SUSTAINABILITY: Our Future, Your Story.

WEEK 1 - Introduction and overview

Welcome to the first week of STEMReach 'Sustainability: Our Future, Your Story' module for Transition Year students. Having ran successfully with over 420 students last year we are delighted to welcome teachers and students back this new academic term.

Over the coming weeks participants will explore sustainability and climate action using the mediums of digital storytelling and peer learning. The programme aims to create environmental awareness and will empower students to think creativity and critically about the world around them. Throughout the module students will work together to create a fun and engaging lesson for primary pupils showcasing what they have learnt during the programme. In addition, students will develop a short TikTok style video to communicate a message about sustainability to their wider community.

This session will introduce students to module, giving a general overview of the programme over the next six weeks. Students will take part in two group activities designed to open their perceptions of what sustainability means to them. Creating meaningful conversations around sustainability and the earth's natural resources.

Each weekly session will culminate with a task designed to underpin ideas and concepts which have been raised and highlighted throughout the program. For this week's task students will calculate their ecological footprint. Supplementary activities have also been included if more class time is available.

Link to this week's video: https://youtu.be/nnujOfYvHjY

In this video you will find:

- Introduction to Calmast team and STEMreach
- Group Activity: Mars Colony Challenge
- Breakdown of Weekly Topics
- Overview of United Nations Sustainability Goals
- Group Discussion: What does sustainability and climate action mean to you
- Communication: do's and don'ts
- Introduction to empathy and empathy mapping
- Individual and Group Activity: Carbon footprint calculator

Group activity: 'Mars Human Colony' challenge

Mars Human Colony: 10-15 minutes in groups of 3-4 students
Students in groups have been tasked with setting up a human colony on Mars.
What do they bring with them from Earth in order to survive and to meet the colony's core needs, why have chosen these items over others?

When the task has been completed, each group should nominate one person to share their needs and chosen equipment with the class, justifying why they have selected their items.
Make note of recurring needs and items as well as any interesting points of discussions.

N.B. It is important to highlight to students that no idea is too large or outside the remit of the imagination.

Group activity: What does sustainability and climate action mean to you?

Sustainability and climate action: **5 – 7 minutes in alternate groups of 3 – 4.**
Ask two members from each group to join a new group to their left.

In new groups, students should discuss the question in two parts, firstly what is the definition of sustainability and climate action? how do they differ from one another?

Secondly, students should reflect on the concepts, while asking what the concepts of sustainability and climate action mean to them.

Weekly Task: Carbon footprint calculator

(Recommended for in class however, may be completed at home depending on the time available to you)

Carbon footprint calculator: **10 – 15 minutes individually or in groups of 2**
Visit: https://www.footprintcalculator.org or search for 'footprint calculator' online.
Students will be asked 13 questions ranging from food consumption and energy use to travel and types of transport. Student's answers do not need to be specific; a general estimate will be fine.

This simple footprint calculator will help to give students a general idea of how much resources they use throughout their day-to-day life and how this impacts the Earth we live on. The calculator will find their personal 'earth overshoot day' as well as the number of earths we would require if everyone used the same number of resources as them.

Ask students who has the longest overshoot time, why is this?

N.B. As several of the questions pertain to specific data, a set of average figures have been compiled below.

Carbon Footprint Calculator Averages

Food - on average how much of the food that you eat is unprocessed, unpackaged or locally grown?

A weekly shop which takes place in large multinational retailer will have a lower overall percentage of local goods than those who shop in Irish based supermarkets or centres such as farmers markets.

Average size of an Irish house:

1 bed apt: 35 - 50sqm
2 bed apt: 65 - 100sqm
2 bed terraced: 55 - 70sqm
3 bed semi-detached: 85 - 100sqm

https://www.breffnieokelly.ie/blog/size-matters-do-you-know-what-size-your-home-is

Renewable energy

Overall renewable energy share in 2020 was 13.5%, meaning that Ireland did not meet its overall target on 16% as set out under the EU Renewable Energy Directive (RED).

https://www.seai.ie/data-and-insights/seai-statistics/key-statistics/renewables/

Fuel economy

Average of standard 5 seater electric car - up to 100 km with 15 kWh (equivalent of 5L or less)

Average of standard 5-seater petrol car – up to 100 km with 5.5 – 6.5L

Average of standard 5-seater diesel car – up to 100 km with 6 - 7L

A BIT OF EXTRA TIME?

If you have extra class time available and would like to dedicate more resources to the module the below activities have been compiled:

The Great Climate Journey:

Greta Thunberg has become one of the most prominent climate activists in the world.

When invited to speak at the United Nations Climate Action Summit (COP 26) in the United States, she travelled to the summit by sailing from Sweden to New York to keep her carbon footprint to a minimum.

Can you travel from your school to the UN Headquarters in New York, using the quickest and most sustainable way possible? If you would like to simplify the activity, you may set the destination to Glasgow, the location of the COP 27 summit.

Challenge students to calculate the different 'carbon footprints' of different methods of travel and see who can find the best way to reach their destination. Ask students to list different travel methods they can think of and how big or small their carbon footprint is.

Calculator:
https://calculator.carbonfootprint.com/calculator.aspx?tab=3

Article:
https://www.theguardian.com/environment/2019/jul/29/greta-thunberg-to-sail-across-atlantic-for-un-climate-summits

Short Climate Quiz by the New York Times:
Four short quiz questions have been designed to get students thinking about the impact of certain climate based decision, including cutting down on packaging, energy usage, consuming more plant based foods and travel.

https://www.nytimes.com/interactive/2020/08/30/climate/climate-footprint-quiz.html

(If a payment pop – up appears, simply x out of the pop up and quiz will appear)

If there are any questions from students which are not answered in workshop, please feel free to email us at anytime on: Calmast.wd@setu.ie

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