

Dissection of the Mammalian Eye



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Generació Plurilingüe (GEP)

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GEP 1		Task 1 : Input & Cooperative /Collaborative learning in CLIL
Title of the lesson or topic	Dissection of the mammalian eye	
Course / year / age	3rd ESO (14-15 years old)	
Timing	3 hours	
Collaboration with		
Short description of the session/s	Write a scientific report about an experiment in the laboratory	
<p><i>The descriptions of the activities below should contain:</i></p> <ol style="list-style-type: none"> 1. type of input, 2. questions (explicit, implicit and referential) posed by the teacher to ensure the students' involvement 3. dynamic instructions with collaborative and cooperative activities, 4. materials used. 		
S E S I O N 1	Activity 1	Learning vocabulary about: <ul style="list-style-type: none"> • parts of the anatomy of the eye • dissection tools • parts of a scientific report
	Activity 2	Writing in CLIL a scientific report (in pairs)
	Activity 3	A mixture of two cooperative methods: Jigsaw and Group of Experts Some experts in particular topics, previously determined, share ideas and choose which ones are picked in order to plan the report that has to be written collaboratively.

S E S S I O N 2	Activity 4	<p>Writing in CLIL a scientific report (in groups): Each group of experts writes a particular part of the report, making sure to put the proper kind of information where it belongs. The aim is writing the whole report collaboratively.</p> <p>Three groups of three or four students each will be made. Subjects will be assigned to each of them. At the end of this document, there are useful links for students, grouped in the following epigraphs: <i>Biology lab equipment</i>, <i>Human eye (anatomy, structure and function)</i>, <i>Anatomy of the human eye (images)</i>, <i>Cow's eye dissection (instruccions)</i>, <i>Cow's eye dissection (videos)</i> and <i>Parts of a scientific report</i>.</p> <p>Procedure:</p> <ul style="list-style-type: none"> • Specific objectives and tasks to be made by the students will be given to the teams a few days before. • A working plan for each group will be negotiated and distributed to the teams. Schedules, resources and information sources will be included. • There will be a follow up of the activities and assistance to the teams, with orientation to accomplish the objectives. • Help in the self-assessment of the progress of team work will be given, analyzing the difficulties and the accomplishments and making changes to the initial work plan as needed. • Assessment by the teacher will be made on the progression of the scientific report done by the different teams. <p>To that end, they will use ict tools such as Word, Writer or GoogleDrive.</p>
	Activity 5	<p>Making a presentation (speaking in CLIL): All students make a speech collaboratively. Each student explains a part of the scientific report, be it the objectives, the material, methodology, results, discussion or conclusions. To that end, they will use ict tools such as PowerPoint, Impress, Prezi or YouTube.</p>
In terms of academic content, what are the students learning and what are they	<p>Academic content:</p> <ul style="list-style-type: none"> • Anatomy of the mammalian eye • How to write a scientific report. What kind of content fits on each part of a report <p>Students learn to do:</p> <ul style="list-style-type: none"> • A dissection of a sensitive organ (the mammalian eye) 	

learning to do?	<ul style="list-style-type: none"> • A scientific report collaboratively (writing in CLIL) • A public presentation of their experiment, expressing their results collaboratively (speaking in CLIL)
In terms of language, what are the students practicing or learning to do?	<ul style="list-style-type: none"> • Vocabulary of the anatomy of the mammalian eye. • Writing a scientific report in English giving detailed information. • Making a scientific speech giving detailed content.
In what way is this lesson plan a good example of what we learnt in the GEP course session?	<p>There are different INPUTS (visual, spoken, written and practical) and different methods of COOPERATIVE work (Jigsaw and Research Team), while students are constantly interacting. The teacher's function is to facilitate the students' learning experience rather than conveying knowledge to them.</p>
ANNEXES (materials, handouts, pictures... if not possible to include in the activity section.)	<p>The students have a guide about the experiment in the text book on page 104. The document is in catalan. However, the students will have to write the scientific report of the experiment collaboratively, in ENGLISH.</p> <p>At the end of this document, there are useful links for students with instruccions and language support to accomplish the tasks and fulfill the objectives of the project, grouped in the following epigraphs: <i>Biology lab equipment</i>, <i>Human eye (anatomy, structure and function)</i>, <i>Anatomy of the human eye (images)</i>, <i>Cow's eye dissection (instruccions)</i>, <i>Cow's eye dissection (videos)</i> and <i>Parts of a scientific report</i>.</p>

Self assessment Checklist

Task 1 : Input & Cooperative /Collaborative learning in CLIL	YES/NO
1. Students are presented with multimodal and varied input (spoken, written, visual, hands-on...)	Yes
2. The input presented is used to help learners understand ideas and construct meaning	Yes

3. The input is presented at the right cognitive level and the right language level , i.e. it is neither too challenging in terms of content nor too difficult in terms of language.	Yes
4. Students are helped in some way to understand , i.e. input is made comprehensible	Yes
5. Students are helped in some way to process the input presented, i.e. activities or questions make students think and construct meaning.	Yes
6. The input and activities presented cater to multiple intelligences	Yes
7. Students are presented with good questions (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 collaborative learning strategies are used throughout the session.	Yes
9. At least one of the activities presented requires cooperation among students.	Yes
10. Students are explicitly taught how to work in groups (or pairs).	Yes
11. Students are explicitly guided to succeed in group/pair work discussions and interactions . Clear support to guide their interactions is provided.	Yes
12. At least one ICT tool is used to promote digital collaborative learning .	Yes

Biology Lab Equipment

<https://quizlet.com/13584770/basic-lab-equipment-vocabulary-flash-cards/>



<https://quizlet.com/221278959/honors-biology-lab-equipment-vocabulary-set-1-flash-cards/>

<https://quizlet.com/44433199/vocabulary-words-frog-dissection-tools-and-positions-flash-cards/>

Human EYE: anatomy, structure and function (websites)

<https://www.aboutkidshealth.ca/Article?contentid=1941&language=English>

<https://www.vsp.com/parts-of-the-eye.html>

<https://www.varifocals.net/human-eye/>

<https://quizlet.com/76284003/cow-eye-dissection-vocabulary-flash-cards/>

Parts of the anatomy of the Human EYE (images)

[https://www.google.es/url?](https://www.google.es/url?sa=i&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwj8i4jYIPLeAhWJDMAKHTZsAN8QMwg8KAAwAA&url=https%3A%2F%2Fwww.aboutkidshealth.ca%2FArticle%3Fcontentid%3D1941%26language%3DEnglish&psig=AOvVaw2O-aE47CEllw58mxgVIhyW&ust=15433252428894)

[sa=i&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwj8i4jYIPLeAhWJDMAKHTZsAN8QMwg8KAAwAA&url=https%3A%2F%2Fwww.aboutkidshealth.ca%2FArticle%3Fcontentid%3D1941%26language%3DEnglish&psig=AOvVaw2O-aE47CEllw58mxgVIhyW&ust=15433252428894](https://www.google.es/url?sa=i&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwj8i4jYIPLeAhWJDMAKHTZsAN8QMwg8KAAwAA&url=https%3A%2F%2Fwww.aboutkidshealth.ca%2FArticle%3Fcontentid%3D1941%26language%3DEnglish&psig=AOvVaw2O-aE47CEllw58mxgVIhyW&ust=15433252428894)



<https://www.google.es/url?sa=i&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwiUxPzylfLeAhVFOhoKHRW0DkwQjRx6BAgBEAU&url=https%3A%2F%2Fwww.pinterest.cl%2Fpin%2F378795018642374055%2F&psig=AOvVaw1y3CdrkDX2Te1ion-DHnMm&ust=1543325545127843>

<https://i.pinimg.com/originals/ca/3e/18/ca3e1807e339a46e6ae6479f4937df56.jpg>

Cow's EYE Dissection: instructions

http://www.exploratorium.edu/learning_studio/cow_eye/index.html

http://www.exploratorium.edu/learning_studio/cow_eye/coweye.pdf

Cow's EYE Dissection: videos

<https://www.youtube.com/watch?v=0rbCrJoTatE>

https://www.exploratorium.edu/learning_studio/cow_eye/video_big_all.html

https://www.youtube.com/watch?v=TGS-G_C3sg4 (Spanish video)



<https://www.youtube.com/watch?v=Lqcwje1VhtI> (Spanish video)

Parts of a scientific report

<http://advice.writing.utoronto.ca/types-of-writing/lab-report/>

<https://labwrite.ncsu.edu/Descriptive Labs/descript-help.htm>

<https://www.waikato.ac.nz/library/study/guides/write-scientific-reports>

<https://es.wikihocer-un-informe-de-laboratoriow.com/ha> (Spanish)

<http://users.df.uba.ar/acha/Lab1/informe2.pdf> (Spanish)



GEP 1	Task 2: Reading, writing and Assessment in CLIL
Title of the lesson or topic	Human Impact on ecosystems. Which of our everyday actions cause harm to ecosystems?
Author	M. Teresa Colomer i Despuig
Course / year / age	3rd ESO (14-15 years old)
Number of sessions	2-3 hours
Main objectives of the sessions	<ul style="list-style-type: none"> • Make students conscious of how they cause damage to ecosystems by their everyday actions. • Know what pollution is and what the main pollutants are. • Discover what causes the air pollution that affects ecosystems and climate. • Learn how we make water dirty and how do we clean it. • Find out how we generate waste and how we can manage it.
Short description of the sessions	<p>In groups, students <i>read</i> some documents related to different <i>kinds of pollution</i>. They learn <i>vocabulary</i> about each subject. The subjects are: a) climate change and the greenhouse effect, b) thinning of the ozone layer and acid rain, c) water pollution: eutrophication and oxygen depletion; reutilization of water, and d) waste management: types, treatment of solid waste, hazardous waste and sustainable waste management . Every group must <i>answer questions</i> related to their subject in order to help understand the text better.</p> <p>Finally, they have to create a <i>poster</i> that summarizes the main ideas of each subject to make people conscious of how they cause damage to the ecosystem by their everyday actions and what they can do in order to stop or decrease the damage and protect the environment.</p>

	<p>The descriptions of the activities below should contain:</p> <ol style="list-style-type: none"> 1. instructions for collaborative and cooperative activities (including the timing and the language support) 2. type of support, 3. readings and writings planned, 4. assessment tools 5. materials used 		Timing
<p>S E S S I O N 1</p>	<p>Activity 1</p>	<ol style="list-style-type: none"> 1. Make <i>Cooperative groups</i> of four students. Strategy: “<i>Scientific Investigation</i>”. The “<i>investigation group</i>” is a strategy of cooperative work, consisting precisely in that which I develop in Task 2. Basically, groups of about four students are established that will research on one subject, and at the end of their investigation there is a presentation to the class on their findings. In this case, that would be the poster. <p>Each cooperative group must investigate on one subject only. The subjects of Investigation are: a) Climate change; Greenhouse effect, b) Decrease of the ozone layer; Acid rain, c) Water pollution: Eutrophication, Oxygen depletion; Reutilization of water, and d) Waste management: types; treatment of solid waste; Hazardous waste materials and Sustainable waste management. Finally, all groups will have to create a <i>poster</i> that summarizes the main ideas of their subject, so as to make people conscious about everyday actions that affect the environment. At Annexes, there is an <i>epigraph</i> about daily actions that affect the environment, with negative and positive actions separately.</p> 2. Pick out and read different documents, among a selection made by the teacher, in order to answer some questions. (READING) <p>The students will certainly not need to read all the websites that are made available to them. They are provided with many links that are useful but not essential. A selection is offered so that students may choose which documents to read and how these get distributed among themselves for reading so as to be able to respond to the <i>Activity 2</i> questions.</p> <p>As is always the case, there will be pupils in the higher level of the curve who will feel motivated and will</p> 	<p>1 h o u r</p>

want to get information in more depth. That is the reason why so many links are provided. In general, the first links are usually enough to find answers to the questions given. The rest are good to expand knowledge on the issues.

The readings will be proposed by projections and by reading and explaining the objectives of the sessions. One initial question would be asked, which they would need to think over so as to ponder *“Which of our everyday actions cause harm to ecosystems”*.

OBJECTIVES:

- Make students conscious of how they cause damage to ecosystems by their everyday actions.
- Know what pollution is and what the main pollutants are.
- Discover what causes the air pollution that affects ecosystems and climate.
- Learn how we make water dirty and how do we clean it.
- Find out how we generate waste and how we can manage it.

The reading presentation should be plenty enough, with no need (nor time) for any pre-reading activity. High School students are old enough and sufficiently cultivated by many years of instruction (is to be expected or at least hoped for) so as to be self-reliant in successfully deal with the materials, resources and abundant advice as is afforded to them, by me, in this case.

Images will be shown. Two PDF files with images are included which correspond to the final epigraph of the template named *“Everyday actions that affect the environment”*. The first file corresponds to Negative Actions and the second to Positive Actions. The web page is projected and commented in class.

While the students read, I go through the different work groups to advise them. If need be, I ask them

	<p>questions to steer them and I suggest ways to solve their doubts. This technique is called “<i>busy bee</i>». It consists in the teacher going through the different work groups.</p> <p>3. In the <i>links</i> provided at Annexes, there are key words, vocabulary support and a selection of images and videos. E. g.: Environmental issues: air pollution, biodegradation, biotic, biotic index, carbon credits, carbon-neutral, ecology, ecotourism, fallout, ozone-friendly, PCB, recycled, renewable, season creep, sequestration, smoggy, solar power, SSSI, sustainability, unleaded, etc.</p>	
<p>Activit y 2</p>	<p>1. Each cooperative group answers some questions about their subject. (WRITING) The language support apart from the questions is provided and explained in the previous Activity 1.3. Using that “<i>shared writing strategy</i>” would be alright, but I fear it would consume too much time, while we have been asked to do a task of about two hours, so I believe I’ll have to prioritize and choose from the different ICT tools.</p> <p>2. ICT tool: DRIVE, WORD, WRITE, or any other one that is suitable.</p> <p>3. Questions: Subjects of Investigation:</p> <p>a) Climate change; Greenhouse effect</p> <ol style="list-style-type: none"> 1) Which is the main gas responsible for the greenhouse effect and what is its source? 2) What does climate change mean? What are their effects? Is there any relationship with the increase of the greenhouse effect? 3) Mention three consequences of the climate change that already occurs nowadays. 4) Why do you think that it is important to take action in order to reduce emissions of greenhouse-effect gases? <p>b) Decrease of the ozone layer; Acid rain</p> <ol style="list-style-type: none"> 1) Where is the ozone layer? 2) Which compounds are responsible for the thinning of the ozone layer? 3) What is acid rain? 4) How does acid rain affect vegetables? 5) How can we contribute to prevent acid rain? 	<p>1 h o u r</p>

		<p>c) Water pollution: Eutrophication, Oxygen depletion; Reutilization of water</p> <ol style="list-style-type: none"> 1) What are the three main causes of water pollution? 2) What relationship is there between agrarian activity and the eutrophication process? 3) What methodology do we use today to obtain drinking water? 4) Explain advantages and disadvantages of desalinated water. <p>d) Waste management; Treatment of solid waste; Hazardous waste; Sustainable waste management</p> <ol style="list-style-type: none"> 1) What is solid waste? Which main types of solid waste materials do you know? 2) How do we eliminate solid waste? Why do we have to classify our garbage? 3) What is hazardous waste made of? Write some examples. 4) Why are nuclear power waste products so dangerous? 5) Think about a suitable system to store radioactive waste. 	
	<p>Activity 3</p>	<ol style="list-style-type: none"> 1. Create a digital <i>poster</i> that summarizes the main ideas of your subject so as to make people aware of how they affect environment with their everyday activities and what they can do to stop harming the ecosystem. 2. ICT tool: Genially, or any other suitable one. 3. Show the rubric of the <i>digital poster</i> to students. They will know the criteria, marks and percentages of each item. <p>The mindmap and/or idea planning, which the poster will include, is decided within each group. The rubric that the poster “<i>How we affect the environment with our everyday activities</i>” is be graded by will be projected and explained in class. That way, students will know in full detail and at all times how they shall be graded, how each section scores and what is the grade scale.</p>	<p>1 hour</p>
	<p>In terms of academic content, what are the students learning and what</p>	<p>Academic content:</p> <ul style="list-style-type: none"> • Definition of pollution. Main pollutants. • Causes of air pollution. Effect of air pollution on ecosystems and climate: Climate change, Greenhouse effect, Thinning of the ozone layer and Acid rain. • Water pollution: Eutrophication, Oxygen depletion and Reutilization of water. • Waste management. Types. Treatment of solid waste and Hazardous materials. Sustainable waste management. 	

<p>are they learning to do?</p>	<p>Students learn to do:</p> <ul style="list-style-type: none"> • Read, understand and select information among some links in order to answer questions about a particular subject. • A summary of the main ideas of each subject, using the provided links, to make people conscious of human impact on ecosystems. • Think about how they cause damage to the ecosystem by their daily actions and what they can do in order to stop or decrease the damage and protect the environment. • A digital poster with this title: <i>“How we affect the environment in our everyday activities”</i>. 	
<p>In terms of language, what are the students practising or learning to do?</p>	<ul style="list-style-type: none"> • Vocabulary of <i>environmental issues</i>. The language support for students is found, precisely, in the very links, where there are words highlighted in different colors and the meaning is included. This appears in Activity 1, section 3. <p>The project itself is a discovery of the meanings of the terminology of all 4 subjects:</p> <p>a) Climate change; Greenhouse effect, b) Decrease of the ozone layer; Acid rain, c) Water pollution: Eutrophication, Oxygen depletion; Reutilization of water, and d) Waste management: types; treatment of solid waste; Hazardous waste materials and Sustainable waste management.</p> <p>The four or five questions on each subject of investigation are, precisely, conceived to guide and drive the students towards the important ideas that should appear in the poster that they must make.</p> <ul style="list-style-type: none"> • Read selected documents in English so as to find particular information to answer questions. • Write answers in English about environmental issues. • Make a digital poster in English that organizes and summarizes the main ideas of each subject by using images, text or any other way to express their message and contents. 	
<p>In what way is this lesson plan a good example of</p>	<p>This lesson plan is designed especially to make students READ and WRITE in English. To help them in this aim, some documents from different links have been selected and appear under epigraphs that make them easy to find. The links contain comprehensible inputs: vocabulary support, multimedia materials, images and videos. Academic tasks are clearly explained.</p> <p>To make content comprehensible for English Language Learners, there are a variety of question types. These questions allow students to discuss and make abstract concepts concrete. Interaction among</p>	

<p>what we learnt in the GEP course session?</p>	<p>students is made throughout student groups to support language and content objectives. Students do the activities in cooperative groups using the methods of Scientific Research. Any problems and discussions will be solved in this cooperative group. That way, opportunities for social interaction to promote language improvement are guaranteed.</p> <p>The present lesson integrates all language skills: listening, speaking, reading and writing. <i>Content</i> objectives are clearly supported, as well as <i>language</i> objectives.</p> <p>Review of key content concepts are made by summarizing the main ideas of each subject with partners. Finally, assessment of lesson objectives is made throughout a rubric. The rubric of the final activity includes multiple indicators to show competency of the content as well as language objectives. Also, level of learning is defined and is shared with students.</p>	
<p>Other important information</p>	<p>Assessment: There is a RUBRIC at the end of this file. That way, students will know how the POSTER will be evaluated.</p>	
<p>ANNEXES (materials, handout, pictures... if not possible to include in the activity section.)</p>	<p>Waste and Pollution: definition and types:</p> <p>The links include specific vocabulary on these matters, plus hypertext, which help in understanding the terminology. The links contain comprehensive inputs: vocabulary support, multimedia materials, images and videos. Academic tasks are clearly explained. (page. 7-8 <i>"In what way is this lesson plan ... ?"</i>). To see exercises, see Activity 2.3: Questions and Subjects of Investigation.</p> <p>https://econation.co.nz/waste-and-pollution/ https://www.enotes.com/homework-help/what-different-types-pollutants-500080 http://www.open.edu/openlearncreate/mod/oucontent/view.php?id=79946&printable=1</p> <p>Climate Change and the Greenhouse Effect:</p> <p>https://climate.nasa.gov/ https://climate.nasa.gov/evidence/ https://climate.nasa.gov/effects/ https://unfccc.int/ https://en.wikipedia.org/wiki/Climate_change https://www.globalchange.gov/climate-change https://en.wikipedia.org/wiki/Greenhouse_effect</p>	



	<p>https://climatekids.nasa.gov/greenhouse-effect/ https://scied.ucar.edu/longcontent/greenhouse-effect</p> <p>Decrease of the Ozone Layer and Acid Rain: https://en.wikipedia.org/wiki/Ozone_depletion https://www.nationalgeographic.com/environment/global-warming/ozone-depletion/ https://www.britannica.com/science/ozone-depletion https://ourworldindata.org/ozone-layer https://www.conserve-energy-future.com/ozone-layer-and-causes-of-ozone-depletion.php https://www.epa.gov/acidrain/what-acid-rain https://www.youtube.com/watch?v=1PDjVDlrFec (Video) https://video.nationalgeographic.com/video/101-video-shorts/00000161-b51c-d9e1-abf3-f59c5c2f0000 (video) https://www.livescience.com/63065-acid-rain.html</p> <p>Water Pollution. Eutrophication, Oxygen depletion and Reuse of water: https://en.wikipedia.org/wiki/Water_pollution https://www.nrdc.org/stories/water-pollution-everything-you-need-know https://solarimpulse.com/water-pollution-solutions https://www.google.com/search?q=water+pollution&tbm=isch&source=univ&safe=strict&client=firefox-b-ab&sa=X&ved=2ahUKEwis34PnoLTgAhXM8uAKHfgcC4sQsAR6BAgDEAE&biw=1280&bih=910 (images) https://www.toppr.com/guides/biology/natural-resources/water-and-water-pollution/ https://www.youtube.com/watch?v=71IBbTy-_n4 (video) https://www.youtube.com/watch?v=fxZ4IMpM45Y (video) https://www.explainthatstuff.com/waterpollution.html</p> <p>Waste Management: http://www.environmentalpollution.in/waste-management/waste-management-management-of-solid-</p>	
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	<p>liquid-and-gaseous-wastes/377 http://www.pollutionissues.com/Fo-Hi/Hazardous-Waste.html https://en.wikipedia.org/wiki/Hazardous_waste</p> <p>Everyday actions that affect the environment</p> <p><u>Negative Actions:</u></p> <p>https://www.conserve-energy-future.com/daily-habits-human-beings-that-killing-environment.php https://www.onegreenplanet.org/lifestyle/10-daily-habits-that-are-killing-the-environment/ https://www.bustle.com/p/11-things-that-are-bad-for-the-environment-that-you-do-every-day-8777115 https://interestingengineering.com/10-ways-humans-impact-the-environment https://www.elitedaily.com/life/hurting-the-environment/1279453 https://www.thisisinsider.com/things-you-do-every-day-hurt-the-environment-2018-6#jeans-take-tons-of-water-to-produce-5 https://greenliving.lovetoknow.com/How_Do_Humans_Affect_the_Environment https://www.msn.com/en-us/weather/topstories/20-ways-humans-are-negatively-impacting-the-environment/ss-AAvYIla#image=6 https://en.wikipedia.org/wiki/Human_impact_on_the_environment https://www.bbvaopenmind.com/en/seven-things-from-our-homes-that-harm-the-environment/</p> <p><u>Positive Actions:</u></p> <p>https://greatist.com/happiness/ways-help-environment https://www.lifeadvancer.com/help-the-environment-everyday-life/ https://www.wwf.org.uk/thingsyoucando https://www.eomega.org/article/3-biggest-ways-to-reduce-your-environmental-impact https://wwf.panda.org/wwf_offices/armenia/help_us/eco_help_living/</p>	
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Self assessment checklist

Task 2 : Reading, writing in CLIL and Assessment	YES/NO
1. Support is provided to help students read and understand texts.	yes
2. Before-during-and after -reading activities are prepared.	yes
3. The materials use visuals to support comprehension.	yes
4. The writing process takes place in joint collaboration with the teacher (modelling)	yes
5. Support 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 throughout the process of reading and writing	yes
7. The teacher has previously foreseen the language that students will need when carrying out the different tasks successfully and, therefore, is aware of the language required .	yes
8. The teacher uses at least 1 type of assessment (self-assessment, teacher assessment or co-assessment)	yes
9. The teacher uses at least 1 type of designed assessment tool during the sessions (rubric, digital app, checklist, personal dossier...)	yes



RUBRIC Poster: “How we affect the environment with our everyday activities”

Criteria	4 Excellent Work	3 Good Work	2 Fair	1 Needs Improvement	0 Not Presented
Message and Contents 30%	The message is very clear and easy to remember. The poster includes all the information relevant to the topic. The contents are very clear and concise	The message is clear and easy to remember. The poster includes most of the information that is relevant to the topic. The contents are clear and concise	The message is somewhat confused and not easy to understand. There is a lack of information relevant to the topic in the poster. The contents are not sufficiently clear or concise	The message is confused and cannot be understood. The poster does not include information relevant to the topic. The contents are neither clear nor concise	No scores
Organisation of Information 30%	Students expose their main ideas in a logical order and with a good spatial distribution. Very well organized. Easy to read	Students expose their main ideas in a sufficiently logical order and a decent spatial distribution. Well organized. Easy enough to read	Students expose their ideas in a confused order and with a deficient spatial distribution. Somewhat unorganized. It is not easy to read	Students do not expose their ideas in a logical order and with a good spatial distribution. Information is unstructured and unorganized	No scores
Visual layout and creativeness (originality) 20%	Eye catching. Attractive. Great use of images, colors and shapes	Sufficiently eye catching. Quite attractive. Good use of images, colors and shapes	Not very much eye catching. Not very attractive. Poor use of images, colors and shapes	Not eye catching at all. Not attractive. Very poor use of images, colors and shapes, or they lack altogether	No scores
Syntax and Orthography 20%	Spelling, orthography, grammar and syntax are correct. Writing is clear and easy to read.	Spelling, orthography, grammar and syntax have a few errors. Writing is quite clear and pretty easy to understand.	Spelling, orthography, grammar and syntax have quite a few errors. Writing is not always clear and not easily understood.	Spelling, orthography, grammar and syntax have too many errors. Writing is not clear and it is difficult to understand.	No scores

ACTIVITIES for COOPERATIVE WORK GROUPS



Cooperative Group: Scientific Research**Subject of Investigation****a) Climate Change and the Greenhouse Effect****Activity 1**

Your cooperative group must investigate on this subject. You have to pick out and read among the following selected documents to help you to answer some questions.

Climate Change and the Greenhouse Effect:

<https://climate.nasa.gov/>

<https://climate.nasa.gov/evidence/>

<https://climate.nasa.gov/effects/>

<https://unfccc.int/>

https://en.wikipedia.org/wiki/Climate_change

<https://www.globalchange.gov/climate-change>

https://en.wikipedia.org/wiki/Greenhouse_effect

<https://climatekids.nasa.gov/greenhouse-effect/>

<https://scied.ucar.edu/longcontent/greenhouse-effect>

Everyday actions that affect the environment**Negative Actions:**

<https://www.conserve-energy-future.com/daily-habits-human-beings-that-killing-environment.php>

<https://www.onegreenplanet.org/lifestyle/10-daily-habits-that-are-killing-the-environment/>

<https://www.bustle.com/p/11-things-that-are-bad-for-the-environment-that-you-do-every-day-8777115>

<https://interestingengineering.com/10-ways-humans-impact-the-environment>

<https://www.elitedaily.com/life/hurting-the-environment/1279453>

<https://www.thisisinsider.com/things-you-do-every-day-hurt-the-environment-2018-6#jeans-take-tons-of-water-to-produce-5>

https://greenliving.lovetoknow.com/How_Do_Humans_Affect_the_Environment



<https://www.msn.com/en-us/weather/topstories/20-ways-humans-are-negatively-impacting-the-environment/ss-AAvYIla#image=6>

https://en.wikipedia.org/wiki/Human_impact_on_the_environment

<https://www.bbvaopenmind.com/en/seven-things-from-our-homes-that-harm-the-environment/>

Positive Actions:

<https://greatist.com/happiness/ways-help-environment>

<https://www.lifeadvancer.com/help-the-environment-everyday-life/>

<https://www.wwf.org.uk/thingsyoucando>

<https://www.eomega.org/article/3-biggest-ways-to-reduce-your-environmental-impact>

https://wwf.panda.org/wwf_offices/armenia/help_us/eco_help_living/

Activity 2

Answer the following questions about your subject:

a) Climate change; Greenhouse effect

- 1) Which is the main gas responsible for the greenhouse effect and what is its source?
- 2) What does climate change mean? What are their effects? Is there any relationship with the increase of the greenhouse effect?
- 3) Mention three consequences of the climate change that already occurs nowadays.
- 4) Why do you think that it is important to take action in order to reduce emissions of greenhouse-effect gases?

Activity 3

Create a digital *poster* that summarizes the main ideas of your subject so as to make people aware of how they affect environment with their everyday activities and what they can do to stop harming the ecosystem.

ICT tool: **Genially**, or any other suitable one.

Cooperative Group: Scientific Research**Subject of Investigation****b) Thinning of the Ozone Layer and Acid Rain****Activity 1**

Your cooperative group must investigate on this subject. You have to pick out and read among the following selected documents to help you to answer some questions.

Decrease of the Ozone Layer and Acid Rain:

https://en.wikipedia.org/wiki/Ozone_depletion

<https://www.nationalgeographic.com/environment/global-warming/ozone-depletion/>

<https://www.britannica.com/science/ozone-depletion>

<https://ourworldindata.org/ozone-layer>

<https://www.conserve-energy-future.com/ozone-layer-and-causes-of-ozone-depletion.php>

<https://www.epa.gov/acidrain/what-acid-rain>

<https://www.youtube.com/watch?v=1PDjVDlrFec> (Video)

<https://video.nationalgeographic.com/video/101-video-shorts/00000161-b51c-d9e1-abf3-f59c5c2f0000> (video)

<https://www.livescience.com/63065-acid-rain.html>

Everyday actions that affect the environment**Negative Actions:**

<https://www.conserve-energy-future.com/daily-habits-human-beings-that-killing-environment.php>

<https://www.onegreenplanet.org/lifestyle/10-daily-habits-that-are-killing-the-environment/>

<https://www.bustle.com/p/11-things-that-are-bad-for-the-environment-that-you-do-every-day-8777115>

<https://interestingengineering.com/10-ways-humans-impact-the-environment>

<https://www.elitedaily.com/life/hurting-the-environment/1279453>

<https://www.thisisinsider.com/things-you-do-every-day-hurt-the-environment-2018-6#jeans-take-tons-of-water-to-produce-5>



https://greenliving.lovetoknow.com/How_Do_Humans_Affect_the_Environment

<https://www.msn.com/en-us/weather/topstories/20-ways-humans-are-negatively-impacting-the-environment/ss-AAvYIla#image=6>

https://en.wikipedia.org/wiki/Human_impact_on_the_environment

<https://www.bbvaopenmind.com/en/seven-things-from-our-homes-that-harm-the-environment/>

Positive Actions:

<https://greatist.com/happiness/ways-help-environment>

<https://www.lifeadvancer.com/help-the-environment-everyday-life/>

<https://www.wwf.org.uk/thingsyoucando>

<https://www.eomega.org/article/3-biggest-ways-to-reduce-your-environmental-impact>

https://www.wwf.panda.org/wwf_offices/armenia/help_us/eco_help_living/

Activity 2

Answer the following questions about your subject:

b) Decrease of the ozone layer; Acid rain

- 1) Where is the ozone layer?
- 2) Which compounds are responsible for the thinning of the ozone layer?
- 3) What is acid rain?
- 4) How does acid rain affect vegetables?
- 5) How can we contribute to prevent acid rain?

Activity 3

Create a digital *poster* that summarizes the main ideas of your subject so as to make people aware of how they affect environment with their everyday activities and what they can do to stop harming the ecosystem.

ICT tool: **Genially**, or any other suitable one.

Cooperative Group: Scientific Research**Subject of Investigation:**

c) Water Pollution: Eutrophication and Oxygen Depletion; Reutilization of Water

Activity 1

Your cooperative group must investigate on this subject. You have to pick out and read among the following selected documents to help you to answer some questions.

Water Pollution. Eutrophication, Oxygen depletion and Reuse of water:

https://en.wikipedia.org/wiki/Water_pollution

<https://www.nrdc.org/stories/water-pollution-everything-you-need-know>

<https://solarimpulse.com/water-pollution-solutions>

<https://www.google.com/search?q=water+pollution&tbm=isch&source=univ&safe=strict&client=firefox-b-ab&sa=X&ved=2ahUKEwis34PnoLTgAhXM8uAKHfgcC4sQsAR6BAgDEAE&biw=1280&bih=910> (images)

<https://www.toppr.com/guides/biology/natural-resources/water-and-water-pollution/>

https://www.youtube.com/watch?v=71IBbTy-_n4 (video)

<https://www.youtube.com/watch?v=fxZ4IMpM45Y> (video)

<https://www.explainthatstuff.com/waterpollution.html>

Everyday actions that affect the environment**Negative Actions:**

<https://www.conserve-energy-future.com/daily-habits-human-beings-that-killing-environment.php>

<https://www.onegreenplanet.org/lifestyle/10-daily-habits-that-are-killing-the-environment/>

<https://www.bustle.com/p/11-things-that-are-bad-for-the-environment-that-you-do-every-day-8777115>

<https://interestingengineering.com/10-ways-humans-impact-the-environment>

<https://www.elitedaily.com/life/hurting-the-environment/1279453>

<https://www.thisisinsider.com/things-you-do-every-day-hurt-the-environment-2018-6#jeans-take-tons-of-water-to-produce-5>



https://greenliving.lovetoknow.com/How_Do_Humans_Affect_the_Environment

<https://www.msn.com/en-us/weather/topstories/20-ways-humans-are-negatively-impacting-the-environment/ss-AAvYIla#image=6>

https://en.wikipedia.org/wiki/Human_impact_on_the_environment

<https://www.bbvaopenmind.com/en/seven-things-from-our-homes-that-harm-the-environment/>

Positive Actions:

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<https://www.lifeadvancer.com/help-the-environment-everyday-life/>

<https://www.wwf.org.uk/thingsyoucando>

<https://www.eomega.org/article/3-biggest-ways-to-reduce-your-environmental-impact>

https://wwf.panda.org/wwf_offices/armenia/help_us/eco_help_living/

Activity 2

Answer the following questions about your subject:

c) Water pollution: Eutrophication, Oxygen depletion; Reutilization of water

- 1) What are the three main causes of water pollution?
- 2) What relationship is there between agrarian activity and the eutrophication process?
- 3) What methodology do we use today to obtain drinking water?
- 5) Explain advantages and disadvantages of desalinized water.

Activity 3

Create a digital *poster* that summarizes the main ideas of your subject so as to make people aware of how they affect environment with their everyday activities and what they can do to stop harming the ecosystem.

ICT tool: **Genially**, or any other suitable one.

Cooperative Group: Scientific Research**Subject of Investigation**

d) Waste Management: types, Treatment of Solid Waste, Hazardous Waste and Sustainable Waste Management

Activity 1

Your cooperative group must investigate on this subject. You have to pick out and read among the following selected documents to help you to answer some questions.

Waste Management:

<http://www.environmentalpollution.in/waste-management/waste-management-management-of-solid-liquid-and-gaseous-wastes/377>

<http://www.pollutionissues.com/Fo-Hi/Hazardous-Waste.html>

https://en.wikipedia.org/wiki/Hazardous_waste

Everyday actions that affect the environment**Negative Actions:**

<https://www.conserve-energy-future.com/daily-habits-human-beings-that-killing-environment.php>

<https://www.onegreenplanet.org/lifestyle/10-daily-habits-that-are-killing-the-environment/>

<https://www.bustle.com/p/11-things-that-are-bad-for-the-environment-that-you-do-every-day-8777115>

<https://interestingengineering.com/10-ways-humans-impact-the-environment>

<https://www.elitedaily.com/life/hurting-the-environment/1279453>

<https://www.thisisinsider.com/things-you-do-every-day-hurt-the-environment-2018-6#jeans-take-tons-of-water-to-produce-5>

https://greenliving.lovetoknow.com/How_Do_Humans_Affect_the_Environment

<https://www.msn.com/en-us/weather/topstories/20-ways-humans-are-negatively-impacting-the-environment/ss-AAvYlla#image=6>

https://en.wikipedia.org/wiki/Human_impact_on_the_environment

<https://www.bbvaopenmind.com/en/seven-things-from-our-homes-that-harm-the-environment/>



Positive Actions:

<https://greatist.com/happiness/ways-help-environment>

<https://www.lifeadvancer.com/help-the-environment-everyday-life/>

<https://www.wwf.org.uk/thingsyoucando>

<https://www.eomega.org/article/3-biggest-ways-to-reduce-your-environmental-impact>

https://wwf.panda.org/wwf_offices/armenia/help_us/eco_help_living/

Activity 2

Answer the following questions about your subject:

d) Waste management; Treatment of solid waste; Hazardous waste; Sustainable waste management

- 1) What is solid waste? Which main types of solid waste materials do you know?
- 2) How do we eliminate solid waste? Why do we have to classify our garbage?
- 3) What is hazardous waste made of? Write some examples.
- 4) Why are nuclear power waste products so dangerous?
- 5) Think about a suitable system to store radioactive waste.

Activity 3

Create a digital *poster* that summarizes the main ideas of your subject so as to make people aware of how they affect environment with their everyday activities and what they can do to stop harming the ecosystem.

ICT tool: **Genially**, or any other suitable one.