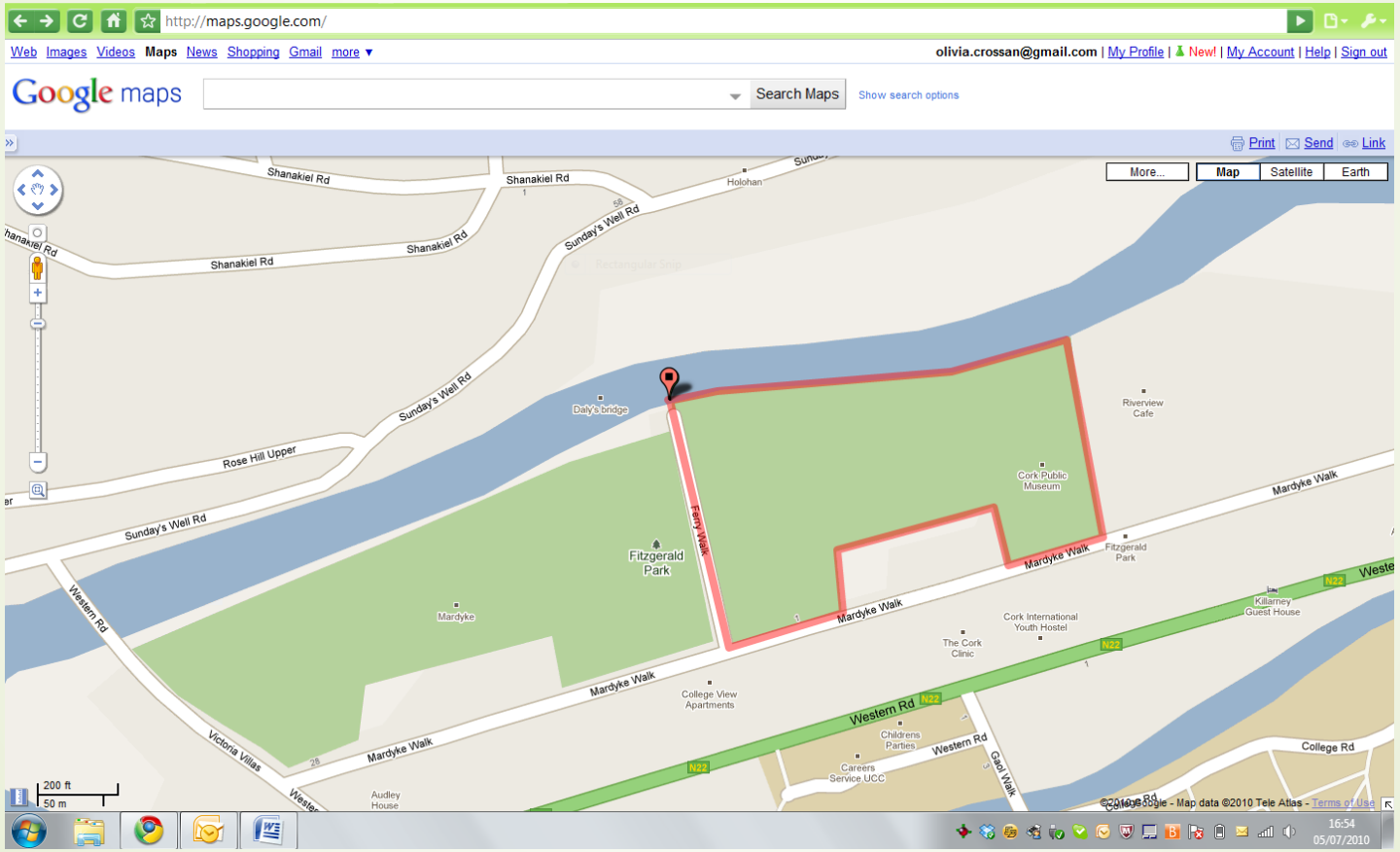
Materials needed

- Large sheet of paper for notes
- Pencils, pens, markers
- Decide on codes/symbols before you begin mapping
- Data/record sheets to record species present

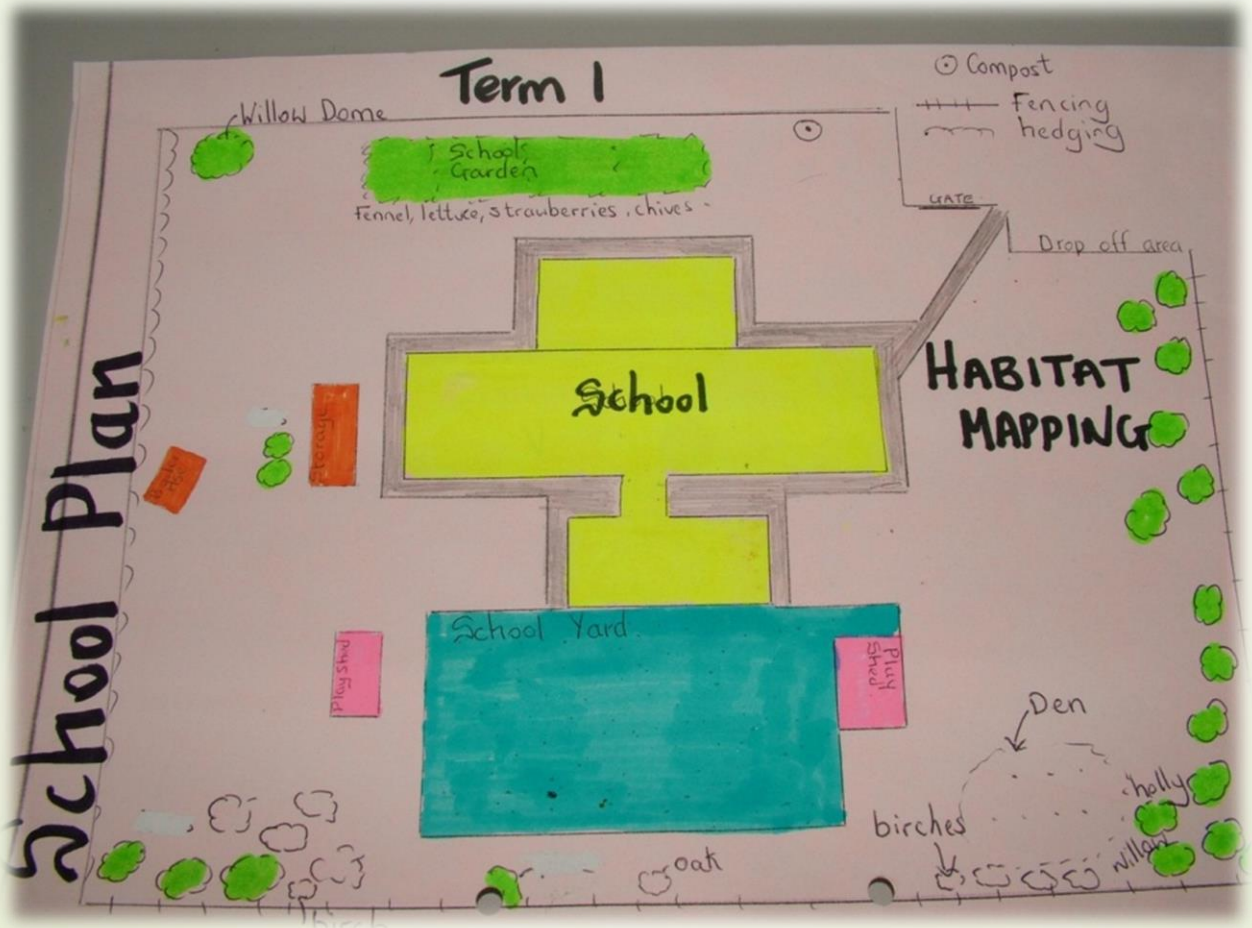
If mapping areas outside the school grounds

- Local and regional maps for reference

Option 1 – use Google Maps



Option 2 – Draw map of the area and mark off boundaries



Habitat Mapping

In the classroom:

- ✓ Print off/draw map of the area & mark boundaries

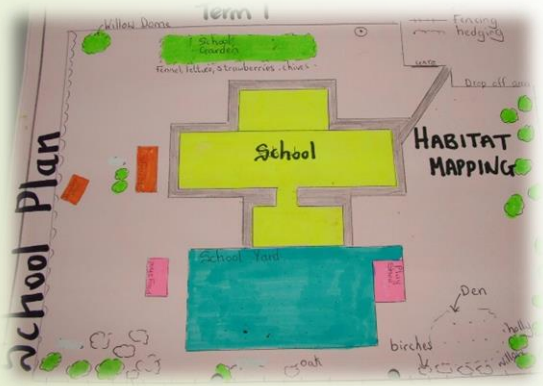
In the field (work as a group):

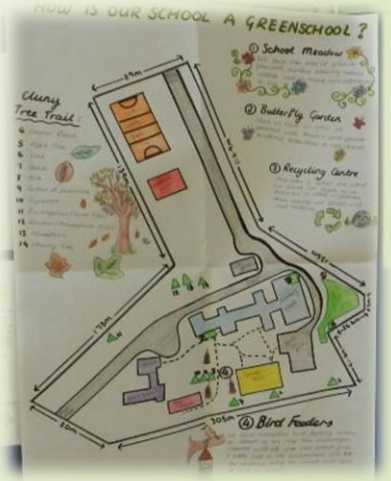
- ✓ Walk whole area & compile a rough Habitat Map
- ✓ Delineate (trace the outline) of different habitat units & identify using standard letter codes and/or symbols
- ✓ Record dominant species present (common names or species codes)
- ✓ Add target symbols
- ✓ Prepare accompanying target notes (on the map or on a separate notebook)

Habitat Mapping

Follow up (work as a group or individually):

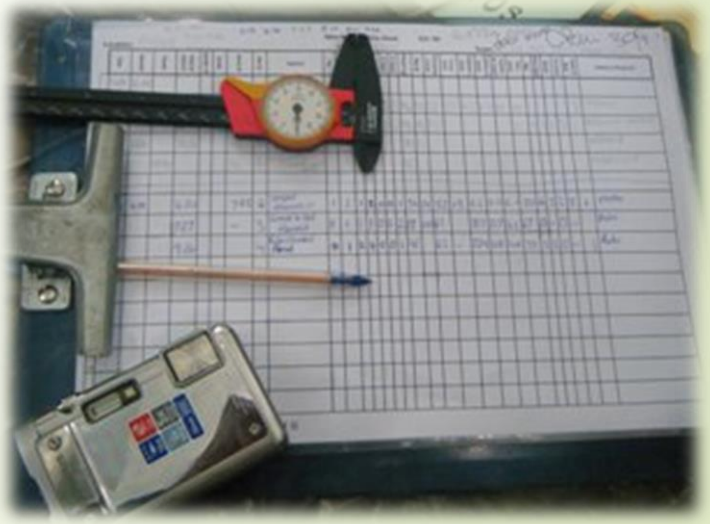
- Construct a full colour Habitat Map of the area including the habitat codes
- Add codes for the dominant species using species codes or common names
- Add target symbols and accompanying notes





Investigate your habitats!

Record species present

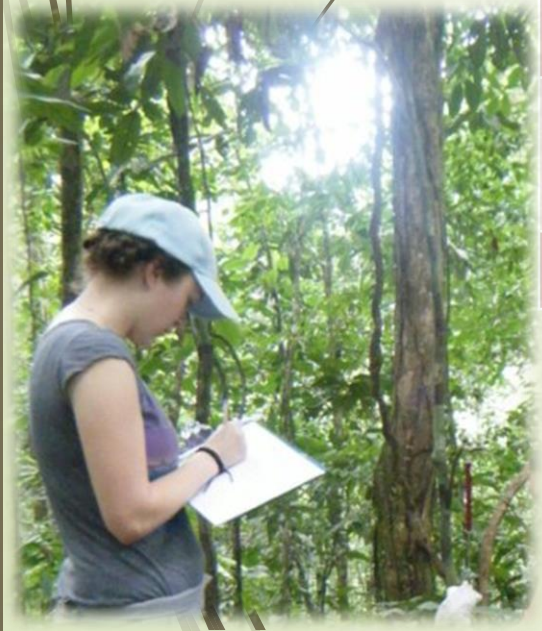


How to investigate and record?

- Ask yourself some questions & record the answers in a 'Nature Notebook'
- What am I going to investigate – plants, animals, insects, birds?
- What time of the year is it, Spring, Summer, Autumn, Winter?
- What is the weather like?
  - **NOTE!** The time of year & weather can influence biodiversity
- Where are you/what habitat are you investigating?

Sample – Nature Notebook

Date	Weather	Place	Habitat	Notes
6th of May	Windy	Oak Woods	Mixed woodland	Tortoiseshell Butterfly
30th of July	Cloudy	Walk to the Pond	Shallow lake (lots of plants)	Spotted a frog
3rd of August	Sunny& breezy	Walk to school	Hedgerows	Lots of small birds
14th of September	Sunny	The park	Mixed (grasses/trees/ shurbs)	



Sample Scientific Data Sheets

Name of recorder*	Species name*	Grid reference (6 figure if possible)*	Date*	Location*	County	Abundance	Comment
The name of the person(s) that made the observation.	The name of the recorded species.	A *six-figure grid reference*, employing three digits in each coordinate, to determine a 100 m square. The preferred format is:	The date that the observation was recorded.	A description of where the organism was observed. For example: "A kilometre north of Maam Cross". Ideally supply appropriate Ordnance Survey maps feature names or townland names if available.			
Rachel Boyle	Tortoisesshell Butterfly	M518152	dd/mm/yyyy		Kerry	1	Resting

•The first 5 columns are mandatory
•The optional columns are recommended by the Data Centre for use where appropriate. You may want to add additional columns yourself to suit your own data e.g., altitude, status, life stage. You can add as many of these as you like.

Never stop exploring…..

You never know what you might find!

Step 3 - Action

Two overall objectives!

- Increase levels of awareness
- (If possible) increase the number of species present in the school environs and/or surrounding areas

Action	**Person/Group Responsible**	**Time Frame**
Carry out a **Biodiversity Awareness Survey** to examine the level of awareness among students and staff	Students and teachers	Early to mid October
Habitat Map the school grounds and do up a list of the biodiversity in our school	Students and teachers	Early to mid October

Step 3 - Action

Increase levels of awareness

- ✓ Letters home
- ✓ Develop new Code (poster/slogan competition/projects)
- ✓ Analyse surveys from the review
- ✓ Habitat/species surveys (home/school/local area)
- ✓ Develop a connection with nature
- ✓ Find out about species specific to local area
- ✓ Develop nature trails
- ✓ Examine food chains (top predator present?)

Step 3 – Action

Practical improvements

- ✓ Build bird boxes (unused/old wood)
- ✓ Create a pond/log pile/leaf mould/wildlife area/'mini-beast' hotel
- ✓ Develop an organic garden
- ✓ Leave areas 'unmanaged' (hedgerows/grass areas)
- ✓ Plant native tress/flowers

Step 4 – Monitor & Evaluate

- Simply repeat the 'Review' at key stages (end of Year 1)

Evaluate levels of awareness

- ✓ Repeat the Biodiversity Awareness Survey

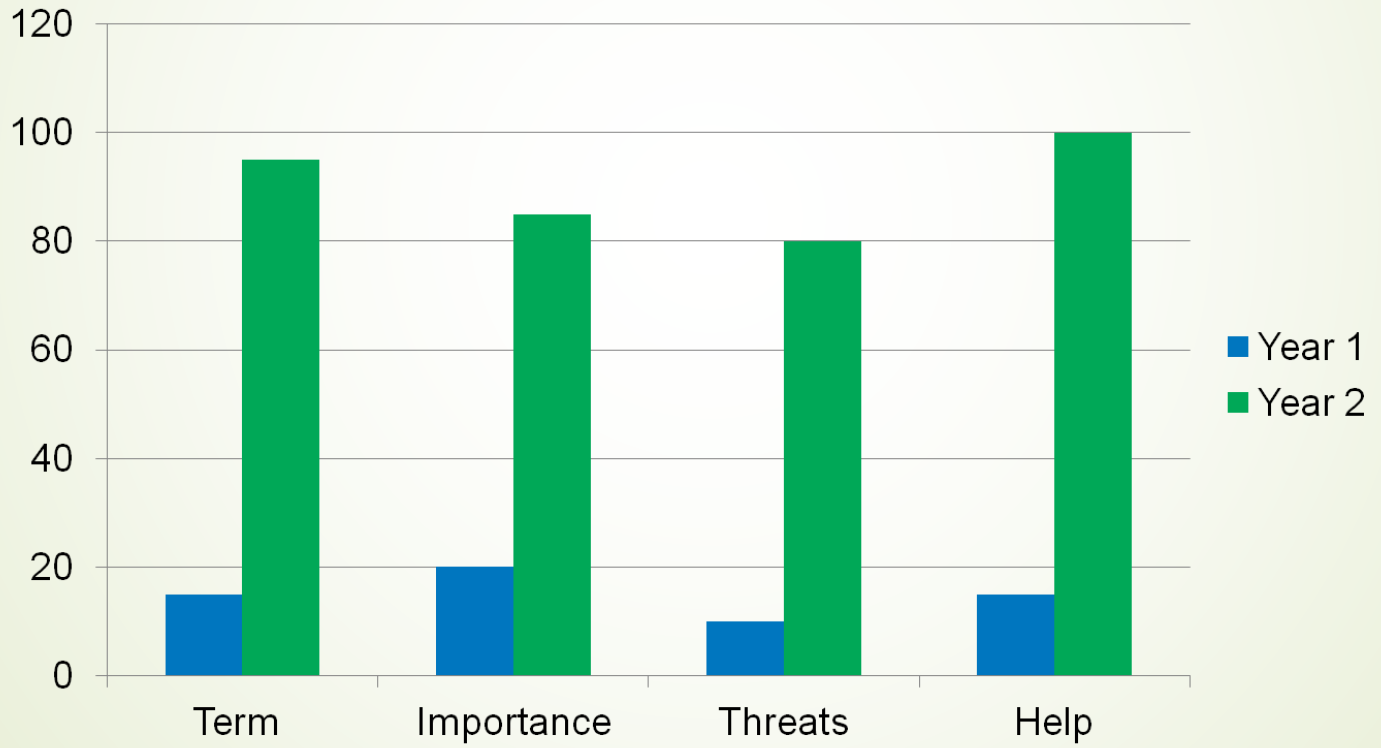
Evaluate progress on practical improvements

- ✓ Create a new Habitat Map or add to existing map
  - ✓ Identify practical improvements (log pile/bird box)
  - ✓ Has the no. of sightings/no. of species inc.?
  - ✓ Has species richness increased?

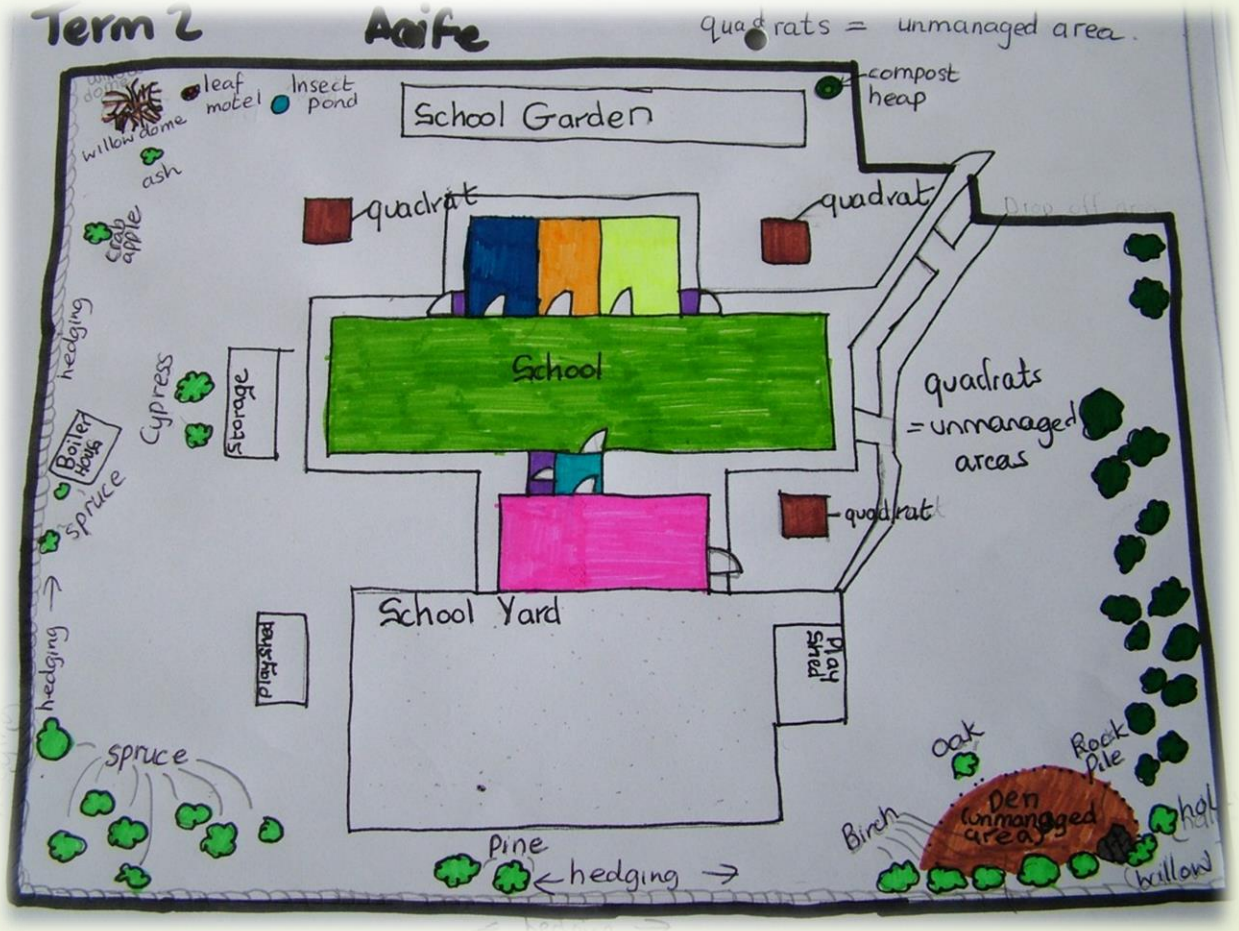
Note:
Increasing numbers can be tricky business & tricky to evaluate!

Don't be discouraged, action is as important as results!

Sample graph showing & increase in levels of awareness between the beginning of Year 1 and end of Year 1



Sample Habitat Map end of Year 1



Curriculum Links

- Mathematics – provide real life situations for mathematical analysis (graphs/charts)
- Science – study of habitats and species, animal families, structure of plants
- Art – poster design promoting biodiversity, construct bird feeders etc.
- Languages – essay topics, species names in different languages
- Geography – mapping the schools grounds
- History – loss of habitats/species throughout time

'Let our generation protect all creation'

Step 5 – Report

- Schools report to National Operators regarding progress made
- Schools upload their story on web platform

- National Operators report to FEE

- FEE reports to Toyota

- End of Year Report made available to all Summer 2016

'Biodiversity underpins the functioning of the ecosystems on which we depend for food and fresh water, health and recreation, and protection from natural disasters. Its loss affects us culturally and spiritually'

Ban Ki-moon, Secretary General of the United Nations