Green Entrepreneurs Europe

Green Entrepreneurship Europe

Ecological Footprint

Go to: http://www.footprintcalculator.org OR type in: **global footprint network** into Google and click on 'calculate your footprint' (top right).

When you have answered all the questions, either press 'print screen' to print out your summary and stick in a space below, or describe your footprint.

Questions:

1) If we split up the planet fairly, everyone would get 1.7 global hectares (gh) of the Earth. How many gh does your lifestyle use?

2) Look at the land-type pie chart. What area makes up the most of your footprint?

3) Has anything surprised you?

What could you do to reduce your ecological footprint?

Self-assessment

Try and answer the following questions as honestly as you can. You probably don't know many of the answers yet…that's ok! At the end of the project you will re-do this to see what you have learnt.

Please rate the following statements on a score of 1-5:

1= I have never heard of / done this	**2= I have heard of this/ done this rarely**	**3= I know something about this/ do this sometimes**	**4= I can talk confidently about this/ do this regularly.**	**5= I am an expert at this**				
Learning outcome: understand Lessons from Nature Principles.								
A. I can list 'Lessons from Nature' (principles that explain how nature works).				1	2	3	4	5
B. I can collect information that shows how nature creates things, provides energy and deals with waste.				1	2	3	4	5
C. I can work with others to explore principles of nature.				1	2	3	4	5
Learning outcome: understand the impact of the human economy on the natural world.								
A. I know that the economy (businesses and services) can affect the natural world - in both positive and negative ways.				1	2	3	4	5
B. I can give examples of when the economy is following the 'Lessons from Nature' principles.				1	2	3	4	5
C. I spend time thinking how my behaviour affects nature.				1	2	3	4	5
Learning outcome: understand the sustainable actions for restoring nature.								
A. I can describe the difference between sustainable actions which only reduce damage to nature and those which go further by eliminating damage and restoring nature.				1	2	3	4	5
B. I can identify examples of products/ services that eliminate damage and restore nature.				1	2	3	4	5
Learning outcome: Understand nature as a teacher, mentor and measure.								
A. I understand the importance of the economy being in harmony with natural systems.				1	2	3	4	5
B. I can identify how the economy and natural systems depend on each other.				1	2	3	4	5
C. I can describe how everything in nature can be useful.				1	2	3	4	5

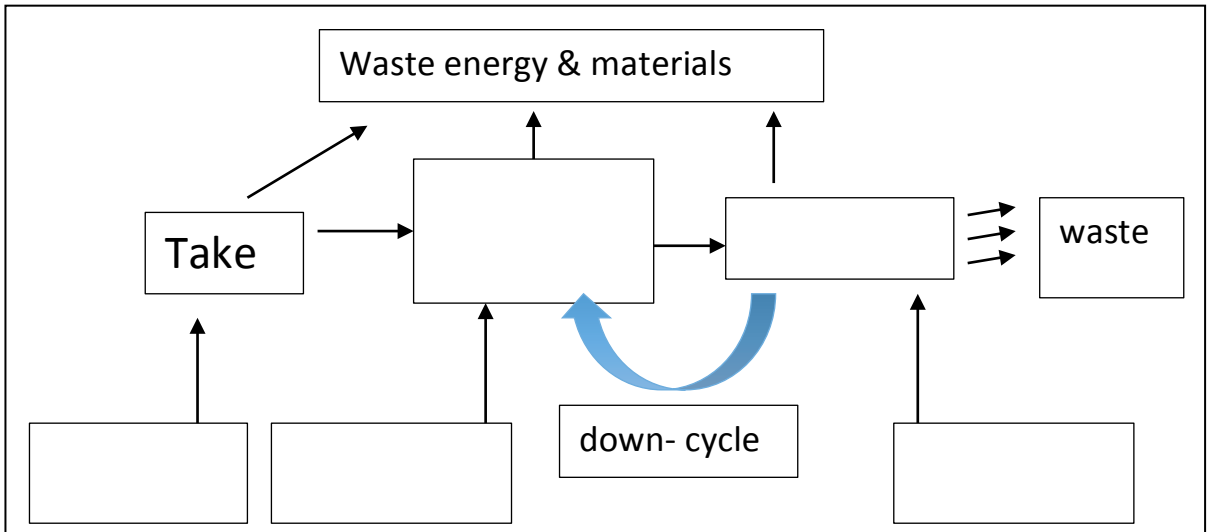
1= I have never heard of / done this	2= I have heard of this/ done this rarely	3= I know something about this/ do this sometimes	4= I can talk confidently about this/ do this regularly.	5= I am an expert at this

Learning outcome: Understand how to redesign human economy according to LFN principles.					
A. I can collect information on how the economy can be redesigned using natural principles.	1	2	3	4	5
B2. I can give examples of real businesses that are in harmony with natural principles.	1	2	3	4	5
C1. I can identify skills that I need to develop for the world of work.	1	2	3	4	5
Learning outcome: Green entrepreneurship					
A. I can list useful skills needed to be a successful entrepreneur.	1	2	3	4	5
B2. I can link principles from nature with business ideas.	1	2	3	4	5
C1. I can describe how my own business idea follows 'Lessons from Nature' principles.	1	2	3	4	5
C 3.1. I can reflect on my own actions and work, as well as those of the others.	1	2	3	4	5
C 3.2. I can turn a business idea into a working business plan.	1	2	3	4	5

This project is all about thinking like an entrepreneur. What do you think an entrepreneur is? Write down ideas and phrases that you associate with entrepreneurs.

What kind of skills and characteristics do you think an entrepreneur needs?

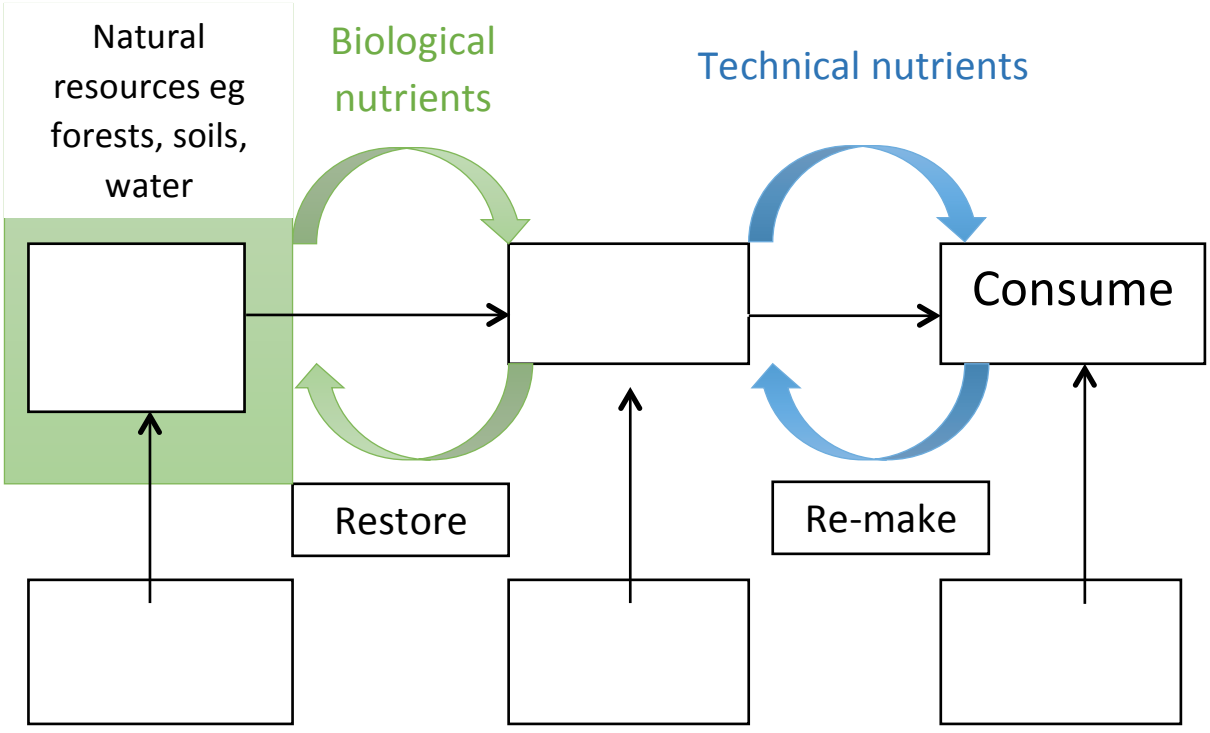
Linear economy



Fill in the missing words:

Dispose, Make & consume, Fossil fuels, Fossil fuels, Fossil fuels

Circular Economy (ideal)



Fill in the missing words:

Renewable energy, Make, Renewable energy, Take/ re-take Renewable energy,

Biological nutrients: return to the biosphere to enhance natural resources

Technical nutrients: (metals, plastics & other non-compostable materials) circulate from the consumer to manufacturer and back.

Keyword Glossary

Keyword	Definition
Entrepreneur	
Linear economy	
Circular economy	

Notes page

Lessons from Nature

Why is biodiversity important?

List 3 reasons you came up with.

Your definition of biodiversity is…

Plant ID

Sketch one of the plant species you found. Write its common and Latin name.

Polli:nation survey

What was your favourite pollinator that you saw? Draw and label it, or describe it.

Investigating plant abundance

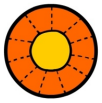
How biodiverse was your sample area?.

Improving biodiversity at school

Give 3 ways that the biodiversity around your school could be improved

Any ideas to use for your business?

The circular economy is based on 6 Lessons from nature principles

1) 	Waste = Food	4) 	Diversity gives strength
2) 	Multiple benefits	5) 	Nature optimises
3) 	Run on solar income	6) 	Nature is adaptive, dynamic and responsive

Notes:

Measuring the abundance of plants.

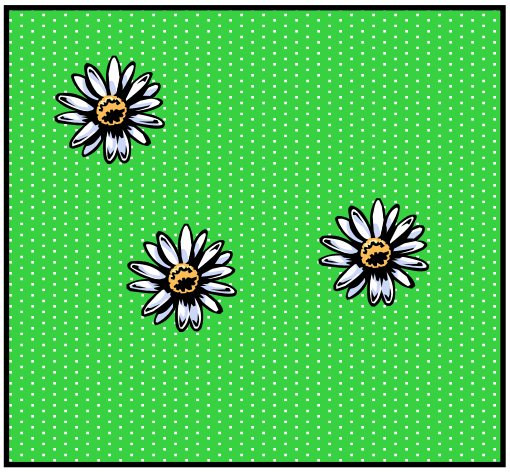
There are a few ways of measuring the distribution and abundance of plants. Your teacher will tell you which methods you will be looking at. As you use the methods think about the limitations (some of the problems with the method).

The **DAFOR** Scale can help give amounts to observed plant abundance.

D – Dominant
A – Abundant
F – Frequent
O – Occasional
R – Rare

Density

Density is the total number of individuals. This number must be given a unit – which will depend on how big your sample area (quadrat) is. E.g. number of individuals per 50cm^2 quadrat.

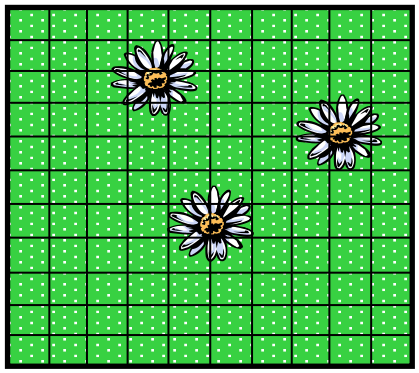


The **Density** of the flower is:

Now try it in your group with a quadrat and record your findings in the results table

Frequency

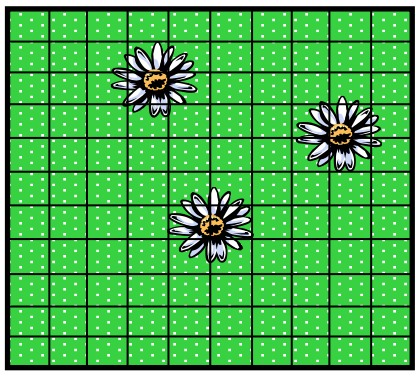
Frequency of a species is present or absent in the quadrat. You could use a gridded quadrat to give the **local frequency.** Using this method, you look at each of the small squares in the quadrat. Any of those squares that your plant appears in you count as 1, adding up as you go.



The **Local Frequency** of the flower is

Now try it in your group with a quadrat and record your findings in the results table

Percentage cover



Percentage cover is similar to frequency. Again, look at each of the little squares in the quadrat. This time you need to estimate how much of the square the plant takes up.

If it takes up more than half the square, score it 1
If it takes up half or less of the square, score it 0.5
If it's not present score it 0.
Add up the score as you go along to get a final score.

The **Percentage cover** of the flower is:

Now try it in your group with a quadrat and record your findings in the results table.

Table of results

Species Name	DAFOR score	Density	Local Frequency	Percentage Cover
A)				
B)				
C)				
D)				
E)				
F)				
G)				

Investigation

Record your results in the table below, using the measurement of abundance selected by your teacher.

Quadrat number	1	2	3	4	5
Species					
A)					
B)					
C)					
D)					
E)					
F)					
G)					

Simpson's Diversity Index

Simpson's Species Diversity Index is a representation of diversity within a habitat. It considers the 'richness' and 'evenness' of species within a habitat.
Species richness – the number of different species found in a sample area.
Species evenness – how evenly distributed the number of individual are between the numbers of species present.
• Ensure the same method is used to sample both sites, to ensure the data is comparable.

The Simpson's Diversity Equation:

$$D = 1 - \frac{N(N-1)}{\sum n(n-1)}$$

D= the value of biodiversity

N= total number of individuals in the sample

n = total number of individuals for that species

∑ = Sum of

Method:

1. Copy your data into the table over the page listing species found and the number of individuals per species.

For Each Site:

Calculate the total the number of individuals
Calculate n-1 for each species
Calculate n(n-1) for each species
Sum n(n-1)
Calculate a value for D for each site

Species	Number of individuals per species (n)	n-1	n(n-1)
A			
B			
C			
D			
E			
F			
G			
	Total (N)		**∑ n(n-1)**

1) Put in your value for N from the table to work out this part of the formula:

N(N-1) = _____

1) Put it all together

$$\frac{\mathbf{N(N-1)}}{\mathbf{\sum n(n-1)}} = \_\_\_\_\_ = \_\_\_\_\_$$

2) Finally, work out 1- the value you just calculated.

$$\mathbf{1-}\ \frac{\mathbf{N(N-1)}}{\mathbf{\sum n(n-1)}}$$

1- (your value from step 2) = 1- _____ =

This is your Simpson's Diversity value. The closer it is to 1, the more biodiverse the habitat. Repeat the above for your second site if you have done one.

Species	Number of individuals per species (n)	n-1	n(n-1)
A			
B			
C			
D			
E			
F			
G			
	Total (N)		**∑ n(n-1)**

1) Put in your value for N from the table to work out this part of the formula:

N(N-1) = _____

2) Put it all together

$$\frac{\mathbf{N(N-1)}}{\mathbf{\sum n(n-1)}} = \_\_\_\_\_ = \_\_\_\_\_$$

3) Finally, work out 1- the value you just calculated.

$$\mathbf{1-}\ \frac{\mathbf{N(N-1)}}{\mathbf{\sum n(n-1)}} =$$

1- (your value from step 2) = 1- _____

Case study: …….

Read through your case study and try to answer as many of these questions as you can:

1) What is the purpose/aim of the business?

2) Who might their competitors be? Think about conventional products as well as eco products.

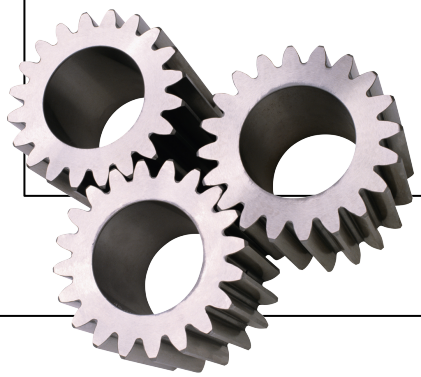
Why would people want their product or service?

WHY?

Which aspects of the green/circular economy does the company incorporate and how?

Which 'lessons from principles nature' (see page 10) does the organisation incorporate and how?

What is their main product/service?



What/where is their market?

WHAT?

What materials or other inputs do they use?

What kind of image/marketing do they use?

What do you think might be the biggest costs the organisation would face?

HOW?

Ideas generation

Now it's time to plan your own green business.

There are many different ways to come up with ideas. Below is one you could use. On the next page are more ideas. Choose a few, have a go at and see what you come up with.

Ideas Matrix

1. Consider things about yourself under the headings below:

Hobbies	Passions	Environmental problems	Necessity

2. Complete a matrix

Hobbies	Passions	Environmental problems	Necessity
Cleaning	Keeping fit	Air pollution	Air
Dancing	Poetry	Landfill	Food
Films	Green issues	Loss of biodiversity	Water

3. Make linkages to create ideas for possible businesses

Hobbies	Passions	Environmental problems	Necessity
Cleaning	Keeping fit	Air pollution	Air
Dancing	Poetry	Landfill	Food
Films	Green issues	Loss of biodiversity	Water

An environmentally-friendly cleaning product? A sustainable car washing service?

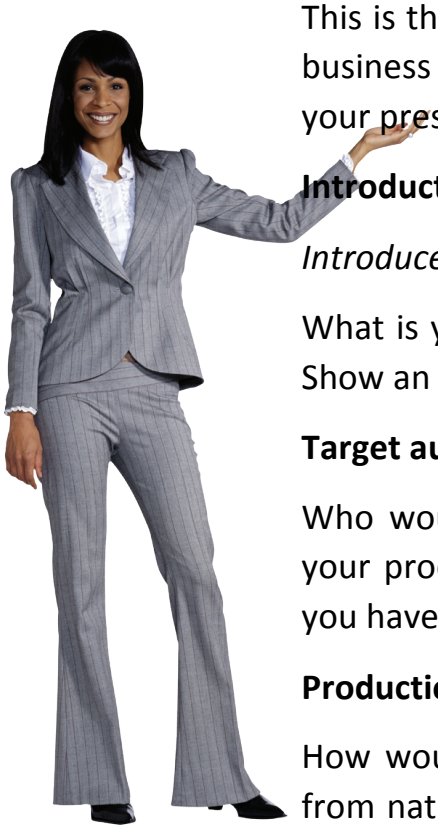
Ideas generation continued

- Create a mind map of products or markets that interest you.
- Spotting flaws in existing products- can you do it better?
- Spotting trends and anticipating impacts, e.g. designing mobile phone covers when phones started to get popular.
- Spotting from other countries/ places- do they do something that would be popular here, e.g. Starbucks originally copied the idea of the coffee bar from Italy.

Business plan & presentation

When you have a great idea, ask your teacher for the business plan template. You are ready to put together the details.

Final business presentation



This is the exciting part- you will be presenting your unique green business idea to other people! Below is a suggested structure for your presentation:

Introduction

Introduce yourselves.

What is your product, what is it called? What need is it fulfilling? Show an image of your product. 'Sell' your product.

Target audience and appeal

Who would use your product? What's unique about it? Why is your product better than your competitors? Quote any research you have done about the market.

Production and sustainability

How would your product be produced? How does follow lesson from nature principles and fit within the circular economy? What environmental issue is it addressing?

Logistics

How much would product cost to buy? Do you have an idea of production costs? What kind of advertising would you do? You could show an example advert/ social media post.

Summary

Emphasise the benefits of the product to the environment and consumer.

Congratulations entrepreneur! You have followed all the steps to create a successful business idea. Now it's time to look back, reflect and then think about the future…because business never stands still, it's always changing and developing. What will your next steps be?

Good luck!

1) Turn back to the start of the booklet and re-do the self-assessment questions. Use a different colour. What have you learnt?

2) Evaluating your idea: what else could you do? Is there anything you could improve on? What would version 2.0 look like?