TITLE	THE WAY OF WASTE
SUBJECTS INVOLVED	HISTORY, ENGLISH, MATHS, SCIENCE, ECONOMY AND CHEMESTRY
STUDENTS LEVELS	3 <sup>rd</sup> ESO (14/15 years) 1 class(18 students) 4 <sup>th</sup> ESO (15/16 years) 2 classes (50 students)
LESSONS	18/ 20hours
BACKGROUND	The background for the lesson plan is the enormous attention paid to climate change in recent years and the measures to be taken to ensure a more climate-friendly and sustainable world. The attention is directed towards all parts of society. So, the problem will be exposed from a wide range of perspectives (sociological, scientific, economical, moral, etc.). To achieve all these different points of view different subjects have been included in the project
LEARNING OBJECTIVES	<ol> <li>Present and make clear to the students a complex real problem that we have to face and enable them to develop the students' learning and critical thinking skills in order to be able to find the appropriate tools to solve the problem.</li> <li>Contribute to the students' awareness, individual and collective contribution to development and change in a global perspective.</li> <li>Analyze information and select priority issues with regards to pollution, garbage, waste management and therefore be able to use this knowledge in order to identify problems and later look for solutions.</li> <li>Investigate and assess the interaction between the way we live and the consequences it generates with regards to the environment</li> <li>Formulate solutions which can lead their communities to be aware of the huge problem that waste is generating to our planet.</li> <li>PBL methodology will be used throughout the unit in order to promote teamwork and enable students to develop communicative skills and critical thinking.</li> </ol>

## LEARNING OUTCOMES

## Students will be able to:

- apply and combine knowledge of sociology, ethics, economics and sciences to explain current challenges in our society
- examine local, provincial and national political decisions, considering the role of the EU
- analyze problems and selecting priority issues with regards to waste and waste management
- select information from authoritative sources (academic works/articles) to discuss about a problem
- understand why it is important to reduce waste and how to contribute concretely to reduce the impact of waste changing one's own habits in everyday life
- investigate the interaction between technological development and the social development (science + technology)
- suggest possible solutions which can influence politics.

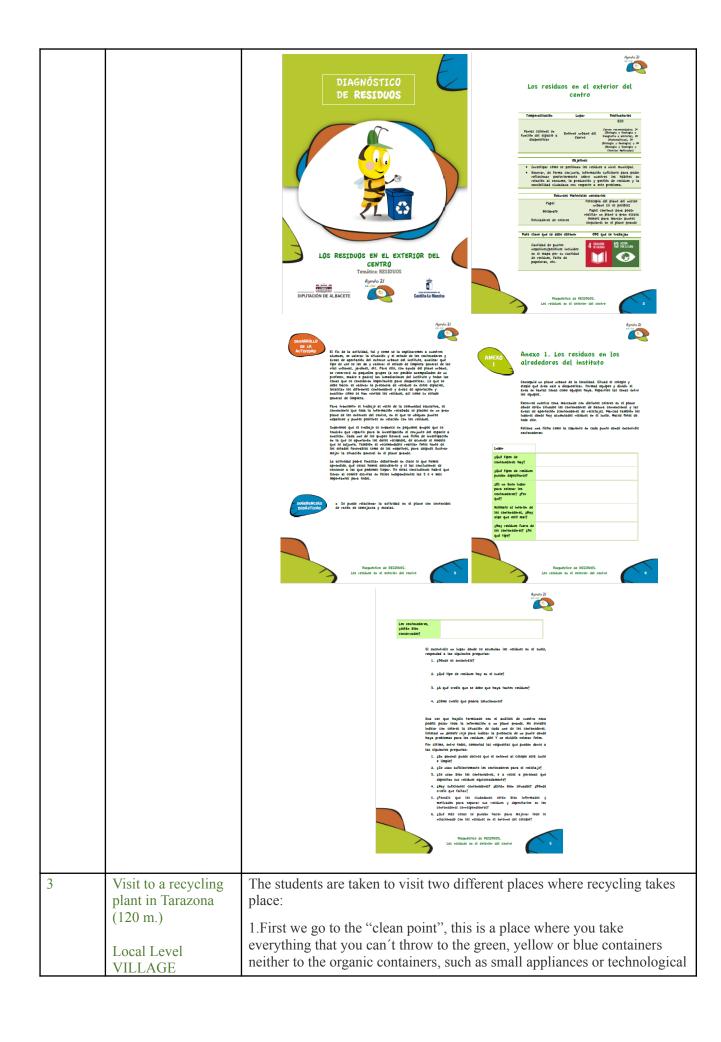
## GENERAL CONSIDERATIONS

The purpose of this PBL lesson goes through the problem of waste from our school to our continent Europe, from the closest to the farthest, trying to make our secondary rural Spanish students be aware of the neccesity of taking measure right here and right now in order to minimize the impact and the subsequent consequences that waste can cause to our way of living in the long term. That's the reason why we have decided to structure our unit starting up from a local level, the closest and then follow the way of waste all the way through...PROVINTIAL...NATIONAL...EUROPEAN LEVEL

The globalization has made our distances closer than ever before. We all are now interwoven and the decisions we take will write our common global future and the younger generations not only need to know it, they also have a word to say about it and their voices need to be heard by politians.

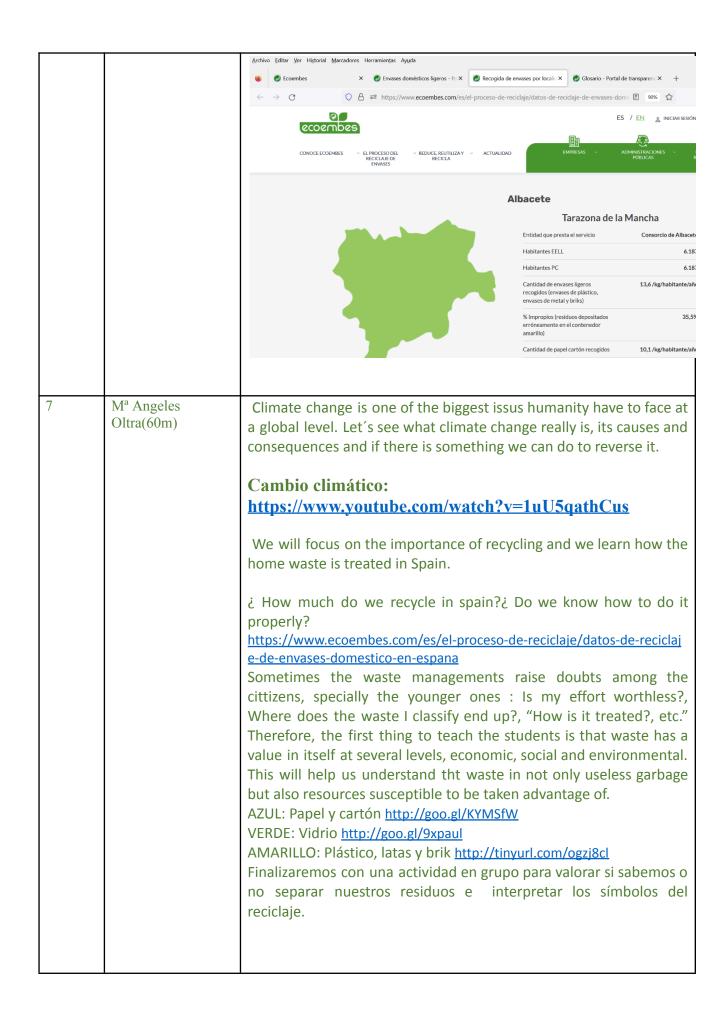
EVALUATION	Different techniques will be applied to evaluate the students throughout the process. They will include:  • Direct observation and advice to keep they going.  • Rubrics • Debates • Conceptual maps • Production in general

Lessons of 60 minutes	Homework	Activities during the actual lesson
1	We can give them a small task to put into practice. (60m)	Start by explaining that the lesson plan is part of an Erasmus+ project and based on the <b>problem based learning</b> approach.  Start working with the PBL approach. Use the PP about PBL as part of the presentation. The students pay attention to the PowerPoint and ask doubts about the methodology.  Later on they put into practice this new methodology in a very simple way: they are split up into 3 groups of 5/6 and are given the following question: Do you think that we as a society have a problem with our waste?  Each group choose one leader and one secretary and spend 15 minutes debating about the question. All of them will share their conclusions and support their answers. Choose a way to present it.( Mind map, PowerPoint, Infographic)
2	Ma Angeles López Chemistry teacher and Coordinator Agenda 21 (60m) Local Level SCHOOL	Our school has been taken part since 2017/18 of the programme Agenda 21 which promotes and enhances the betterment of the school community. One of the main topics we are working with is the minimization of the waste and the maximization of the recycling within the school, paying special attention to the common areas. Our science teacher M. Ángeles will show them all the actions which have been taking place throughout this school year, the previous and the following ones.  Some of our students in the Project are also members of this Committee and will share their experiences with the rest of the students.  So let's see what can of waste can we find at school and how we can classify it, minimize it and recycle it.  The teacher will propose some activities at the end of the Lecture.



devices, furniture, clothes and so on. They have huge opened containers which are later classified and taken to the provincial recycling center. They will be asked to take pictures of the things they are seeing. They may also think about questions to ask to the people working there related to the time and resources spent on it. 2. We will also visit the place where the daily trash is taken right after being collected. The idea is to make them aware of the huge amount of waste we produce every day. The local will provide us with documents containing the real numbers in terms of money spent, time consumed, etc. Later on, they will analyze the numbers: Do we pollute a lot? Or not? The numbers we get will be later on compared to provincial and national and European numbers Comunidad productor Autónoma Código LER Operación (Consulte Nombre/Ra NIF o País del (Consulte (Consulte Cantidad(K productor productor Hoja 6) Hoja 7) Hoja 5) zón social q) EXCMO AYTO, DE CASTILLA LA 200101 EMPRESA TARAZONA P0207300E R12 MANCHA PRODUCTO DE LA MANCHA 16120.00 RA EXCMO AYTO, DE CASTILLA LA 200139 **EMPRESA** TARAZONA P0207300E R12 MANCHA PRODUCTO DE LA MANCHA 7440.00 EXCMO. AYTO DE CASTILLA LA 200140 **EMPRESA** TARAZONA P0207300E R12 MANCHA PRODUCTO DE LA MANCHA 7340,00 EXCMO. AYTO. DE CASTILLA LA EMPRESA TARAZONA P0207300E R12 MANCHA PRODUCTO DE LA RA MANCHA 200307 30460,00 A technician leading the recycling plant in Albacete will come to give a 4 Attending lecture lecture to the students. They will teach them how the recycling of (120m)materials is carried out in the capital city Albacete. All the waste from the **PROVINCIAL** small towns and villages like Tarazona end up there. A lot of graphic LEVEL material will be shown to the students and the following activities will be carried out: SEE ATTACHED DOCUMENT At the end of the lecture or in a different class we will follow "the Way of Waste" to a national level which will be also analyze later on with a maths teacher in terms of statistics. https://administracion.gob.es/pag Home/en/Tu-espacio-europeo/derec hos-obligaciones/empresas/productos/gestion-residuos.html Analysing facts (60m)In groups they will be given the following questions: Do we consume and waste more than you thought? Do we spend more money on treating waste that you guessed? What can we do to minimize waste and money spent on it?

Where do we send our thrash? Do you know it? In groups (PBL approach) they will be given a Questionaire related to the trash we produce in Tarazona to answer it (google.doc) in groups. Later on, they will be given the information provided by the local Council in numbers (tons of thrash a year, money spent on its treatment, etc) and in groups they will analize the information and will compare it with their previous answers. The tasks: In groups of 5/6 they will analyze the documents given and will compare their answers in the questionnaire with the real numbers in the documents. They will elaborate a mind map with the conclusions. 6 Ana Belén Alcahud How does the treatment of waste affect our economy? Is it expensive or Economy teacher not? (60m)DEPARTAMENTO DE ECONOMÍA. PROVINCIAL to ACTIVIDADES. NATIONAL 1º PRESENTACIÓN DE LOS PRINCIPALES SISTEMAS DE RECICLAJE Y LEVEL REUTILIZACIÓN DE RESIDUOS Y ESTABLECEMOS RELACIÓN CON LA ECONOMÍA CIRCULAR. ( PRESENTACIÓN CANVA ELABORADA A PARTIR DE LA INFORMACIÓN OBTENIDA DE LAS PÁGINAS WEB DE EROSKI CONSUMER Y CONSORCIO MEDIO DE AMBIENTE DE ALBACETE). 2º VISIONADO DEL SIGUIENTE VIDEO. **ECO PARQUE ALBACETE** Resume las principales formas de reutilización de recursos y reciclaje que se aplican en el Ecoparque de Albacete. 3º ANÁLISIS DE LOS SIGUIENTES ARTÍCULOS DE PRENSA, LAS PRINCIPALES CONCLUSIONES QUE SE RECOGERÁN EN UN TRÍPTICO. ANÁLISIS DATOS RECICLAJE DE ENVASES DE PLÁSTICO ARTÍCULO 1 1. Elabora un gráfico de barras que muestre los kg de reciclaje por habitante de las distintas CCAA dentro de España y otro que compare los kg por habitante de los países de la UE. **ARTÍCULO 2** IMPUESTO SOBRE EL PLÁSTICO **Preguntas** 1. Enumera los principales costes que suponen para el planeta y la sociedad las toneladas de plástico que no se reutilizan. 2. ¿En qué lema se basa el impuesto sobre plástico? 3. Según la previsión del artículo ¿tendrá este impuesto una gran capacidad recaudatoria? 4º ACTIVIDAD DE ANÁLISIS DE DATOS DE RECICLAJE. DATOS DE RECICLAJE 2022. (DATOS DE RECICLAJE EN ESPAÑA) Muestra en una infografía los principales datos sobre cantidad y tipos de residuos reciclados y reutilizados. **ECONOMÍA CIRCULAR** Resume en una frase el mensaje que nos pretende transmitir el vídeo.



8	NATIONAL LEVEL (60 m)	https://cincodias.elpais.com/cincodias/2022/07/20/companias/16583190 06_441649.html  Read the following documents: Analyse them and extract two positive ideas and two negatives
9	Noelia (60m) NATIONAL LEVEL	As she is one of our maths teacher she will ask the students to elaborate some graphics with the numbers we were given by The Local Council / The technitian from the Recycling plant/ Agenda 21  https://www.ine.es/jaxi/Datos.htm?path=/t26/e068/p01/serie/l0/&file=0 2003.px TABLAS https://www.ine.es/jaxi/Datos.htm?path=/t26/e068/p01/serie/l0/&file=0 2003.px#!tabs-grafico Gráfico
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10	Raúl (60m) EUROPEAN LEVEL	A presentation about the European Union will be done following the same pattern as a Kahoot which will be used later on.  The students will elaborate a Kahoot with the information already worked
		with about the European Union.  Then they will play a game with questions about the European Union is present in our daily life. The focus of this game will be about waste and expense, related to the way of waste.
		Por último se hará un juego de roles sobre el Parlamento Europeo. El juego consiste en crear grupos de parlamentarios que deben llevar a cabo un proceso de toma de decisiones sobre diferentes asuntos. Así pueden aplicar la metodología PBL enfocada desde otro punto de vista. Se cerrará la sesión con un kahoot de repaso sobre lo trabajado en la sesión.

		Finally a role play about the European Parliament will be carried out. The game consist on creating parlamentarian groups which may lead a process of decion making about different matters. This way PBL methodology will be applied from a different point of view. A revision of all the points will be carried out at the end of the lesson.  Links:  https://youth.europarl.europa.eu/more-information/ambassador-school/active-lessons.html
11	Work group: Find solutions (180m)	<ul> <li>During the process the different groups:</li> <li>They all will elaborate a Genially following the different steps of the process (each group will work on one of the parts).</li> <li>Several TikTok will be done with some suggestions. They will be shared.</li> <li>Some podcasts will be also elaborated and broadcasted in our school radio and if possible at a local and provincial level</li> </ul>
		• The students will write politicians <u>some letters</u> with the conclusions they have reached and contributing with several ideas in order to look for solutions.