

# The ecological footprint. Global warming.



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**Generació Plurilingüe (GEP)**

Year 1  
2018-2019



<b>GEP 1</b>	<b>Task 1. Input &amp; cooperative/collaborative learning in CLIL.</b>
<b>Title of the lesson</b>	The ecological footprint.
<b>Course / year</b>	2 <sup>nd</sup> BAT / 2018-19.
<b>Timing</b>	<p><u>Session 1.</u></p> <ul style="list-style-type: none"><li>- Activity 1 (25 minutes).</li><li>- Activity 2 (35 minutes).</li></ul> <p><u>Session 2.</u></p> <ul style="list-style-type: none"><li>- Activity 3 (45 minutes).</li><li>- Activity 4 (15 minutes).</li></ul>
<b>Short description of the session</b>	<p>The lesson is organized in 2 sessions of 60 minutes each. At the beginning of each session, the students will be organized in heterogeneous base groups of four members, attending to their intelligence typology, personal skills, academic performance and English level.</p> <p>During the two sessions, the students will work on the concept of the ecological footprint, completing four different types of activities that integrates listening, speaking, reading and writing skills.</p> <p>Students will be presented with explicit, implicit and referential questions that will help them along the learning process.</p>



Session 1

Activity 1

Name.

The fish game.

Type of input.

Online internet game.

Student material.

- Tablet (one per group).
- Set of pieces of paper, containing five answers divided in 15 parts (one set of pieces per group).

Description.

First, the teacher will read the following text to the students, making sure they perfectly understand the purpose of the game (using additional explanations and clarifying any possible doubtful vocabulary).

*Let's pretend you're fishermen. Imagine you've travelled abroad just to take part in a 10 days fishing contest in a lake. After that period of time, that boat that can catch more fish will be declared winner, being paid 2 \$ per fish. There are other two boats in the competition but, most likely, they will follow your lead and base their catch on yours.*

*Nevertheless, there are a couple of things about that lake you must keep in mind. In the one hand, its carrying capacity (the maximum number of fish the lake ecosystem can support) is just 20 fishes. On the other hand, you must take into account that, every night, the fish that remain after a day of fishing will reproduce at a rate of 25% (for instance, if there are 12 fishes at the end of the day, they will multiply to 15 overnight, and if there are 19, they will multiply to 20). However, of course, the total number of fish can never exceed 20.*

*Now you know everything you need, click on the icon you will find on your tablet's desktop and play the fish game ([http://fishgame.cloudinstitute.org/games/fish\\_game.html](http://fishgame.cloudinstitute.org/games/fish_game.html)), but very important: YOU MUST JUST PLAY IT ONCE!!!*

Once all the groups have finished playing, the teacher will set a new situation and will ask the students a referential question, with five different proposed answers, which, though, will be divided into several parts that they'll have to properly put together.



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*Now, let's suppose you've already come back to the lake you work in, there in your country. Do you think you should base your work activity on the same strategy you've followed in the contest? I'll give you five possible answers and you have to tell which of them you agree with. You will find them in the papers I've given to you, but, first, you must properly put the pieces together. Go ahead, you have 10 minutes!*

Next, you can read the answers the students will be given, divided, not in different pieces of papers, but in different colours.

*a) Of course we shouldn't. Otherwise, our lake would run out of fish.*

*b) Yes, why not? It's obviously the best way to earn more money.*

*c) No, thinking just in terms of short term economic income would be such a great irresponsibility.*

*d) No, we shouldn't just think about current generations, but also about future ones.*

*e) Yes. If productivity decreases, technology will surely find a way to increase it.*

After the 10-minute period of time, the teacher will show the solution on the screen and, during the following 10 minutes, he will ask (using referential questions) each group to explain why they have or have not chosen any of the answers (*Why do you think the lake would run out of fish? Why do you believe that wouldn't be the best way to earn money? Why do you say that would be irresponsible? How could that strategy harm future generations? Don't you think technology can help us increasing productivity?*).

**Activity 2**

Name.

The ecological footprint definition dictogloss.

Type of input.

Dictogloss.

Student material.

- Set of pieces of paper, containing 12 images, 5 arrows and 5 mathematical symbols (one set of pieces per group).
- Cardboard (one per group).
- Glue bar (one per group).

Description.

First, the teacher will give each group a set of pieces of paper containing 12 images, 7 arrows and 5 mathematical symbols. After



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that, he will read, slowly and carefully, a definition of the ecological footprint and then, he will ask the students to use the pieces of paper in order to create a flowchart equation for that magnitude. The teacher will perform the reading twice or three times more, while the students are working.

*Now, you will hear a definition of a magnitude called the ecological footprint. Use the set of pieces of paper and the glue bar you've been given to create a flowchart equation on your cardboard that can properly express the definition you're about to hear. You'll have 10 minutes to complete the task. And remember not to stick any paper after being completely sure about its position on the cardboard is the one you all think it should be!*

*The ecological footprint measures the sum of cropland, grazing land and fishing zones required by a given population to obtain all the plant-based food, natural fiber products, livestock-based products and seafood that it consumes, the built-up land needed to build its housings and infrastructures, and the forest area required to get all the timber, paper and other forest products that it uses and to absorb all the carbon dioxide emissions that it generates.*

From the flowchart equation they had created, each group of students will have 10 minutes to write a short text with their own definition of the ecological footprint. Right after, each group will show the rest of the class its cardboard and read its definition, so that it can be commented and/or corrected. After each presentation, the teacher will ask questions to the members of the group (*Where in the flowchart would you place an image of a highway? Where in the flowchart would you place a sushi image? Where in the flowchart would you place an image of a campfire? – implicit – Do you think the same forest area should be counted twice, once for forest products and once for carbon dioxide emissions? – referential –*).

**Session 2**

**Activity 3**

Name.

The ecological footprint cooperative reading.

Type of input.

Cooperative reading.

Student material.



- Set of 4 parts of an article (one set per group).

#### Description.

First, the teacher will distribute, in each base group, the four parts of the article among its members. Then, every 4 student with the same part of the article will temporally join to a new group of experts (so, it's possible that there are more than one only group of experts for each part of the article). After that, each group of experts will read, analyze and discuss its part for 15 minutes, trying to extract the main ideas. During that period of time, the teacher will "visit" each group of experts, asking them questions in order to check their progress and help them to move towards their goal (*Do you think eating a salad has any impact on the environment? Could you tell me one? Why do you think it is useful having a method of quantifying the consequences of human impact on Nature? Is the ecological footprint an absolute value? What does that means? Why do we need a standardized unit, the global hectare, to express ecological footprint and biocapacity? – explicit – Could you tell me an example of human activity that has no impact on the environment? Why? Which category should a cotton T-shirt be included in? And a natural leather jacket? When would you say a territory is in ecological equilibrium? If I moved from a big city to a small town, do you think my ecological footprint would be the same, despite I didn't change my lifestyle? – implicit –*).

#### The ecological footprint (part 1).

*Every single thing we do has got some kind of impact in Nature. Breathing, sending an email, give a bouquet, break a glass... Even dying! Everything.*

*For example, that bag of lettuce I used in my salad last night actually represents a chain of events that impacted the environment in ways that we often neglect to think about. First, a small piece of land was cultivated to grow the lettuce and, quite probably, some agrochemicals were used in that process. It also took some gasoline to run the farm equipment and the truck that brought the lettuce to me from the countryside, so a certain CO<sub>2</sub> emission has to be assigned to my salad. And, what about the plastic wrap? Some petroleum is needed to produce it and for the ship that would transport that crude oil to the refinery. Obviously, we could keep on adding many more items to the list, but it's long enough to get an idea of what we mean.*

*Any human activity implies occupying a piece of land and/or exchanging substances with the environment (water, oxygen, cellulose, CO<sub>2</sub>, excrement, plastic polymers, dyes, etc.). Nevertheless, the key is not just knowing how big is our impact, but also taking into account how fast the environment can compensate for it.*

#### The ecological footprint (part 2).

*In the 1990 decade, Mathis Wackernagel and William Rees, two researchers at the University of British Columbia*



*(in Vancouver, Canada), introduced a new concept: the ecological footprint. They were concerned about the consequences of human impact on Nature and concluded that having a method of quantifying them would be useful (if not necessary), in terms of proposing possible solutions.*

*The ecological footprint is nothing more than a measure of how much land is needed to support our lifestyles, to produce all the things we consume and to absorb our waste. It measures the amount of surface area that a given population requires to inhabit it (including housing and infrastructure), to produce the natural resources it consumes (including plant-based food, fiber products, timber and other forest product, livestock and seafood) and to absorb CO<sub>2</sub> emissions due to fossil fuels combustion.*

*Therefore, in the ecological footprint calculation, five categories of surface area are established: cropland, grazing land, fishing zones, built-up land and forest areas.*

*The ecological footprint (part 3).*

*However, an ecological footprint is not an absolute value, but a relative one. That means that it must be compared with something so that it makes sense, and that thing with which to compare is biocapacity.*

*The biocapacity of a territory is nothing more than the whole of its productive and forest surface area.*

*When the ecological footprint of a certain region exceeds its own biocapacity, that region has an ecological deficit. The demand for goods, services, energy and built-up area that their lands and seas can provide and the CO<sub>2</sub> emissions that their forest can absorb, exceeds their ecosystems' capacity. A region in ecological deficit satisfies the demand by importing, liquidating its own ecological assets (such as overfishing or deforestation) and/or emitting CO<sub>2</sub> into the atmosphere. On the other hand, if the biocapacity of a region exceeds its ecological footprint, then we must talk about an ecological reserve.*

*The ecological footprint (part 4).*

*Both ecological footprint and biocapacity are expressed in global hectares (Gha). A global hectare is a normalized unit according to world's average land productivity. This sort of standardization is needed in order to allow global comparisons.*

*For example, a hectare of exuberant land with high rainfall would represent more global hectares than a hectare of desert. So, different hectares of land can provide different amounts of global hectares.*



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	<p><i>Even when we are considering human communities who live in territories with the same productivity, our calculations have to compensate for the place where they live, so that comparisons may be possible. For instance, if I lived in a big city, I should take into account for the police and fire departments, school buses, and all sorts of other fossil fuel associated infrastructure needed to support me, things I shouldn't quantify if I lived in a small village. In that second case, my footprint would be less in terms of these services.</i></p> <p><i>The concept of ecological footprint has become so convincing, that governments, educational institutions, NGOs and corporations have assumed it as a reliable system to evaluate their practices. The Global Footprint Network is the institution in charge of updating the set of standards that guarantee consistence and realism of ecological footprint calculations.</i></p> <p>Once the 15-minute period of time had finished, each expert will go back to his base group and present to his partners the information. After other 15 minutes, the students will have the opportunity of individually reading the whole article once. Then, the teacher will ask different members of each base groups to explain any of the most important ideas of the article, but not one contained in a part they were experts in (this is something the students will be warned about before they start the information exchange in their base group). Also, the teacher will ask some referential questions so as to deepen the topic (<i>Let's imagine a territory with an ecological deficit. Could it be possible that another territory, with exactly the same biocapacity, was an ecological reserve? How? And how about if that second territory had exactly the same ecological footprint? Now let's suppose a territory with polluted but normally productive fishing zone. Would the ecological footprint take that pollution into account? What do you think about this?</i>).</p>
<b>Activity 4</b>	<p><u>Name.</u> The ecological footprint Kahoot.</p> <p><u>Type of input.</u> Kahoot.</p> <p><u>Student material.</u> - Tablet (one per group).</p> <p><u>Description.</u> All the groups will take part in a Kahoot (<a href="https://play.kahoot.it/#/k/74b89a16-6b83-4fd0-baf0-b1a83f6bfb8b">https://play.kahoot.it/#/k/74b89a16-6b83-4fd0-baf0-b1a83f6bfb8b</a>). They'll have to answer 10 explicit, implicit and referential questions (time limit: 60 seconds per question) about the concepts worked in the previous part of</p>





the session. After the contest, all the questions will be corrected and commented.

1. Which of the following sentences are correct?

- a) Every personal action impacts Nature enormously.
- b) Every human activity has an impact on the environment.**
- c) A few human activities have no impact on the environment.
- d) Human activities affect the environment in different ways.**

2. The effects of a certain human activity on the environment...

- a) Depend on the type, intensity and duration of the activity.**
- b) Depend on the environment absorption and recovery capacity.**
- c) Can be harmless in one place and disastrous in another.**
- d) Only depend on the type of activity.

3. The ecological footprint...

- a) Is a qualitative magnitude.
- b) Is a classical concept.
- c) Is a way to quantify human impact on Nature.**
- d) Can be a useful tool to prevent environmental crisis.**

4. The ecological footprint measures, among other things, how much land is needed to...

- a) Consume all the things we produce.
- b) Produce all the things we consume.**
- c) Change our lifestyles.
- d) Reduce our waste.

5. When calculating the ecological footprint, we must take into account, among other things, ...



- a) Cropland, fishing zones and jungle areas.
- b) Grazing land, fluvial and oceanic zones and forest areas.
- c) Cropland, grazing land, built-up land and forest areas.
- d) Cropland, frozen land, fishing zones and built-up land.

6. An ecological footprint makes no sense, unless we compare it with a...

- a) Biocapacity.
- b) Biodegradation.
- c) Biomass.
- d) Biometry.

7. The biocapacity of a territory is...

- a) The whole of its cropland, grazing land and fishing zones.
- b) The whole of its cropland, grazing land and built-up land.
- c) The whole of its cropland, fishing zones and built-up land.
- d) The whole of its productive and forest surface area.

8. We say a region has an ecological deficit when the ecological footprint of that region...

- a) Is below its own biocapacity.
- b) Equals its own biocapacity.
- c) Has a negative value.
- d) Exceeds its own biocapacity.

9. When the biocapacity of a region exceeds its ecological footprint, then we must talk about...

- a) An ecological deposit.
- b) An ecological income.



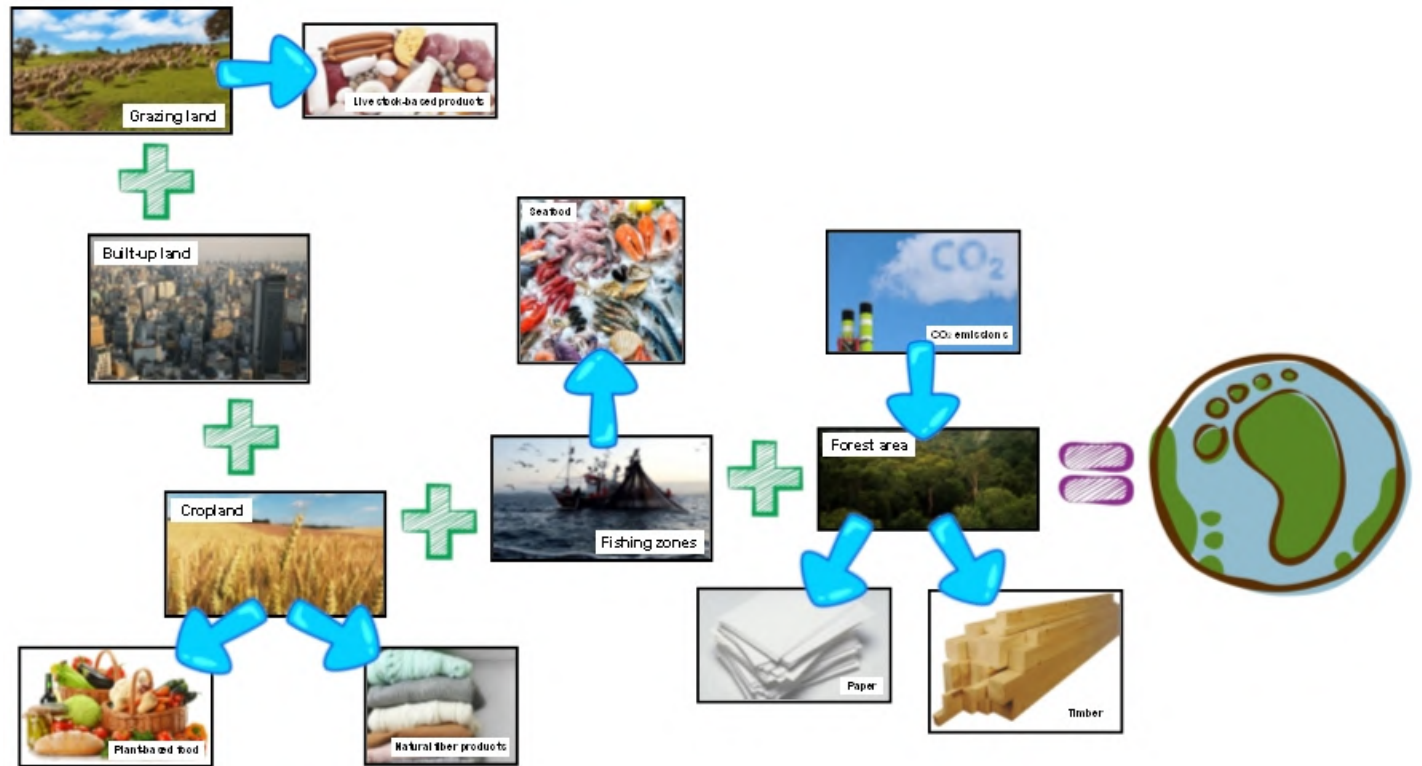
	<p><b>c) An ecological reserve.</b></p> <p>d) An ecological deficit.</p> <p>10. In order to enable ecological footprint comparisons between different territories, we use...</p> <p>a) Different units, one for each country.</p> <p><b>b) A standardized unit: the global hectare (Gha).</b></p> <p>c) A list of locally normalized units (local hectares).</p> <p>d) A large standardized unit is used: the gigahectare (Gha).</p>
<p><b>In terms of academic content, what are the students learning and what are they learning to do?</b></p>	<ul style="list-style-type: none"> <li>- The ecological footprint and biocapacity concepts.</li> <li>- Being aware about the impact of our stile of life on Nature.</li> </ul>
<p><b>In terms of language, what are the students practicing or learning to do?</b></p>	<ul style="list-style-type: none"> <li>- Expressing opinions (I think..., in my opinion...).</li> <li>- Using conditional (would, if ... then ... will...).</li> <li>- Describing objective facts using the infinitive (to obtain..., to build..., to absorb...), the simple present (it measures..., ... that it consumes, ... that it uses) and the past participle (by a given population to..., required to..., needed to...).</li> <li>- Expressing causality (because... due to...).</li> <li>- Specific vocabulary (contest, income, cropland, grazing land, livestock, timber, ecological asset, etc.).</li> </ul>
<p><b>In what way is this lesson plan a good example of what we learnt in the GEP course session?</b></p>	<ul style="list-style-type: none"> <li>- Multimodal and varied inputs are used (spoken, written, visual, hands-on, ICT).</li> <li>- The inputs and activities presented consider multiple intelligences.</li> <li>- Different collaborative and cooperative learning strategies are used.</li> <li>- Students are presented with explicit, implicit and referential questions that help them along the learning process.</li> <li>- The planned activities start from a low degree of cognitive and linguistic demands, which are progressively</li> </ul>



increased throughout the sessions.

ANNEX

The ecological footprint flowchart equation (example).





## Self assessment Checklist

Task 1: input & cooperative / collaborative learning in CLIL	YES / NO
1. Students are presented with <b>multimodal</b> and <b>varied</b> input (spoken, written, visual, hands-on...)	YES
2. The input presented is used to <b>help</b> learners <b>understand</b> ideas and <b>construct</b> meaning	YES
3. The input is presented at the right <b>cognitive level</b> and the right <b>language level</b> , i.e. it is neither too challenging in terms of content nor too difficult in terms of language.	YES
4. Students are <b>helped</b> in some way to <b>understand</b> , i.e. input is made comprehensible	YES
5. Students are <b>helped</b> in some way to <b>process</b> the input presented, i.e. activities or questions make students think and construct meaning.	YES
6. The input and activities presented cater to <b>multiple intelligences</b>	YES
7. Students are presented with <b>good questions</b> (explicit, implicit and referential) that help them process input and that challenge them not only to understand, but to think, create...	YES
8. A variety of <b>collaborative learning strategies</b> are used throughout the session.	YES
9. At least one of the activities presented requires <b>cooperation</b> among students.	YES
10. Students are <b>explicitly taught</b> how to work in groups (or pairs).	NO
11. Students are <b>explicitly guided</b> to succeed in group/pair work <b>discussions</b> and <b>interactions</b> . Clear <b>support</b> to guide their interactions is provided.	NO
12. At least one <b>ICT tool</b> is used to promote <b>digital collaborative learning</b> .	YES



<b>GEP 1</b>	<b>Task 2. Reading, writing and assessment in CLIL.</b>
<b>Title of the lesson</b>	Global warming.
<b>Author</b>	Luis Fernando Turrens Díaz.
<b>Course / year / age</b>	"Aula Oberta" with 3 <sup>rd</sup> and 4 <sup>th</sup> ESO students / 2018-19 / Group of 12 students with ages between 15 and 16.
<b>Number of sessions</b>	The lesson is organized in 1 session of 120 minutes.
<b>Main objectives of the lesson</b>	During the session, the students will work on the concepts of the greenhouse effect and global warming, its causes, associated problems and possible solutions, completing two different types of activities that integrate reading and writing skills (like describing objective facts, giving advices and making comparisons).
<b>Short description of the sessions</b>	<p>The lesson is aimed at a group of 12 students with a variety of learning difficulties and a very low English level. Because of this, they must be given many clear instructions, models and patterns, in order they can properly complete the tasks.</p> <p>It is organized in 1 session of 120 minutes. At the beginning of the session, the students will be organized in heterogeneous base groups of three members, attending to their intelligence typology, personal skills, academic performance and English level.</p>



Session 1

		Timing
Activity 1	<p><u>Name.</u> The greenhouse effect experiment.</p> <p><u>Student material.</u></p> <ul style="list-style-type: none"><li>- Numbered plastic tray (two per group).</li><li>- Scroll of plastic film (one per group).</li><li>- Thermometer (two per group).</li><li>- Chronometer (one per group).</li><li>- Lamp (two per group).</li><li>- Text with instructions to perform the experiment (one per group).</li><li>- Empty chart to represent temperature as a function of time (one chart per group).</li><li>- List of key vocabulary translated into Catalan.</li></ul> <p><u>Description.</u></p> <p>First, the students will be given a text containing the following set of instructions, in order they can carry out the experiment.</p> <ol style="list-style-type: none"><li>1. <i>Take both plastic trays and introduce one thermometer into each one.</i></li><li>2. <i>Take note of the temperature of each thermometer and represent it in your chart (time equal to zero). Use a different colour for every thermometer.</i></li><li>3. <i>Convert tray number 2 in a greenhouse, covering it with the piece of plastic film.</i></li><li>4. <i>Start the chronometer.</i></li><li>5. <i>Every minute, for a period o 15 min, take note of the temperature of each thermometer and represent it in your chart. Use a different colour for every thermometer and don't forget to correctly identify each series of points</i></li></ol>	35 min



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*(tray number 1 and tray number 2).*

Every group will also be provided with an empty chart to represent the collected data (annex 1).

Once the experiment has ended, the teacher will ask each group to write two sentences, one describing what they have observed and the other one explaining why they think it has happened (10 minutes).

*Write a sentence simply describing what you have observed during the experiment, using the verb “increase” and the adjective “fast”. Here you have some examples that you can take as models.*

*(Cost / cheap) My car has cost cheaper than your apartment → El meu cotxe ha costat més barat que el teu apartament.*

*(Jump / high) They have jumped higher than me → Ells han saltat més alt que jo.*

*(Arrive / late) The bus has arrived later than our train → L'autobús ha arribat més tard que el nostre tren.*

*After that, finish the following sentence, explaining why do you think this has happened:*

*This has happened because...*

Throughout the activity, the students will have the possibility to consult a list of key vocabulary translated into Catalan.

*Both → Ambdós.*

*Chart → Gràfic.*

*Each → Cada.*

*Every → Cada.*

*Fast → Ràpid/a.*

*Following → Següent.*

*Forget → Oblidar.*

*Greenhouse → Hivernacle.*

*Happen → Succeir.*

*Heat → Calor.*

*Increase → Augmentar.*

*Sentence → Frase.*

*Retain → Retenir.*

*Take → Prendre.*

*Tray → Safata.*

Assessment.

Once all the groups have finished, they will write their sentences on the blackboard so that they can be put in common and corrected, if necessary (in that case, it will serve them as a self-assessment method). Moreover, the teacher will use a rubric as an assessment tool (annex 2).





<b>Activity 2</b>	<p><u>Name.</u></p> <p>Global warming cooperative reading.</p> <p><u>Student material.</u></p> <ul style="list-style-type: none"><li>- Set of 3 parts of an article (one set per group).</li><li>- List of key vocabulary translated into Catalan.</li></ul> <p><u>Description.</u></p> <p>First, the teacher will distribute, in each base group, the three parts of the article among its members. Then, the 4 students with the same part of the article will temporally join to a new group of experts. After that, each group of experts will read, analyze and discuss its part for 15 minutes, trying to extract the main ideas. During that period of time, the teacher will “visit” each group of experts, asking them questions in order to check their progress and help them to move towards their goal (<i>What happens to the radiation emitted by the Sun when it reaches the earth? Where does the CO<sub>2</sub> that causes global warming come from? Can you give an example on how is global warming affecting the planet? – explicit – Is the greenhouse effect something bad for the planet? Why? Do you think everyone can do something against global warming? – implicit –</i>).</p> <p><u><i>The global warming (part 1).</i></u></p> <p><i>Every day, our planet, the Earth, receive radiation emitted by the Sun. A part of that radiation is absorbed by the land and the oceans, but another part is re-emitted to the space.</i></p> <p><i>Some gases in our atmosphere (for example, CO<sub>2</sub> and water vapour) act like a barrier that prevents some of that re-emitted radiation from leaving the planet. This phenomenon is called the “greenhouse effect” and, without it, the Earth would be much colder than it is.</i></p> <p><u><i>The ecological footprint (part 2).</i></u></p> <p><i>We, humans, burn fossil fuels (carbon, petroleum and natural gas) to produce heat or electricity, and to run combustion engines. When a fossil fuel is burnt, it produces CO<sub>2</sub>, and, during decades, our industries and our transport vehicles have emitted huge quantities of this gas, which have been accumulating in the atmosphere.</i></p> <p><i>Therefore, the greenhouse effect has increased, and so has the Earth's temperature. This is what we know as</i></p>	85 min
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*"global warming".*

*The ecological footprint (part 3).*

*Global warming is already affecting the planet in several ways: reduction of the arctic ice, rise in the sea level, more drought episodes, acidification of the oceans, etc.*

*There are some things we can do to help prevent global warming:*

- 1. Reduction and optimization of our energy consumption.*
- 2. Use of renewable energies.*
- 3. Reduction of material consumption and waste.*
- 4. Use of public and clean transport.*

Once the 15-minute period of time had finished, each expert will go back to his base group and present to his partners the information (5 minutes each student). After that, every group will have 30 minutes to write the text for a video about global warming (using Microsoft PowerPoint program), following a series of instructions, models and patters they will find in a template file (annex 3 or <https://drive.google.com/file/d/1Yq1NI7Pe19-vgC7HtChb4GX9OoF1RLtE/view?usp=sharing>). In order to get a better idea on how the final product could be, you can access a video example by clicking on the following link: <https://drive.google.com/file/d/1nrNBJrwWb5KonP0Q7q7xdhch4BFhXP6p/view?usp=sharing>

Throughout the activity, the students will have the possibility to consult a list of key vocabulary translated into Catalan.

*Act → Actuar.*

*Already → Ja.*

*Another → Altre/a.*

*Barrier → Barrera.*

*Burn → Cremar.*

*Can → Poder.*

*Call → Anomenar.*

*Clean → Netejar.*

*Consumption → Consum.*

*Cold → Fred.*

*Could → Podria.*

*Drought → Sequera.*

*Engine → Motor.*

*Every → Cada.*

*Fuel → Combustible.*

*Greenhouse → Hivernacle.*

*Heat → Calor.*

*Help → Ajudar.*

*Huge → Enorme.*

*Ice → Gel.*

*Know → Conèixer.*



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**Departament d'Ensenyament**

	<p><i>Land → Terra.</i></p> <p><i>More → Més.</i></p> <p><i>Renewable → Renovable.</i></p> <p><i>Sea → Mar.</i></p> <p><i>Some → Varis/vàries.</i></p> <p><i>There is/are → Hi ha.</i></p> <p><i>Warm → Càlid.</i></p> <p><i>Leave → Sortir.</i></p> <p><i>Our → El/la nostre/a.</i></p> <p><i>Rise → Pujar.</i></p> <p><i>Several → Diverses.</i></p> <p><i>Thanks to → Gràcies a.</i></p> <p><i>Therefore → Per tant.</i></p> <p><i>Warming → Escalfament.</i></p> <p><i>Level → Nivell.</i></p> <p><i>Prevent → Evitar.</i></p> <p><i>Run → Fer funcionar.</i></p> <p><i>So → També.</i></p> <p><i>That → Aquest/que.</i></p> <p><i>Thing → Cosa.</i></p> <p><i>Waste → Rebuig.</i></p> <p><u>Assessment.</u></p> <p>Once all the groups have finished, they will project their videos so that they can be put in common and corrected, if necessary (in that case, it will serve them as a self-assessment method). Moreover, the teacher will use a rubric as an assessment tool (annex 4).</p>	
<p><b>In terms of academic content, what are the students learning and what are they learning to do?</b></p>	<ul style="list-style-type: none"> <li>- The greenhouse effect and global warming concepts.</li> <li>- Global warming impact on our planet.</li> <li>- Ways to help prevent global warming.</li> </ul>	
<p><b>In terms of language, what are the students practicing or learning to do?</b></p>	<ul style="list-style-type: none"> <li>- Describing objective facts using the simple present (the Sun emits..., the land and the oceans absorb...), the present continuous (... is rising, ... is reducing), the present passive form (... is re-emitted, ... is called...), the present perfect (... has increased, ... have emitted...) and the present perfect continuous (... have been accumulating).</li> <li>- Giving advices using imperative (reduce..., use...).</li> <li>- Making comparisons (... faster than..., a warmer planet than...).</li> <li>- Using articles and prepositions correctly.</li> <li>- Specific vocabulary (heat, greenhouse, fuel, renewable, warming, waste, etc.).</li> </ul>	





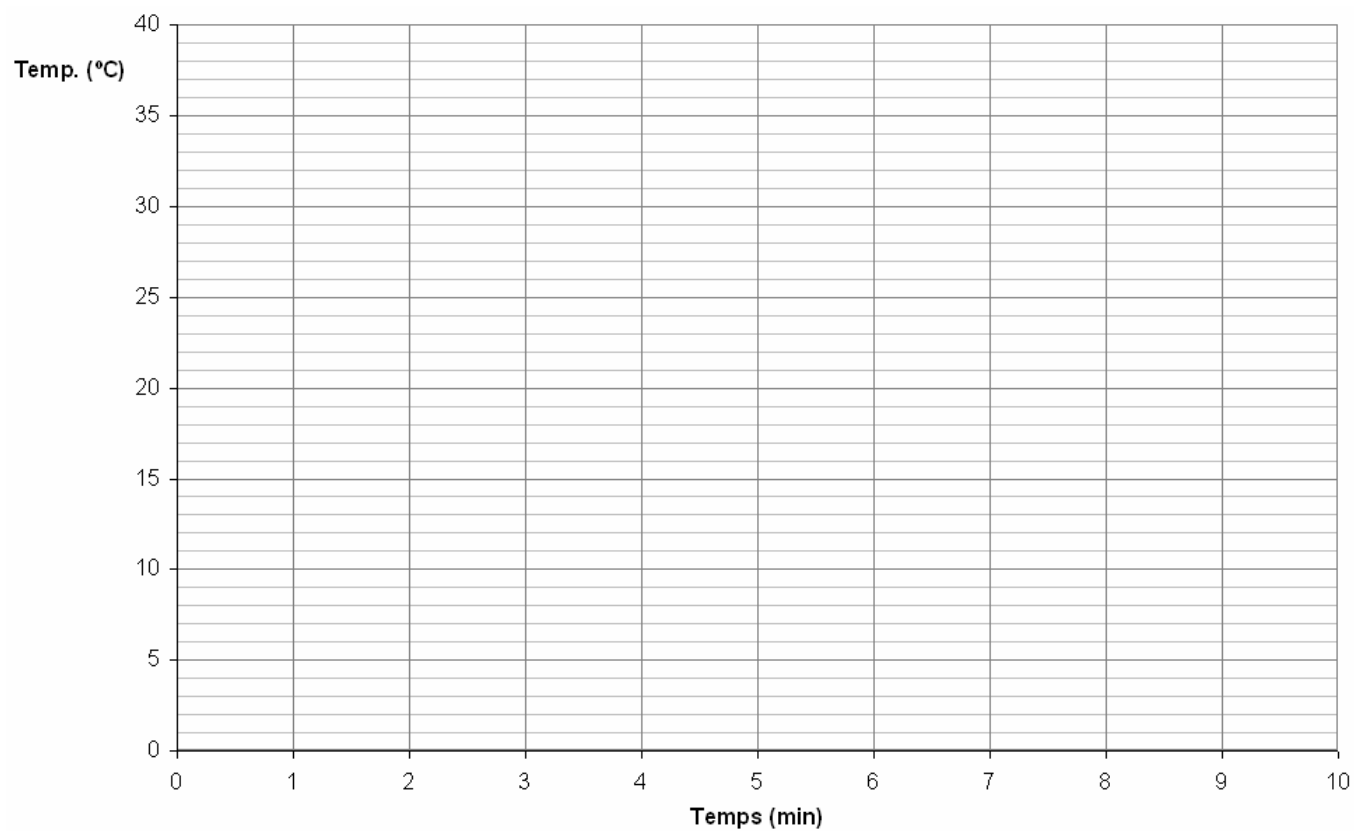
**In what way is this lesson plan a good example of what we learnt in the GEP course session?**

- Multimodal and varied inputs are used (written, visual, hands-on, ICT).
- The inputs and activities presented consider multiple intelligences.
- Different collaborative and cooperative learning strategies are used.
- Students are presented with explicit, implicit and referential questions that help them along the learning process.
- The planned activities start from a low degree of cognitive and linguistic demands, which are increased throughout the session.
- Support is provided and different strategies are used to help students read and write texts.
- The materials use visuals to support comprehension.
- Self-assessment and teacher assessment are used.



**ANNEX 1**

Empty chart to represent temperature as a function of time (activity 1).



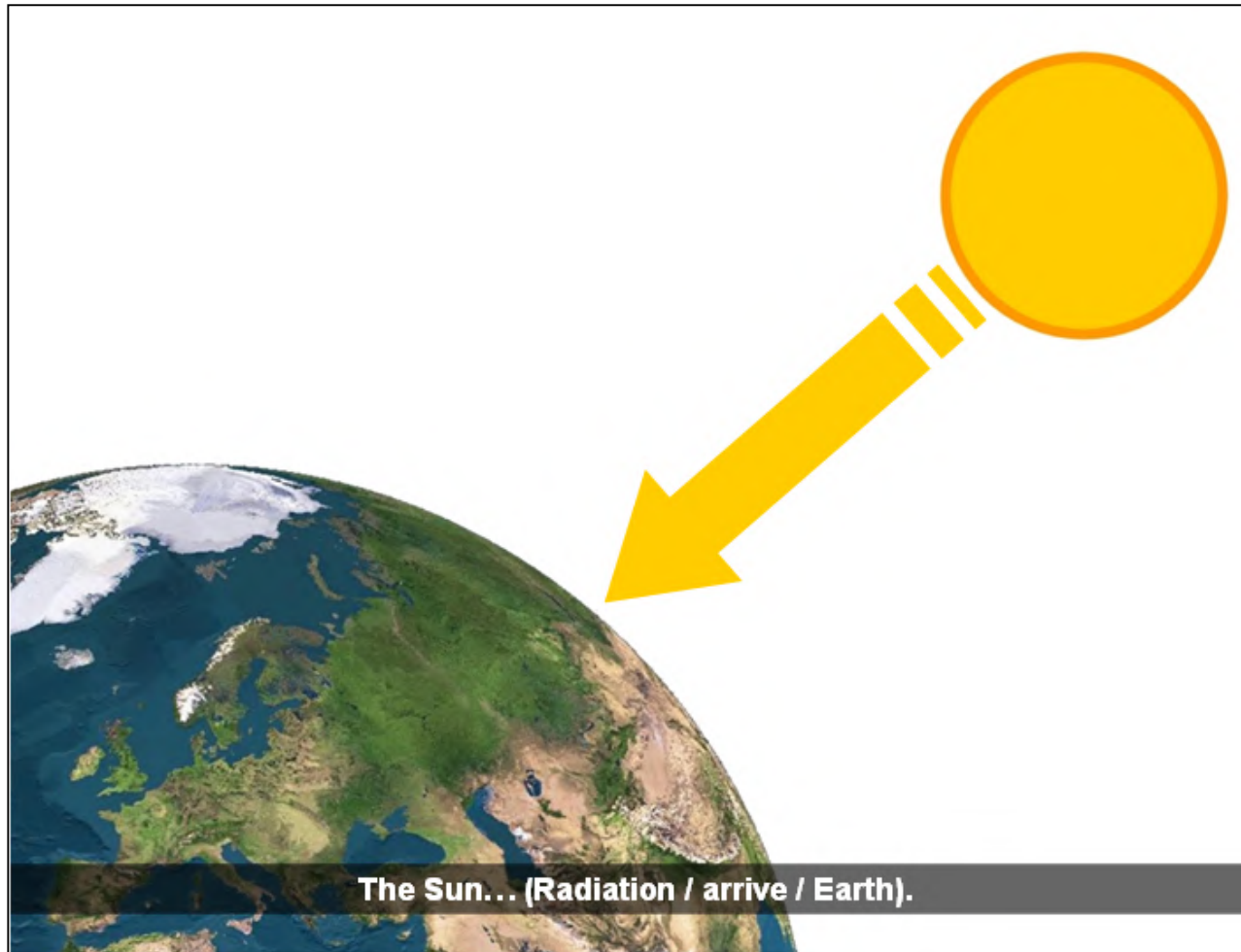


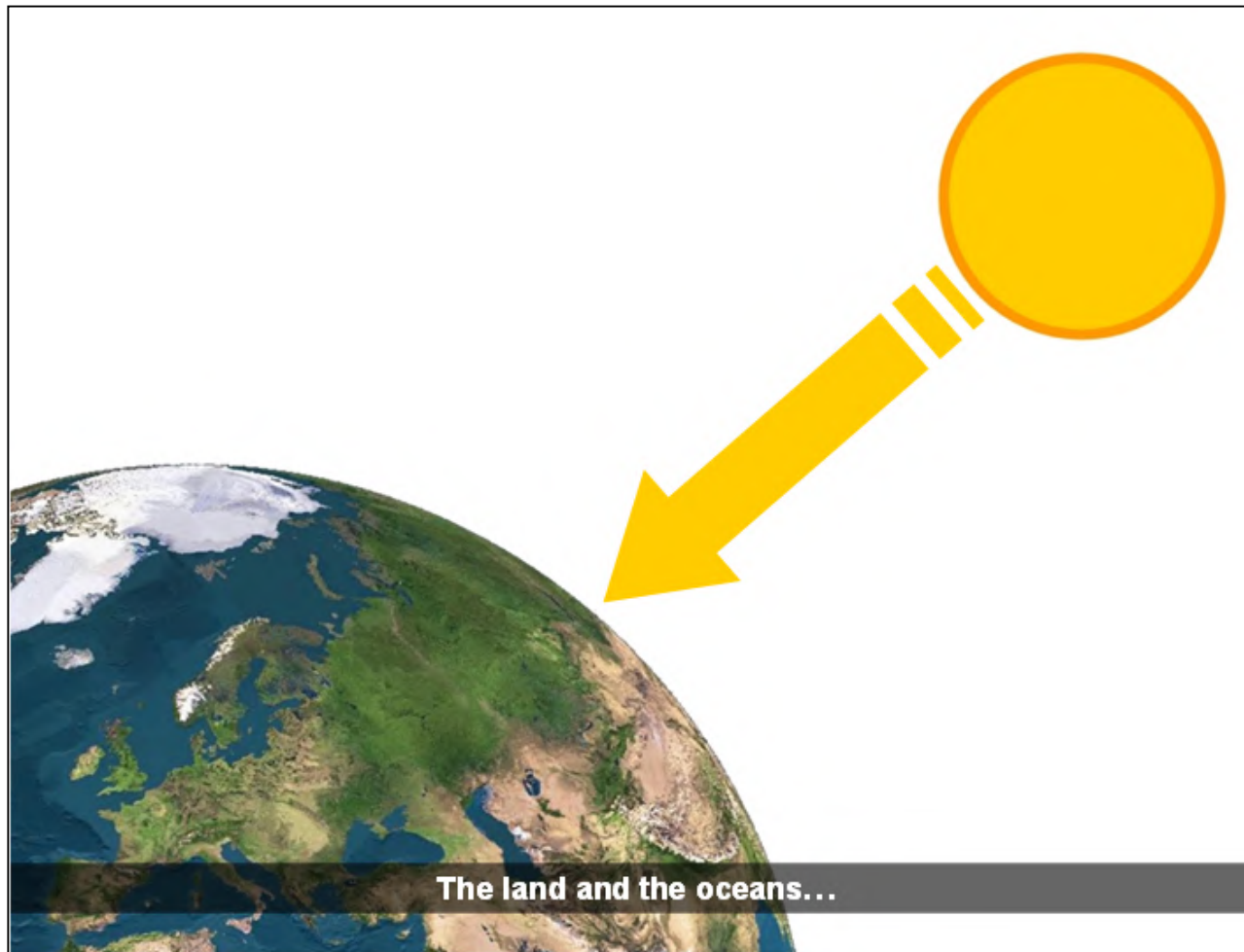
<b>ANNEX 2</b>	Assessment rubric for activity 1.				
		<b>Excellent achievement</b>	<b>Remarkable achievement</b>	<b>Sufficient achievement</b>	<b>Not achieve</b>
	<b>Experiment</b>	Each group member actively collaborates in the accomplishment of the task.  The temperature measures are properly represented and correctly identified in the chart.	Each group member actively collaborates in the accomplishment of the task.  One or two values of temperature are not properly represented in the chart.	One group member doesn't actively collaborate in the accomplishment of the task.	Two or more group members don't actively collaborate in the accomplishment of the task, or the temperature measures are not correctly identified in the chart, or more than two values are not properly represented.
	<b>Content</b>	The students perfectly describe what has happened and explain why.	The students perfectly describe what has happened but their explanation about the reason is not clear enough.	The students perfectly describe what has happened but they just can explain the reason with difficulties.	The students can't describe what has happened or they can't explain why.
<b>Language</b>	Both sentences are perfectly constructed.  The vocabulary used is accurate.	The students commit one grammar mistake or the vocabulary they use is not totally accurate.	The students commit two or three grammar mistakes.	The students commit more than three grammar mistakes.	



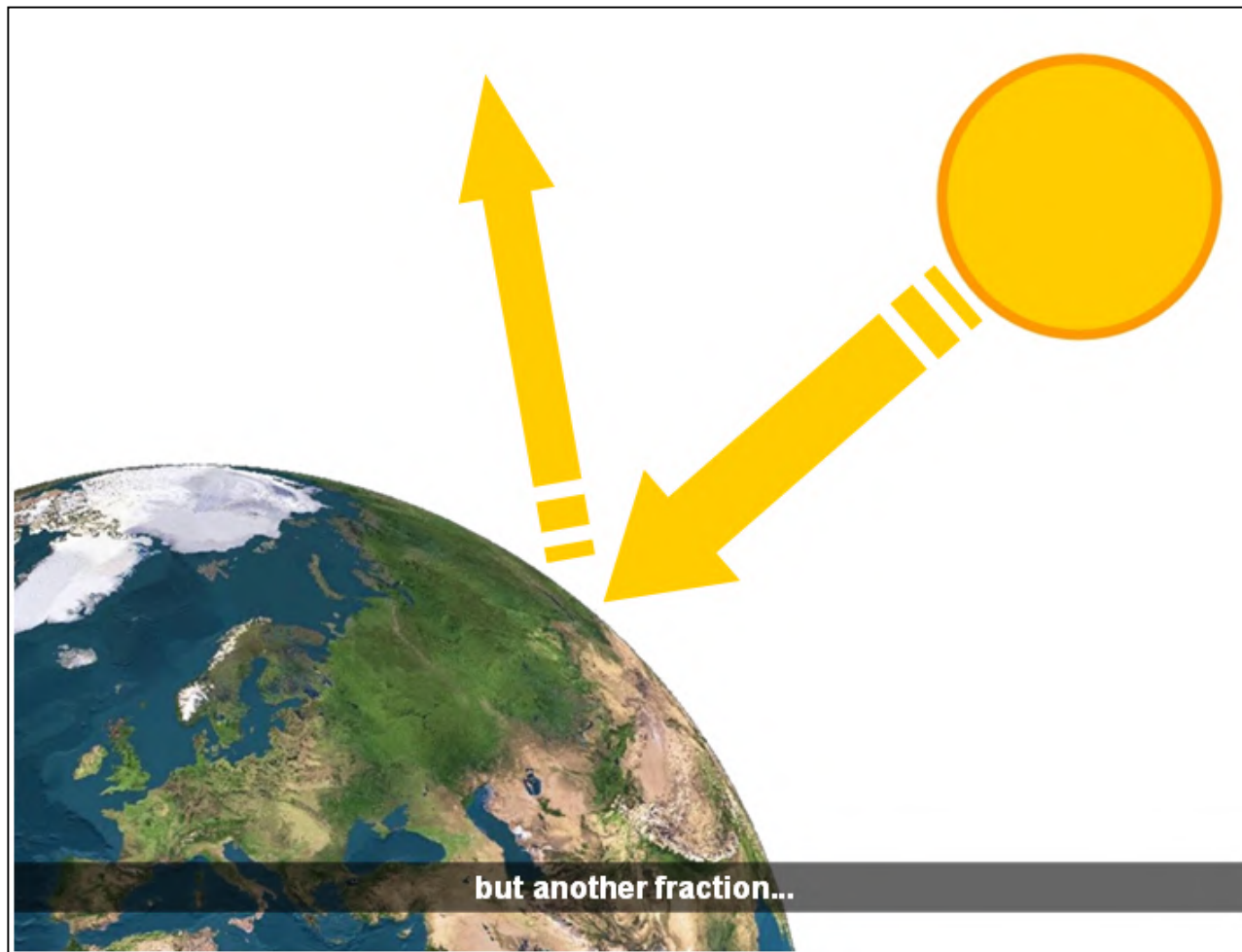
**ANNEX 3**

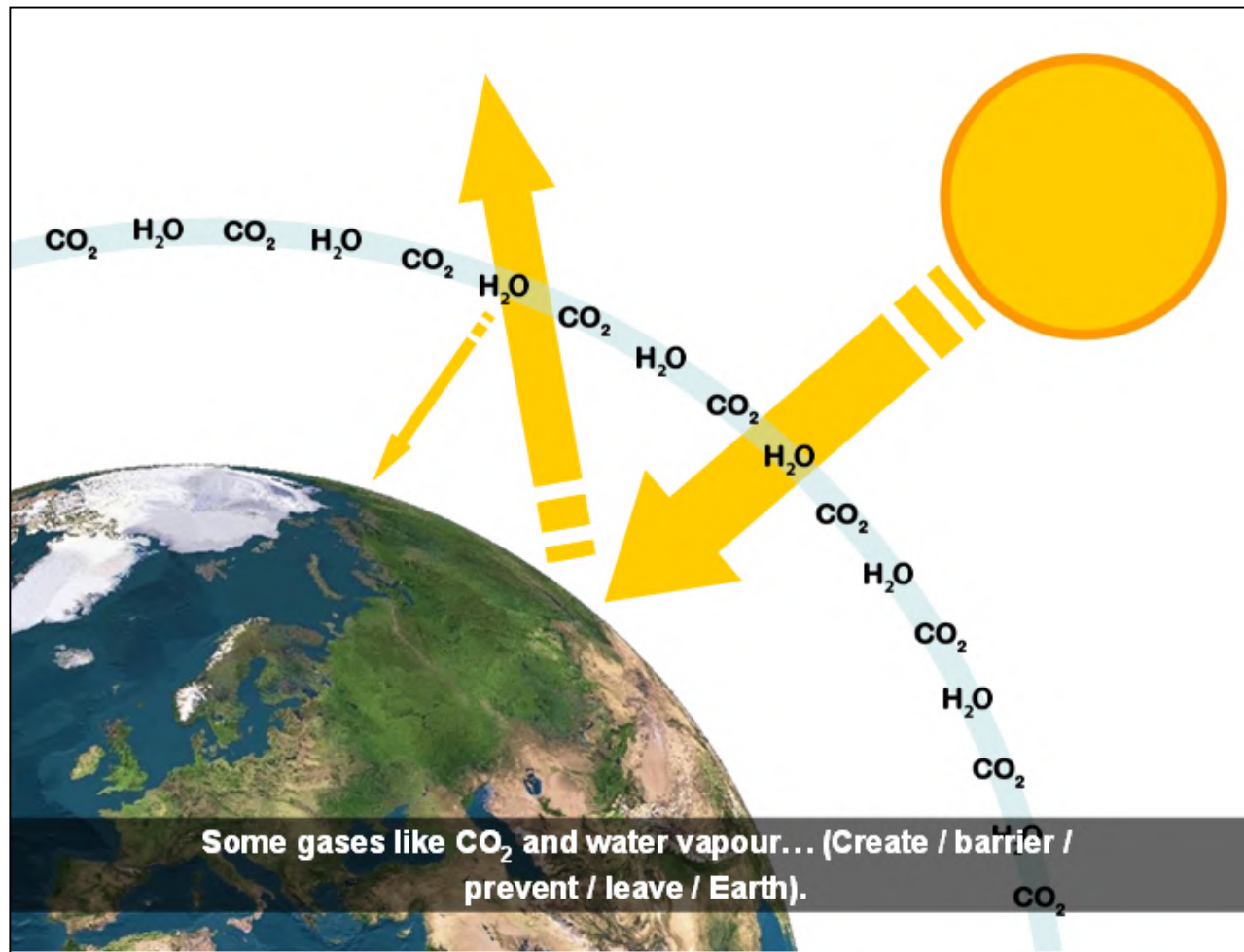
Slides of the Power Point template file for the students to make the video (activity 2).

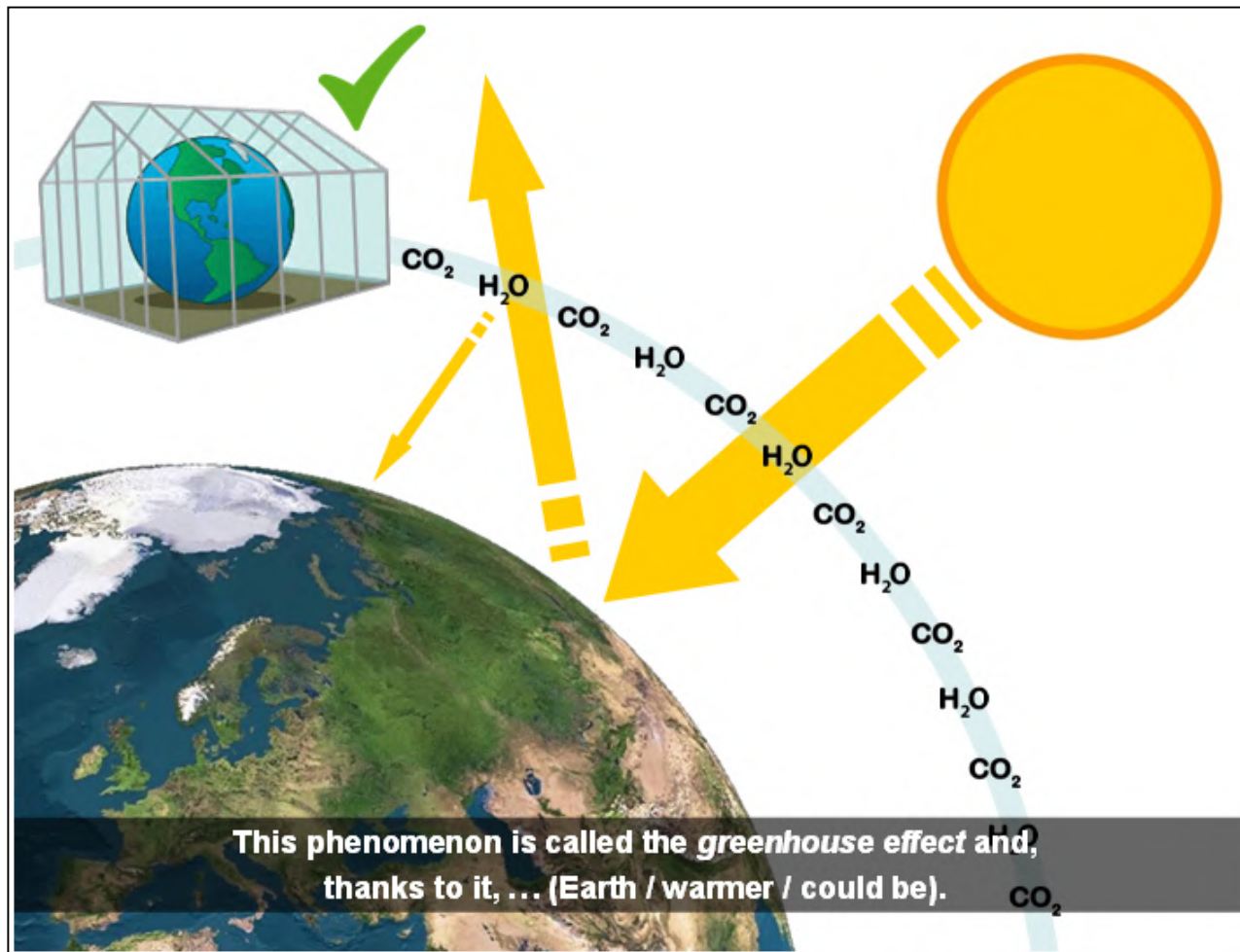


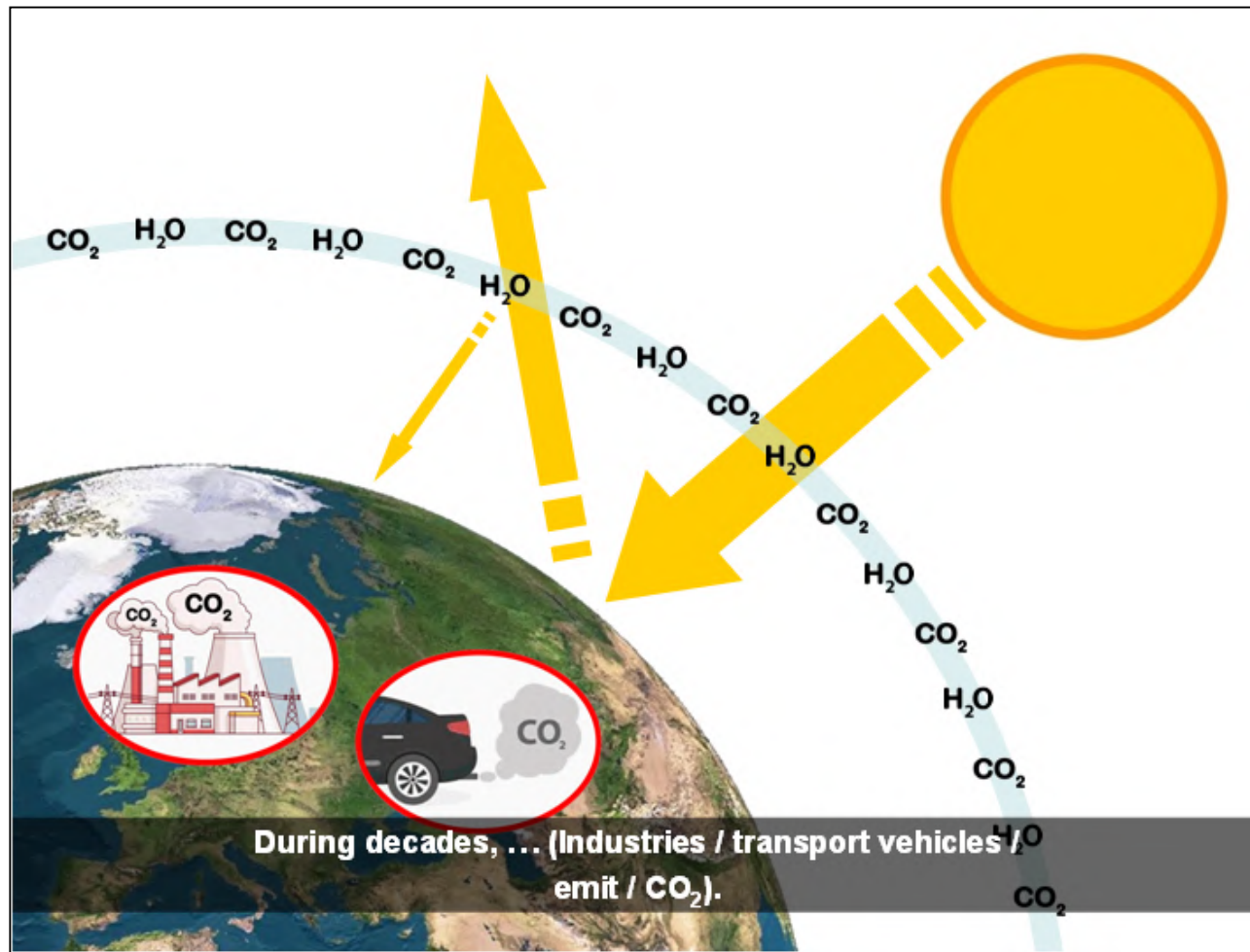




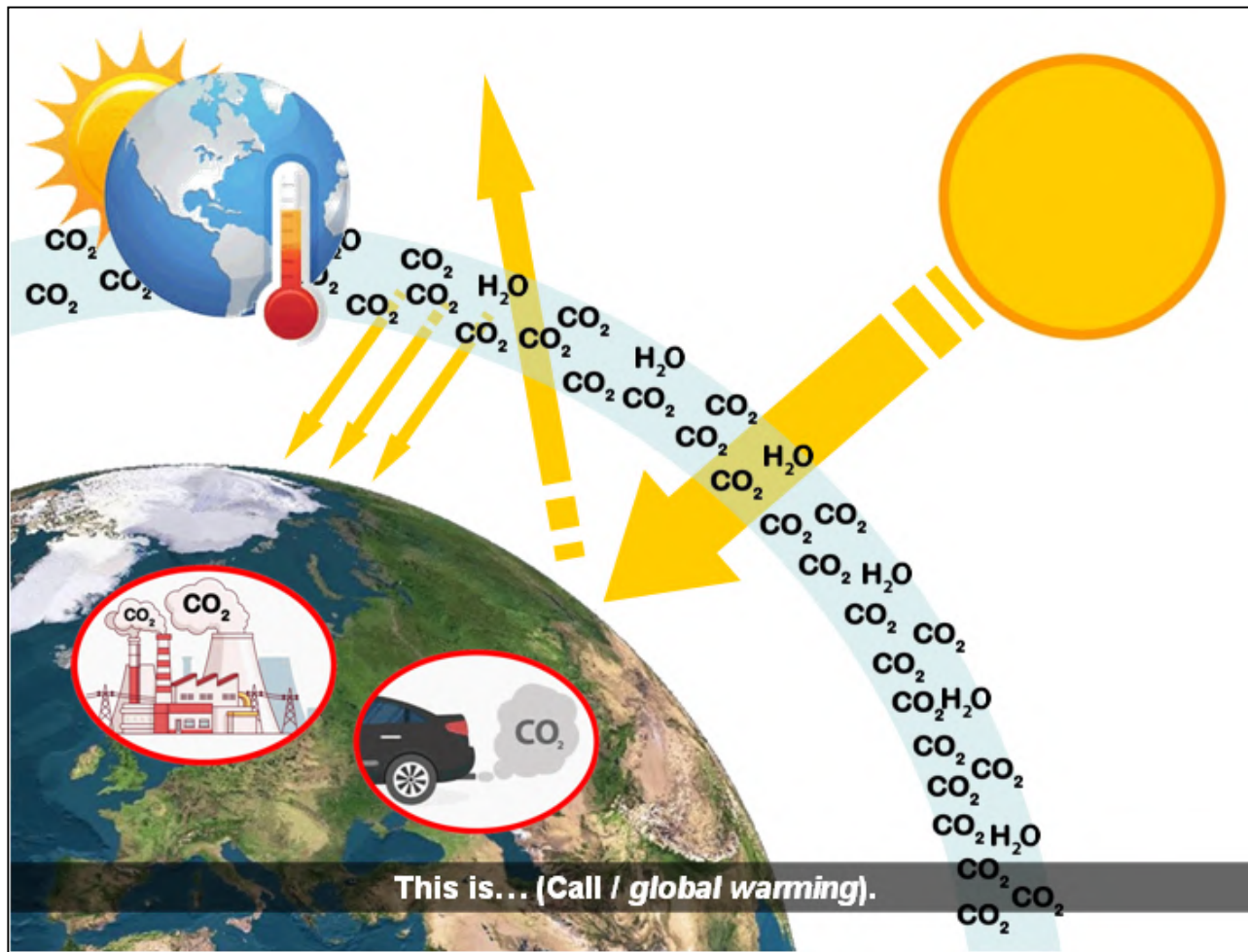


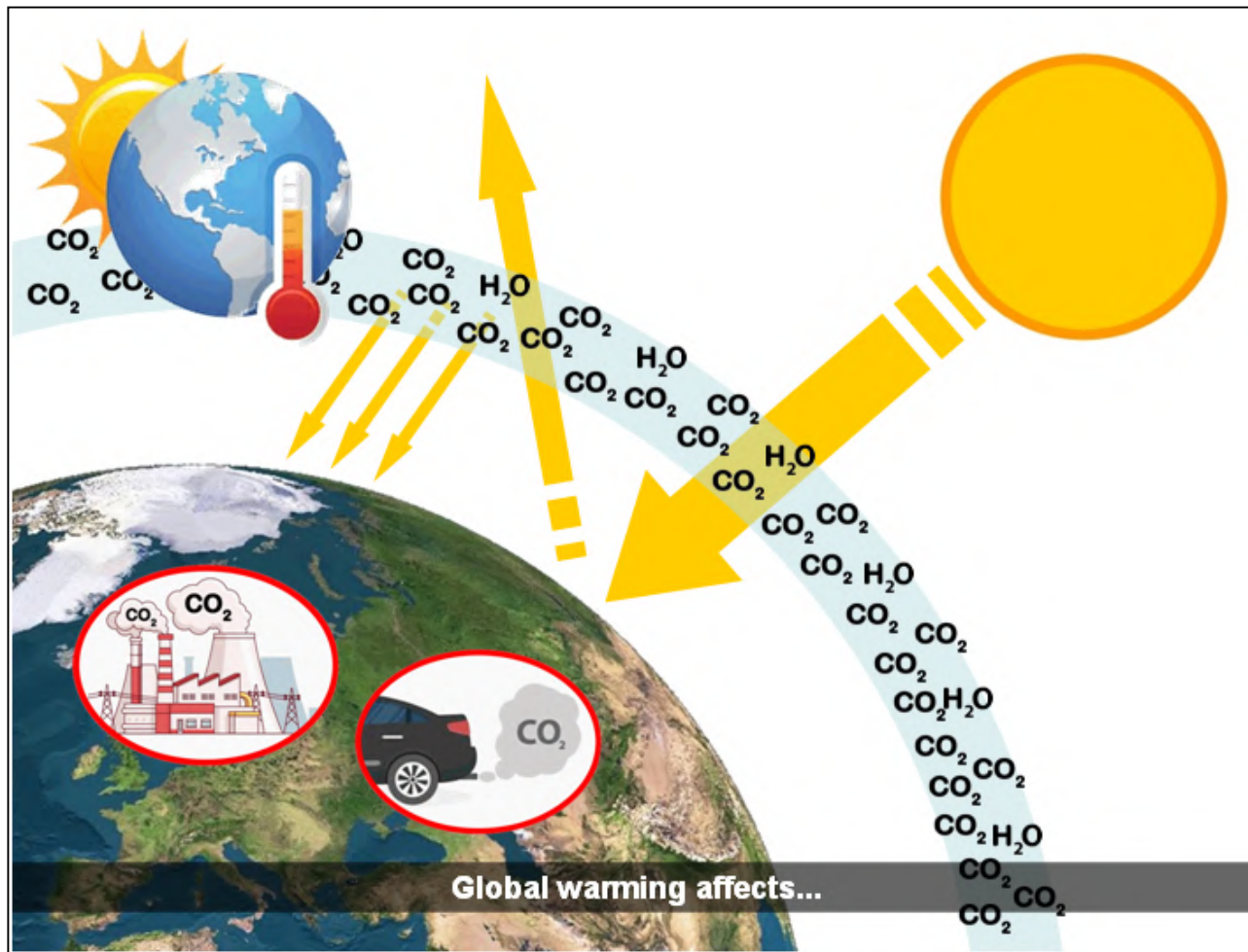






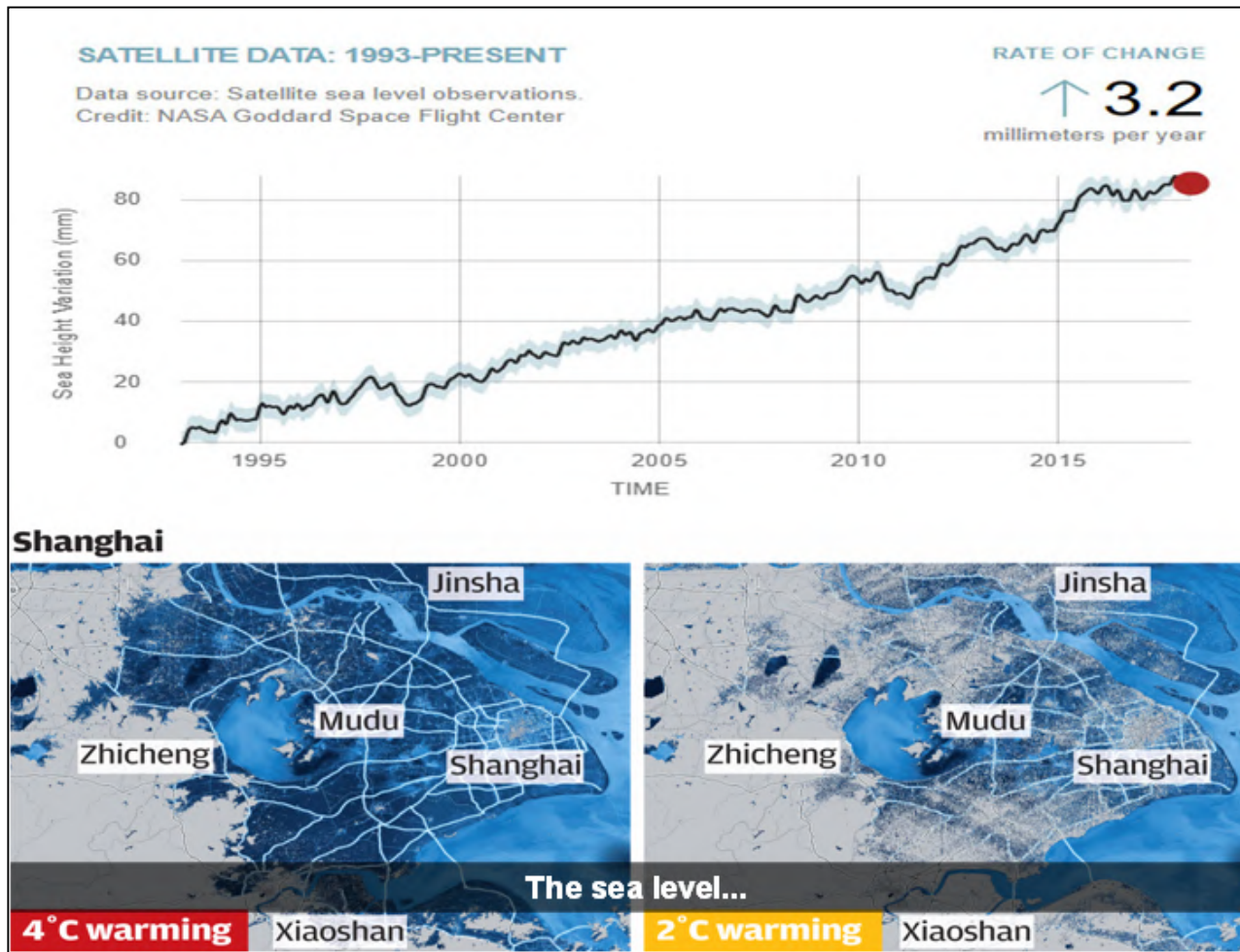


















There are some things you... (Stop).



**Winter**

Temperature  
Inside 20°C Outside 15°C

**Summer**

Temperature  
Inside 25°C Outside 35°C

**NOTICE**  
Switch off when not in use.

**Reduce and ...**

**ENERG** Y UA  
енергия · ενεργεια  
IE IA

**Miele** G 6660 SCVi

A+++ A++ A+ A B C D

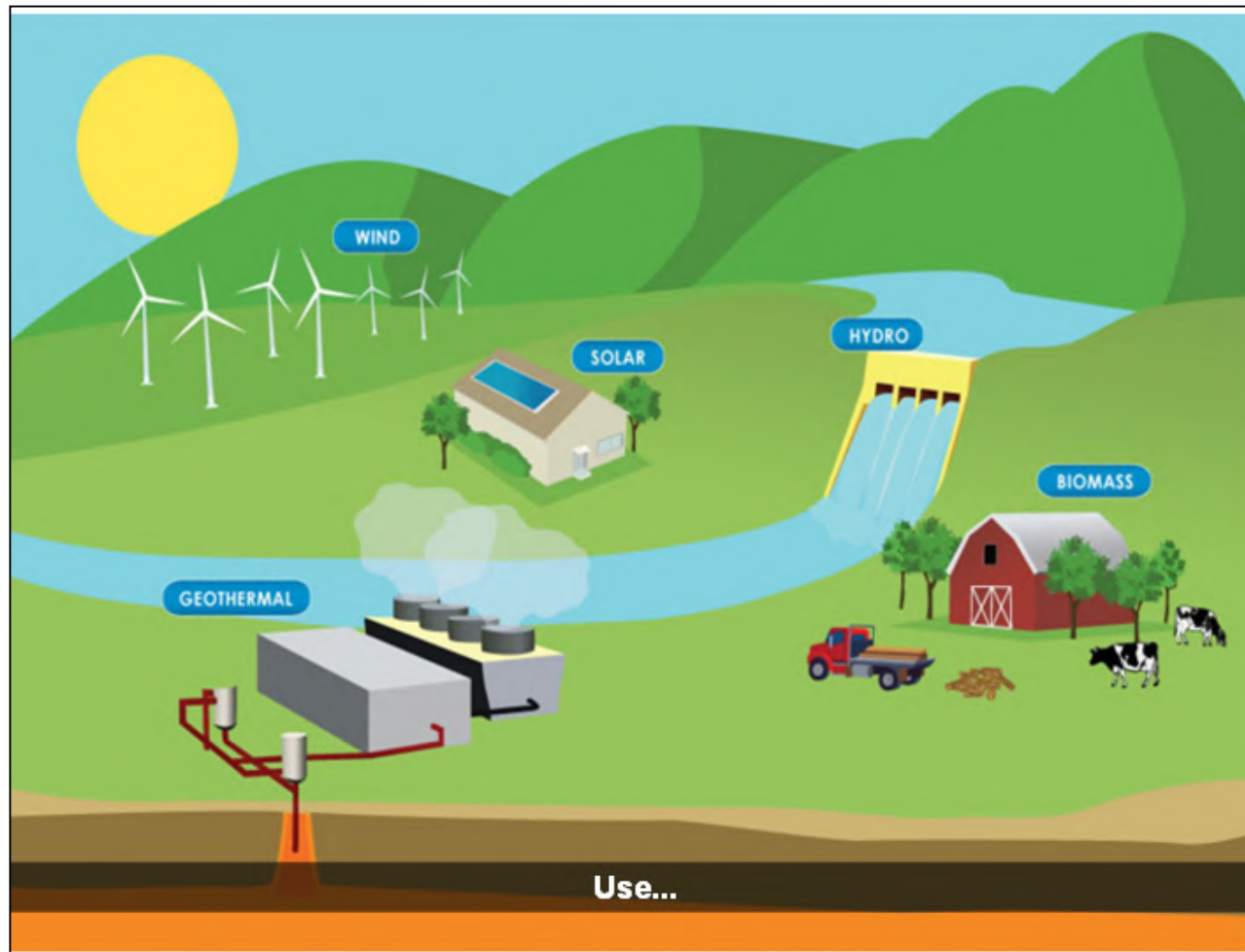
**A+++**

ENERGIA · ΕΝΕΡΓΙΑ · ΕΝΕΡΓΙΑ  
ENERGIA · ENERGY · ENERGIE  
ENERGI

**213**  
kWh/annum

2716 L/annum ABCDEFG 14 44 dB

2010/1059











<b>ANNEX 4</b>	Assessment rubric for activity 2.				
		<b>Excellent achievement</b>	<b>Remarkable achievement</b>	<b>Sufficient achievement</b>	<b>Not achieve</b>
	<b>Content</b>	<p>The students perfectly describe the mechanisms of the greenhouse effect and global warming.</p> <p>They also list some negative effects of global warming and different ways to help prevent it (those that appear in the 3-parted article).</p>	<p>The students describe the mechanisms of the greenhouse effect and global warming, but not clearly enough.</p> <p>However, they list some negative effects of global warming and different ways to help prevent it (those that appear in the 3-parted article).</p>	<p>The students can't describe the mechanisms of the greenhouse effect and global warming.</p> <p>However, they list some negative effects of global warming and different ways to help prevent it (those that appear in the 3-parted article).</p>	<p>The students can't describe the mechanisms of the greenhouse effect and global warming.</p> <p>They neither can list some negative effects of global warming and different ways to help prevent it (those that appear in the 3-parted article).</p>
<b>Language</b>	<p>The students correctly use simple present, present continuous, imperative, present perfect, present perfect continuous and passive form (present).</p> <p>They also use articles, prepositions and the comparative in the right way.</p> <p>Moreover, the vocabulary they use is accurate.</p>	<p>The students correctly use simple present, present continuous and imperative.</p> <p>They also use articles, prepositions and the comparative in the right way.</p> <p>Moreover, the vocabulary they use is accurate.</p>	<p>The students correctly use simple present, present continuous and imperative.</p> <p>They don't use articles, prepositions and the comparative in the right way, or the vocabulary they use is not accurate.</p>	<p>The students don't correctly use simple present, present continuous and imperative.</p>	



## Self assessment Checklist

Task 1: input & cooperative / collaborative learning in CLIL	YES / NO
1. <b>Support</b> is provided to help students read and understand texts.	YES
2. <b>Before-, during- and after-</b> reading activities are prepared.	YES
3. The materials use <b>visuals</b> to support comprehension.	YES
4. The writing process takes place in <b>joint collaboration</b> with the teacher (modelling).	YES
5. <b>Support</b> is provided to help students write (the students are provided with language patterns, language frames, vocabulary banks...).	YES
6. The teacher uses different strategies to help students <b>throughout the process</b> of reading and writing.	YES
7. The teacher has <b>previously predicted the language</b> the students will need when carrying out the different tasks successfully and, therefore, is aware of the <b>content-obligatory language</b> .	YES
8. At least the teacher uses 1 type of <b>assessment</b> (self-assessment, teacher assessment or co-assessment).	YES
9. At least teacher used 1 type of <b>designed assessment tool</b> during the sessions (rubric, digital app, checklist, personal dossier...).	YES