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How to teach GEE and Guide to adaptation

The GEE project is based on modules which are completed in sequence. For background information on the concepts behind the project, the circular economy and how GEE fits into the curriculum please see the 'self guided teacher training document' also available on the 'learning materials' page.

This document starts by explaining how GEE is taught: the structure and lesson time required. The second part is the 'guide for adaptation', for example you may like one of the lessons from nature topics, but are not able to dedicate the suggested amount of time. Or perhaps you like a course but do not have access to one of the habitats. This guide will explain how the modules can be adapted.

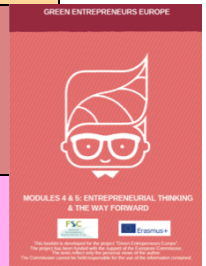
How to teach GEE

The Green Entrepreneurs Europe project is based on a modular structure. All modules are downloadable from the website. The table below explains how the modules interlink and how long each should take:

Module name	Class time required	Key learning points	Location on website
Module 1 What might change?	1-2 lessons plus homework	<ul style="list-style-type: none"> * What is the problem (why should I care)? * What are the circular and linear economies? * What is entrepreneurship? * What skills, knowledge & competencies do I need? <p><i>Please note, before starting to teach this, you need to decide on which 'Lessons from Nature' day you want to do and download the booklet associated with it.</i></p>	<p>Lesson plan Learning materials → Modules → Module 1 What might change?</p> <p>Resources Learning materials → Resources & booklets → scroll down to find module 1 resources</p>
Module 2 Lessons from Nature: chose from 5 options	1 school-day, unless you pick 'The plastic problem' which is 2 days.	<ul style="list-style-type: none"> * Understanding how things are done in nature * Getting hands on experience outdoors * Challenging existing ways of doing things * Making links between nature and business 	<p>Lesson plan Learning materials → Modules → Module 2 Lessons from nature (choose one of the 5 options)</p> <p>Booklet & resources Learning materials → Resources & booklets → Select the option you have chosen, eg (options 1/2/3/4&5/6)</p>
Module 3: changing perspectives	1-2 lessons plus homework	<ul style="list-style-type: none"> * Learning about existing green businesses * Learning how to write a business plan * Taking part in a 'coffee house challenge'; meeting real business people. 	<p>Lesson plan Learning materials → Modules → Module 3 Changing perspective</p> <p>Resources Learning materials → Resources & booklets → Scroll down to find module 3 resources</p> <p>Case studies 'Case studies' heading on website</p> <p>Coffee House Challenge Learning materials → Modules →</p>



			'Planning a coffee house challenge' document.
Module 4: entrepreneurial thinking	2 lessons plus homework	<ul style="list-style-type: none"> * Research skills * Design & creativity * Presenting 	Lesson plan Learning materials → Modules → Module 4 Entrepreneurial thinking
Module 5: the way forward	1 lesson	<ul style="list-style-type: none"> * Reflection * Analysis 	Lesson plan on the above document.



Guide for adaptation

Please note that much thought and consideration has gone into the planning of the modules. All the stages of the GEE project have been piloted with UK schools and feedback received. As a result of this feedback, changes were made to ensure its suitability to the target age group- KS3 students. It is recommended to try and teach the modules as they were designed. However, every school and situation is different and we recognise that there needs to be an element of flexibility, so this 'guide for adaptation' was designed.

This will be split into 3 sections, adapting the:

- length of the session
- location (for modules not taught at school)
- content

➤ **Module 1: what might change?**

Length of session

Suggested: **1-2 lessons plus homework.**

Content

If you want to make this shorter, then you could not show the students the optional videos and not do the bottle biome activity. This module is essential for the students' understanding of core concepts such as the circular vs linear economy; entrepreneurship, reflections and what the project is about, so it is recommended not to spend less than the recommended time on it.

➤ **Module 2: Lessons from nature. Choice of 5 modules (one is a 2-day module). Options and adaptations shown below.**

Option1: overview module

This module can be run at FSC Epping Forest or FSC London. Please email: enquiries.ef@field-studies-council.org to book a session or for more information.

Length of the session:

Suggested: 1 school day. This day splits up nicely into 2, so if you weren't able to get students out of class for a whole day, you could do it as 2 half days.

Location

A woodland and a pond. If you don't have access to a woodland, then a smaller area with trees would work too. Or you could do an alternative activity around hedgerows (see content, below).

If you don't have access to a pond, then this could also be done in a river. However, it is likely that this would be a more hazardous environment, so a careful risk assessment should be completed beforehand. You could do the 'ponds' section indoors, see below.

Content

- **Alternative to 'concrete trees'/ woodland.** If you do not have the equipment for the 'concrete trees' investigation or want to do a more structured activity,

then you could get groups to complete an OPAL (open air laboratory) citizen science survey. Suitable surveys for this habitat are the OPAL tree health survey and the OPAL air survey which looks at lichen. Or you could change your habitat and investigate a hedge, using the OPAL biodiversity survey. <https://www.opalexplornature.org/surveys>

- **Addition to pond dipping.** If you want to extend your pond dipping you could complete an OPAL water survey. If this makes you short on then, then omit the 'adaptation challenge'. <https://www.opalexplornature.org/surveys>
- **No access to a pond/ water source.** It is recommend to take students out for a whole day so they rally immerse themselves in nature. However, if you are not able to access a watercourse, then some of the activities in the afternoon can be done without the pond dipping. The biomimicry activity can easily be done as a stand-alone activity. With the adaptation challenge, students could read the information on the cards and see of they can think of adaptations from that.

Option 2: waste = food

Length of the session

Suggested: 1 school day. This could be done over 2 half days, with the Earthworm investigation on one day and the canteen investigation on another.

Location

School grounds. Extension: A visit to a farm (ideally organic) would be a good addition to this day to discuss soil, nutrients and fertility.

Content

- **Canteen investigation/ data analysis extension.** This can be made into a much bigger study, where students collect data on food waste over a period of time. Students would then think about alternatives and the best idea trialled. They could repeat the investigation post intervention and see if the weight of waste has decreased.
- **How can we make our canteen greener extension?** Students interview canteen manager/ business manager/ sustainability co-ordinator to discuss procurement and waste, relating to the canteen (or other areas, eg stationary). Students research alternatives and pitch to the relevant person. If students are motivated and interested, then sign up to become an 'eco-school'. The bronze award is fairly straightforward, and part of it involves looking at procurement in school.) <https://www.eco-schools.org.uk>

Option 3: diversity gives strength

Length of the session

Suggested: 1 school day. This can be done as 2 half days- activities before lunch would be a half day and the activities after lunch, the second day.

Location

At school. If you have access to another site, eg park, nature reserve, garden, then some of the activities could be done there.

- **No flowering plants on site/ wrong season, alternative to polli:nation survey.** Complete an OPAL biodiversity survey. This is based around hedges

and can be completed all year around, although it is generally recommended to avoid winter as there will be fewer invertebrates about.

- **Plenary extension: how could biodiversity be improved around school?** Students work together to put some ideas into practice. Simple ideas are planting bee friendly flowers (seeds are relatively cheap), planting hedges (the Woodland Trust give free hedge trees to schools in March and November every year, apply here: <https://www.woodlandtrust.org.uk/get-involved/schools/trees-for-schools/>)

Options 4 & 5 the plastics problem

Length of the session

Suggested length: 2 days. The beach clean is an integral part of this module as students form an emotional connection with the topic. Seeing plastic pollution first hand on a beach and taking part in a beach clean can really highlight the scale of the problem to students. If you wanted to shorten this module, then you could cut out the poster, research and presentation part, which should make it a 1.5 day course.

Location

A beach & classroom. If there is no suitable beach near you, you could do a general litter pick in public areas, eg along a river, in a park etc (always ensure that you have the landowners permission and have done a risk assessment). The chances are that a lot of the rubbish would still be plastic, although it is likely be less impactful than a beach clean and misses the wider context. However, it could be an alternative, if the discussion is widened back to school to marine plastic and the issues.

Content

- **Beach clean extension.** Encourage students to sign up to a public beach clean with their families, if there is a beach near you, see: <https://www.mcsuk.org/beachwatch/events>. This would be a good way of including parents and the wider school.
- **Using the beach waste.** To incorporate art and awareness raising in this day, you could get the students to design a sculpture that they could make out of all the waste they collected. This could be made and displayed somewhere at school with an explanation.

Option 6: sustainable towns and cities

Length of the session

Suggested: 1 school day. As both parts of the day are done at the Olympic park, this day can't be split over 2 half days. If you are short on time for the fieldwork, then the introduction to the Olympic Park and designing the EQS can be done in the classroom.

Location

Queen Elizabeth Olympic Park, Stratford, East London. This day and the information around it are based on this location. However, the concept could be adapted to an area closer to your school. Most development now has a sustainability focus, so if you can find an area closer to you that has literature on this then you could choose an alternative area. Council websites would be a good starting point.

Content

- **More inspiring videos.** Sustainable buildings is a large and growing area and worth exploring in more detail if you have the time. Here are some suggested videos worth showing to the students to extend their knowledge and interest.
- 1. The speaker William Mc, Donough is one of the leaders in the fields of circular economy and design. The Whole TED talk is worth watching, but the section indicated is where he shows his ground-breaking design for a Chinese city- truly inspirational!
From 16.40:

https://www.ted.com/talks/william_mcdonough_on_cradle_to_cradle_design#t-4767

- 2. A short clip on Malmo Sweden and how they have become Europe's first carbon neutral neighbourhood.

<https://www.youtube.com/watch?v=6yZYXsWnsg>

- 3. Sustainable development in Dubai
<https://www.youtube.com/watch?v=Ih3RwrDJ6yg>
- 4. Stephen cohen short clip: the concept of a sustainable city
https://www.youtube.com/watch?v=W_SeeWXX8nE

- **Trip extension.** If you are based in London, a trip to the 'Crystal' for a fossil fuel free vision for the future (www.thecrystal.org)

➤ **Module 3: changing perspectives**

Length of the session

Suggested time: 1-2 lessons plus homework. This can be done in 1 lesson by setting the e-learning module or the case study research as homework.

Content

- **Detailed case studies:** If you wanted to do this part in more detail, then give each group a case study to read and make notes on in their booklets as in the lesson plan. When students present back to their peers, give the rest of the class a simplified version of this template (eg name, product, how is it green?) to fill out for each of the businesses that the groups present. This way they will have some detail on all of the companies to refer back to.
- **Quick/ simplified case studies.** The case studies vary in length and how easy the concepts are to understand. 3 straightforward case studies are: *Splash*, *Spare fruit* and *Braiform*. A quicker way of running the session would be to give each group a case study (they don't all have to be different). Give them 10 minutes to extract basic information, just focusing on the 'why' page of the case studies pages in the booklet, not the 'what' and 'how'. Then match up the groups- each has 3 minutes to explain to the others what their product is, what problem it's addressing and how it's green. Then they swap. This should keep things moving and keep students' attention.

➤ **Module 4: entrepreneurial thinking**

Length of the session

Suggested time: 2 lessons plus homework. If students need extra support, then allow 3 lessons: 2 for research and writing the business plan and presentation, and one for class presentations.

Content

The way this session runs really depends on the creativity and confidence of the students. If they have great ideas, then the teacher should just be there in a facilitator's role. If they are struggling, then the first lesson should be much more structured. Students/ groups who are struggling can be given a case study and told to develop something similar. eg Splosh- instead of cleaning products, shower products. Or Mud Jeans- instead of leasing jeans, leasing bags or jewellery etc.

➤ **Module 5: the way forward**

Length of the session

Suggested time: 1 lesson. Don't be tempted to skip this session. If you want to shorten it, then focus on self- assessment and the way forward activities and leave out the feedback. It is really important that students have an opportunity to reflect on what they learnt and the skills they have gained: as a skill and a confidence boost. GEE is all about empowering people and making them believe they can do good.

Content

- If doing the 'feedback' session, it is helpful to prepare prompt card for groups when they are watching the presentations in the previous module. eg things I like, ideas for improvements/ questions.