Lesson Plan
Save the Planet

School: IC "Libero Andreotti"	**Teacher:** Maltagliati Orietta
Title : Save the Planet	**Time :** 6 hours
Subject : English, ICT, Geography, Science	
Aim: -Making students aware of the problem of Global Warming and the effect of climate change; -Increasing students sensitiveness toward environments; - Using computational thinking to find out different solutions and future goals about climate change.	
Key CS elements: decomposition, pattern recognition, abstraction, practicing algorithms	
Age group: 7th grade 12-13 years old students	
Learning situations: students classroom, Science classroom, computer room.	**Activity type:** pairs/group work; cooperative learning, problem solving
Resources: Google Workspace, videos, whiteboard, IWB, laptops, specialized articles and websites	
Learning development: **1.DECOMPOSITION** (breaking a problem down into a smaller part) - the students watch a video about climate change and greenhouse effects and the ecological footprint and learn about the role of carbon dioxide as a greenhouse gas -Students learn words related to the characteristics and the problem of the climate change (ecosystem, climate change, global warming, greenhouse effect, ecological footprint)	

-Then, they use the structures learned, present, past and future tenses. Second conditional, comparatives, preposition of time and place to describe the impact of climate change on the Earth, the impact of human beings on the environment with pros and cons.
-Use the grid method to draw an image;

2. PATTERN RECOGNITION (looking for similarity and trend within a problem)

-The students do some research on which counties have suffered extreme weather conditions recently.

-They study the temperature records that show that the average temperature has increased by about 0.6 C in the 20th century due to the expansion-of warming oceans which sea levels have risen by 10-20 cm by and its consequences;

- they study the Kyoto protocol which commits industrialized countries to reduce their greenhouse gas emissions.

-They find out about everyday life behavior that can damage and cause Greenhouse effect on our planet:
-intensively grown cotton is one of the most polluting crops for the chemicals water needed;
- when you brush your teeth you waste between 25 and 45 liters of water every time;
- cars are massive polluters, but planes are responsible for massive greenhouses emissions; i
- most household cleaners and people are not eco friendly.
- most of the packaging creates garbage and pollutes.

3 .ABSTRACTION (focusing on the important part of a problem, filtering out unnecessary details)
The students:
- find out how green they are in its environmentally friendly sense
- divided into groups, do a quiz to find out their level of "Greenness" at home, at school or outside;
- select recycling material from the packaging;
- search for recycling products on the internet and look for them in the school ant at home;
- find out how green they are in its environmentally friendly sense
- divided into groups, do a quiz to find out their level of "Greenness" at home, at school or outside;

4. ALGORITHM DESIGN (create a step by step sequence of instruction to solve the problem)

The students:
- find out how green they are in its environmentally friendly sense
- divided into groups, do a quiz to find out their level of "Greenness" at home, at school or outside;
- select recycling material from the packaging;
- search for recycling products on the internet and look for them in the school ant at home;
- find out how green they are in its environmentally friendly sense
- divided into groups, do a quiz to find out their level of "Greenness" at home, at school or outside;
- discover their scores and if they have a very green head on their shoulders or if they have a lot of changes to do.
- work in teams in a "recycling race" and divide the given words in the recycling columns (paper, wood, plastic, metal, glass, organic) ;

Assessment: The assessment of learning can take place through the production of the students in :

Using the specific vocabulary related to the climate change and its effects

-Finding out different solutions and future goals about climate change and on the location of the areas exposed to climate changes

-Students' ability to approach a problem and find solutions using computational thinking;

-Cooperating in group work, doing peer to peer activities and realizing a group product.

Expected results:

-understand concept (climate change) and making connections (causes/effects) -deduce and compare information; making conclusion; give reason ;
-show awareness of connection between territory, culture and environment ;
-show awareness of the effects of the human behavior on the environment (ecological footprint) ;
- learn to use technological devices and tools ;

- cooperate with peers ; - improvement in communication (foreign language);
Notes:this project was born from the idea to make the students aware of the connection between territory, culture and environment and the effects of human behavior on the environment (ecological footprint).