eTwinning Project draft. It could be an Inquiry-based learning (IBL)

Name for the project: there are some options:

- Low Carbon lifestyletwinning
- Greening our Footprint
- Becoming green
- Circular economy and health reduce Carbon Footprint
- eTtwinningreen4u
- Improving Climate Change Statistics
- Becoming eco-friendly
- eTwinning climate change conference. Twinspace February 2021, this could also be an expected result
- Health and Economy eTwinner congress
- Low carbon economy improves health
- Climate change summit. Twinspace, February 2021

any other option you think, will be perfect for me.

ANY SUGGESTION WILL BE ACCEPTED AND MODIFIED. IT IS ONLY A DRAFT TO BE CHECKED BY YOU BEFORE APPLY FOR APPROVAL.

I THINK IT IS ALSO EASY THAT TEACHERS FROM OTHER STEAM SUBJECTS CAN JOIN THE PROJECT, WHAT DO YOU THINK ABOUT?

THANKS FOR CHECKING THE DRAFT AND DO NOT HESITATE IN CHANGE EVERYTHING YOU HAVE IN MIND

About the project

Climate change crisis is a complex environmental, scientific, individual, and social situation that earth planet faces at the same time that its development and technification. Students are involved on news related to current threads and future catastrophes in which will be experienced if humanity keeps on emitting pollutant gasses that retain heat under atmosphere or any other harmful actions that cause environmental damage.

But are students as citizens a cause of or may also be solution to climate change? Scientifically dealing with climate crisis presents a great challenge for students and offers teachers from any subjects a perfect opportunity to foster and nurture students' full potential through different learning approaches.

This project will help to mitigate future problems with their current researches, making meaningful their learning process and enable them to take ownership over their own learning and results.

Our inquiry-based learning project will empower students' voices in favour of becoming green and offsetting Carbon footprint to promote an eco-friendly way of living

Aims

1) To fortify the importance of critical thinking and enhance problem-solving.
2) To foster curiosity, creativity, love for learning and scientific method applying.
3) To motivate students to actively take part in environmentally friendly actions and see their positive impact on real life.
4) To open their minds to different ways of living and thinking
5) To build social, emotional, scientific, and meaningful skills while improving their digital competence.

This project is also aimed at emphasizing our student's role in their learning process, giving them the autonomy to explore, ask questions and share ideas. Teachers will facilitate students to celebrate the international climate change summit in February on the Twinspace as a scientific congress to share their researches and eco-actions in motion.

Work process

Starting with a driving question, students will research about causes and consequences of climate change and how it impacts on health, economy, and any other field of education (from any subject is possible to address climate change at school). Students will calculate their Carbon Footprint, be aware of how their lifestyle influences the environment and will propose actions, tips, change of attitudes, ways of acting that offset their Carbon Footprint on Earth.

Our initial timeline could be modified according to the project path but approximately:

Up to September: Teachers pre-planning, September: welcome to eTwinning, code of conduct, commitment to netiquette rules, Twinspace, who is who, where we live, this is our school and international teams. Communication in forums and any other virtual learning environments where students will collaborate in teams.

October: Background knowledge brainstorming. Climate change and CO2 Footprint calculation. Climate change Data sets (research, share and discuss graphs and descriptive statistics measures or any other meaningful topics).

November-December: Addressing climate change in our lessons: climate change's impacts (refers to subjects): causes and consequences. New year eco-friendly resolutions.

January-February: What can we do to become green? Simply, short, clear, and visual solutions and actions to help students and society become greener. International climate change summit on Twinspace.

Expected results

Inquiry, digital, environmental and research skills improvement.

Eco-awareness in motion. Eco-friendly Twinspace. Eco-digital products to foster a low carbon lifestyle.

Eco-magazine and Eco-Blog to share and disseminate our footprint improvement.

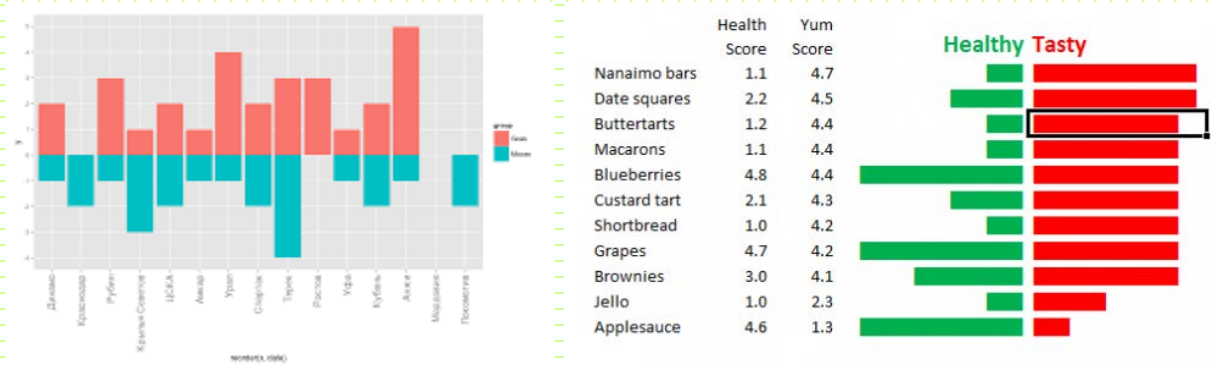Main ideas: to foster critical thinking, research, creativity, problem solving, learning from mistakes...students' skills.

1) To know our students' previous knowledge about climate change: terminology, causes, effects, solutions, actions, activism.
2) Learn how climate change impacts on our lives, our economy, and our health
3) Analyse data set related to health and economy and describe data displayed in graphs, charts, or plot. Students will search on the internet data about effects of climate change on health and on economy. With these graphics they will explain to their project mates what information graphs display.
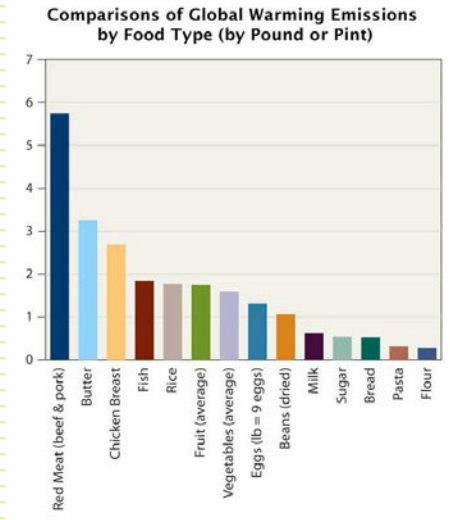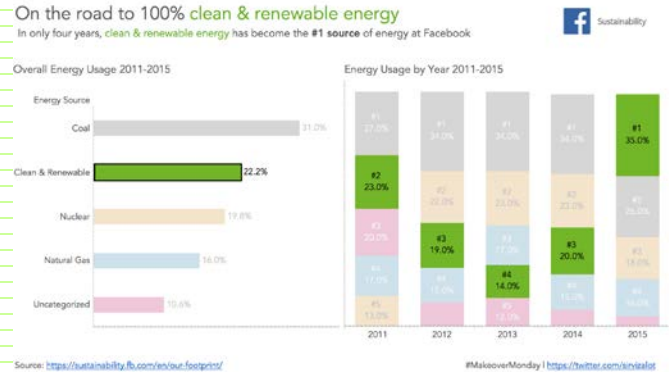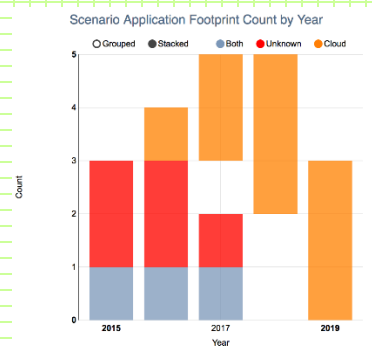
    a) Bar charts (2D, 3D)
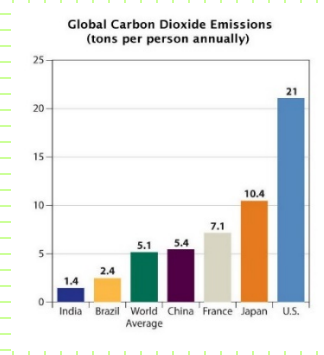
    b) Horizontal, vertical, two-sided bar chart or two-sided bar plot

c) Grouped bar charts https://chartio.com/learn/charts/grouped-bar-chart-complete-guide/

d) Stacked bar charts https://chartio.com/learn/charts/stacked-bar-chart-complete-guide/
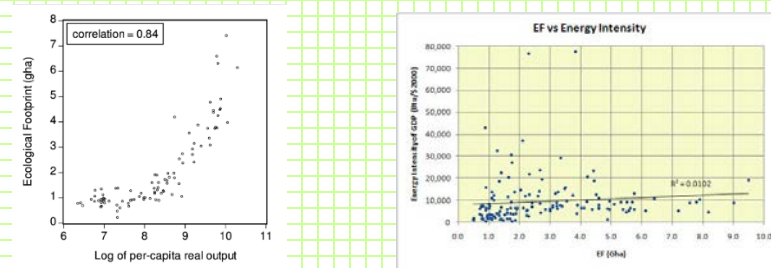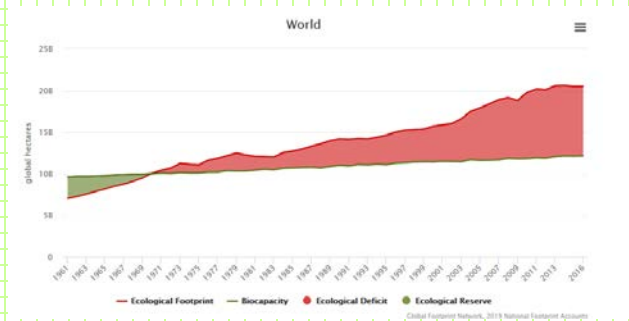
e) Pie charts
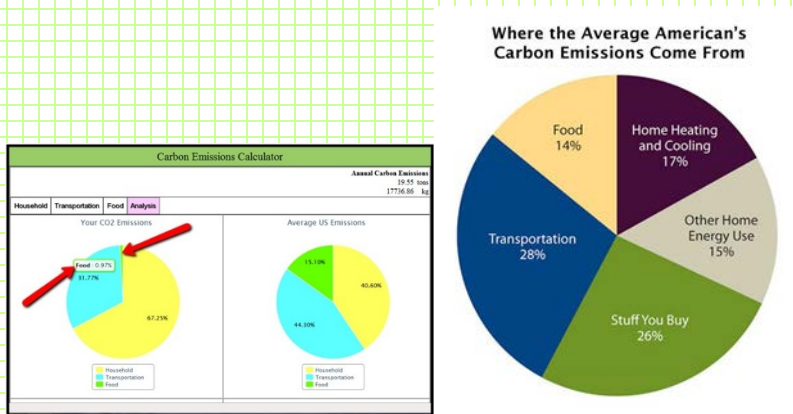
f) Box and whisker plot
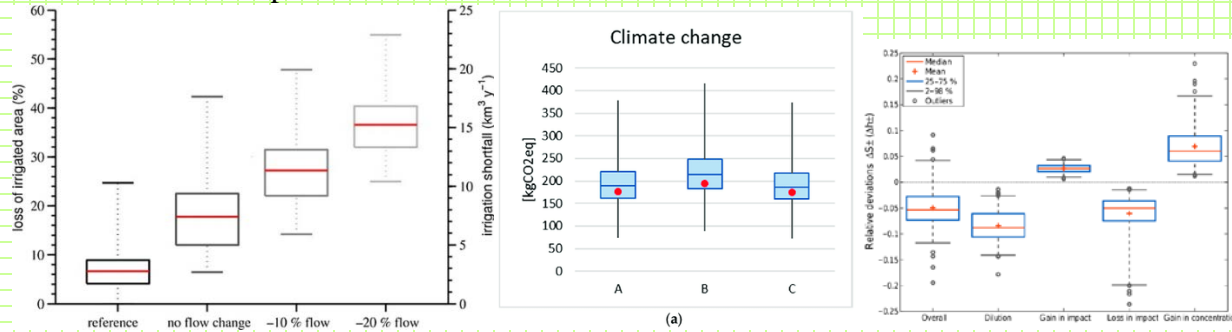
g) Scatter plot
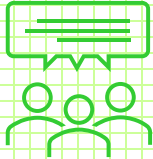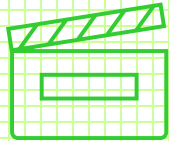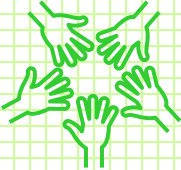
h) Time series graphs.
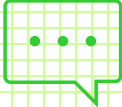
4) Analyse Climate change impact on Health and Economy. As deeply as we need, it can be superficial Short information searched on climate change scientific webpages (including resources according to netiquette rules),
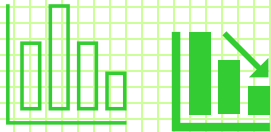5) We both teach Statistics. That is the reason why we need quantitative and qualitative variables to learn from: may be Carbon Dioxide Footprint (Units: tons/year) and some qualitative variables.
6) To learn about effects on
7) . https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/

ACTIVITIES

	Starting point of the project (September)		
	Description	**IT Tool**	**Collaborative Project Products**
Commitment	Netiquette rules Code of conduct of etwinning https://www.etwinning.net/en/pub/code-of-conduct.htm Inquiry based learning. Explanation of what IBL is and how we will develop this kind of learning process in the project. Twinspace	Genially https://www.genial.ly/en Piktochart https://piktochart.com/ Power point Canva https://www.canva.com/en_gb/	Infographics made by some students about core rules of netiquette and IBL.
1 Who is who	Introducing Schools (Secondary schools, Vocational Schools, Technical Schools, High Schools…) Students upload images of them and their schools in video	Animoto https://animoto.com/ Youtube, Foto, Kizoa https://kizoa.app/home Inshot (mobile app) Quik (mobile app)	Video collage including all videos

2 Where we live	Add marks where our schools are located Teachers can do this activity	Zeemap adding mark where our schools are located. https://www.zeemaps.com/	Image and link to the map

3 Teams	International teams. Teachers supervise students while uploading their images.
	  1. Travel (Voyagers team)
	  2. Stuff-Recycle-(Recyclers team)
	  3. Stuff-Reuse, reduce (Optimizers team)
	  4. Home-plastic (Zero plastic team)
	  5. Home-waste zero (Zero waste team)
	  6. Food-diet (Plant based diet team)
		Padlet. Virtual wall in columns.
		1 team for each factor of CO_2-footprint ? Any other criteria to establish groups will also be ok for me!
		https://es.padlet.com/
			Virtual dashboard

	Background knowledge about Climate change (October)		

4. Background knowledge and starting point	To know previous terminology, what they think about climate change… 4. Brainstorming (online and onsite) DRIVING QUESTION or DRIVING ASSESSMENT: Our attitude: a cause of and solution to' climate change? Part of the problem or the solution: we chose	Answergarden where students write words thy know related to climate change* https://answergarden.ch/	Brainstorming results: Word cloud with ideas and thoughts
	Initial questionnaires (background knowledge): Climate change and CO2 Footprint (October). Climate change Data set: .		
5 CO2	https://eli.lehigh.edu/climate-change/instructional-sequence/day-16	Google Form to have information to convert into an Excel spreadsheet file and make graphs in the sessions at school.	Graphs and results
5. Footprint calculation	How big is your environmental footprint? https://footprint.wwf.org.uk/#/	Google Form Online questionnaire	Results and analysis of the Google Form. Individual Footprint Data Teams Footprint Data eTwinners Footprint Data
	Free Carbon Calculators. For Individuals and Small Businesses https://www.carbonfootprint.com/calculator1.html	Maybe more interesting for economy students	Results and analysis of the Google Form. Individual Footprint Data Teams Footprint Data eTwinners Footprint Data

7. Researches aimed to find information on graphs (related to their educational levels and subjects).Sharing information	http://data.footprintnetwork.org/#/ Our time-series graphs map out the gap between human demand on nature (Ecological Footprint) and nature's capacity to meet that demand (biological capacity) for over 200 countries and regions from 1961. A country is running an ecological deficit if its Ecological Footprint exceeds its biocapacity. It has an ecological reserve if its biocapacity exceeds its Footprint. http://www.impactlab.org/map/#usmeas=absolute&usyear=1981-2010&gmeas=absolute&gyear=1986-2005 Temperature data set http://www.impactlab.org/ Measuring the Real-World Costs of Climate Change http://www.impactlab.org/research-area/health/ Impact on health https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/deathregistrationssummarytablesenglandandwalesreferencetables http://www.euro.who.int/en/health-topics/environment-and-health/Climate-change/data-and-statistics http://www.euro.who.int/en/data-and-evidence/archive/mortality-database-updated https://gateway.euro.who.int/en/datasets/european-mortality-database/ https://gateway.euro.who.int/en/indicators/hfamdb_394-cdr-1-4-infectious-and-parasitic-diseases-per-100-000/ https://gateway.euro.who.int/en/hfa-explorer/ https://gateway.euro.who.int/en/datasets/ https://statisticsonline.eu/ https://unstats.un.org/home/ https://unstats.un.org/unsd/undataforum/about/index.html	Students will research in these web pages in order to find, select and gather information about how human actions impact on planet. Especially focus on economy and health. This is a way to deal with the information adapted to each kind of educational levels (secondary, primary, vocational education and training _lower VET and upper VET). In international teams, students will gather information linked, for example: a disorder related to pollution and companies that emit pollution and ways to offset CO_2 footprint caused by travels that cause CO, NO… emissions.	
	Addressing climate change in our lessons (November)		

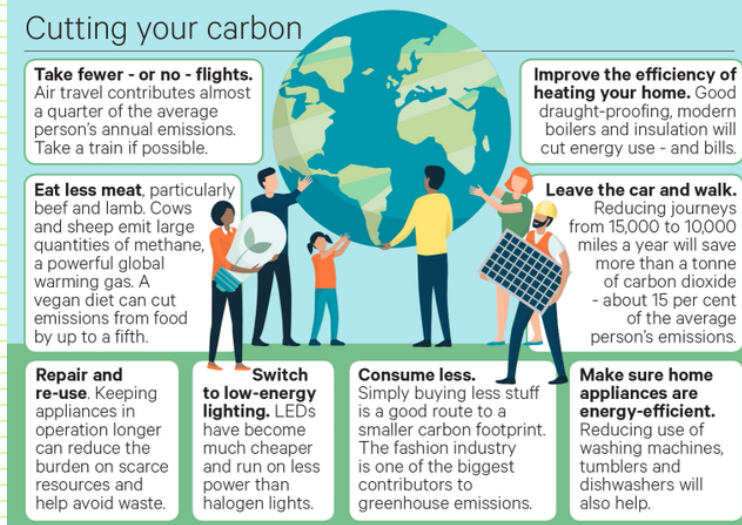|			
	Causes of climate change Simply and clear. Short information with data set displayed on graphs	Genially Piktochart Power point Learning apps	Presentations Images Collages Videos Infographics
8. Short investigation (I)	Consequences on health and economy Simply and clear. Short information, visual information 	Genially Piktochart Power point Learning apps	Presentations Images Collages Videos Infographics
	Research and analyse (November). Results and presentations (December)		

9. Short investigation (II)	Health Information Technician Students collect information and data set refers to air polluters: Ozone, Fine particulate matter (PM), Inhalable particulate matter (IPM), NO2, SO2, CO, NO and Benzene Economics Students collect information about….	Genially Piktochart Power point Learning apps	Presentations Images Collages Videos Infographics
January – February (Eco tips to become low carbon and eco-friendly)			
	What can we do to become green? Solution Simply and clear. Short information with tips and attitudes to reduce CO2		
10. What can we do? (I)	Tips to reduce Carbon Footprint (3-5 tips per team) Easy creations. Visual creation to disseminate at school and out of school		

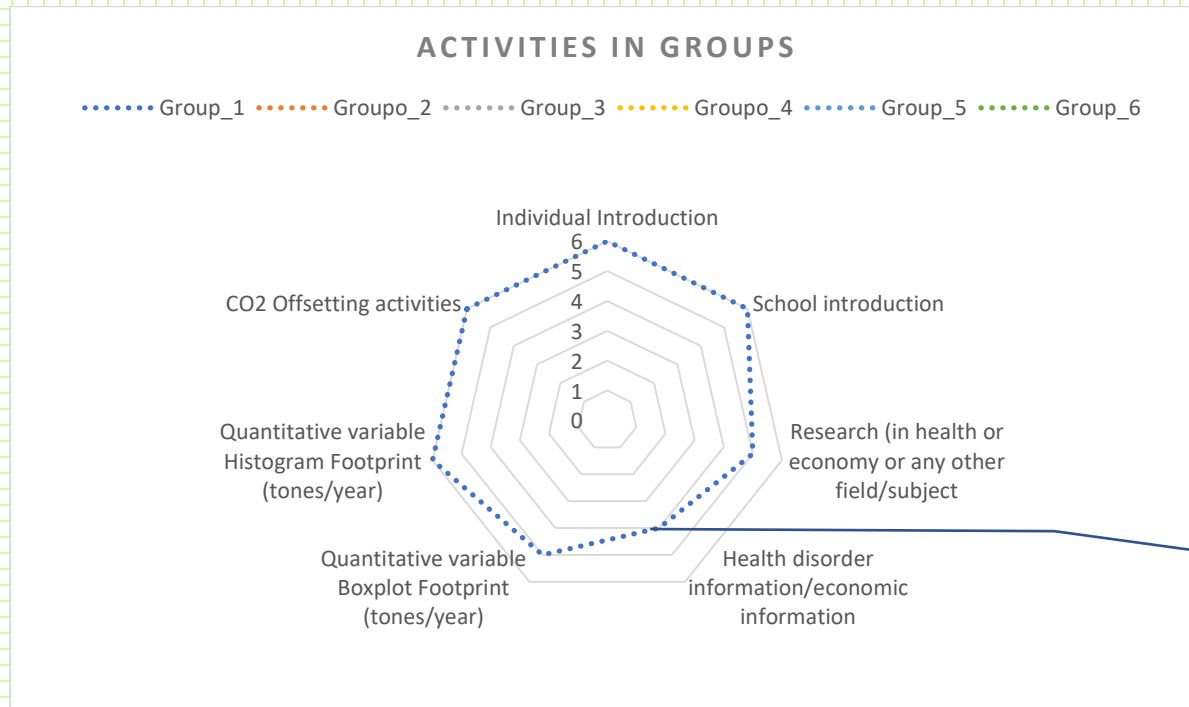| What can we do? (II)	Green card (award to become green) Zero waste Low CO2 CO2 offsetting		
	EXPECTED RESULTS		
11. Dissemination, sharing information...	Gather all tips to become green Blog on the School webpage (all information and project products will be included all over the project)	e_magazine how to become green. Blog with Blogger in the school web page Eco_suggestions: To bring lunch in eco school boxes To plant a tree To eat less meat and more vegetables … To make a recycled bag for shopping To cycle to school and take pictures To switch lights off when you leave home	Presentations Images Collages Videos Infographics
	INTERNATIONAL Climate change summit. Twinspace, February 2021		Students in groups will share their researches in a very scientific way within videoconferences on the Twinspace.

12	Filling questionnaires again to check what we know about climate change after the project and how much our footprint has improved through the project.		Impact of our amazing project on our life. Do we become greener? Have we improved our footprint? Comparison before and after the project.
13.	Project evaluation	Sharing reflections and improvements Sharing positive point of the project	
14.	Final celebration: Climate Change Summit Conclusions		

*Terminology:

Climate Change, Carbon Dioxide, Footprint, Global warming, LED, eco-friendly, circular economy, Carbon Offsetting, Low carbon lifestyle, Zero waste lifestyle, Renewable resources, insolation, plastic, waste, environmentally-friendly, Greening, air pollution, ozone, Inhalable particles, Methan, greenhouse effect, greenhouse gases, sea acidification, plant based diet...

Tools for formative assessment:

Radar graphs

ACTIVITIES IN GROUPS

······ Group_1   ······ Groupo_2   ······ Group_3   ······ Groupo_4   ······ Group_5   ······ Group_6

Individual Introduction

6
5
4
3
2
1
0

CO2 Offsetting activities

School introduction

Quantitative variable Histogram Footprint (tones/year)

Research (in health or economy or any other field/subject

Quantitative variable Boxplot Footprint (tones/year)

Health disorder information/economic information

Only 4 groups have done research activities related to health disorders