## CLIL Module Plan

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School	ITT Buonarro	oti-Pozzo							
School Grade	O Primary		01	O Middle			• High		
School Year	01	O 2	•	3	0 4			0 5	
Subject	Chimica	<b>Topic</b> En			Environmental and Materials Chemistry				
<b>CLIL Language</b>					O Deutsch				

### Personal and social-cultural preconditions of all people involved

The class 3CMB is composed by 20 students (4 girls and 16 boys) who were in different classes in the past year. Some of them are affected by learning disabilities, so the expected elaboration time of the instructions and the test schedule take in count their special needs. Two of the girls have participated in the current year in a language exchange program abroad (in the Netherlands and Austria). The group generally reacts well to innovative learning methods, and shows motivation in studying new topics that are not usually part of the standard teaching programs. The CEF levels of the class varies from A2 to B1. The CEF level of the teachers is C1. The program is articulated in 4 hours per week, with thorough tutoring of the teacher. No lab activities are scheduled in the module.

Students' prior knowledge, skills, competencies

#### **Subject**

Students should have the following knowledge: -Main routes of air, water and soil pollution; -Consequences of water contamination and relative health concerns. -Principal methods of metal extraction -Classification of alloys -Chemistry of metallic bonds Skills Student should be able to: -Recognize the most common pollutants; -For every pollutant mentioned, identify in which conditions it manifest the worst possible impact on the environment; -Identify the principal methods of metal extraction; -Recognize different alloys by composition and chemical properties. Competences Students can: -Understand in which way the use of materials and specific compounds can alter the environment -Utilize the concepts and principles of Chemical Physics to explain the structure of systems and their transformations -Be aware of potential and limits of specific technologies in the social-cultural

#### Language

Students should have the following knowledge: -Verb tenses -Conditional forms -General scientific vocabulary Skills: Students should be able to -Listen to a lesson or watch a video in L2 and understand the general meaning of their contents. -Read meaningful material such as short text and understand the general meaning. -Answer to simple questions to verify general comprehension.

Competences Students can: 
Communicate in L2 -interact with sufficient fluency -Competent use of a technical jargon

**Timetable fit** 

Module

Length 20 hours

background in which they are used.

### Description of teaching and learning strategies

-Multimodality lesson: the lesson is taught in a interactive way, using worksheets, videos and presentations. The language is simple, plain and mainly schematic. -Interactive teaching: use of didactic devices like tablets, pc and apps (Power Point, Prezi, Cloud, Google Apps, etc...) -Language output: stress on simplicity, with individuation and repetition of key words -Peer Tutoring: Worksheets will be assigned to small student groups to maximize the acquisition of assigned tasks and promote collaboration -Cooperative Learning: Team work aimed at the redaction of a presentation to be taught in front of an expert guest. This activity will be tutored by the teacher both in the linguistic and content aspects. -Adapting language input: to ensure a good communication, it is important that the language in the classroom is tuned to the level of the students, just as above

## Overall Module Plan

Unit: 1

Pollution

Unit length: 8 h

Lesson 1

Warm-up and general information about pollution

Lesson 2

Introduction to the movie

Lesson 3

Viewing of the movie " Erin Brockovich"

Lesson 4

Reading of the scheduled worksheets

Unit: 2

Materials Science

Unit length: 12 h

Lesson 1

Extraction of Metals

Lesson 2

Lead-in to Group Work

Lesson 3

Group work on alloys

Lesson 4

Final exposition of the work done

Unit number 1 Lesson number 1 Title Warm-up and general information about pollution

Activity	Timing	<b>Learning Outcomes</b>	<b>Activity Procedure</b>	Language	Interaction	Materials	Assessment
1	15 min		15 min Students find out what is the topic they are Warm- up: teacher welcomes students	Skills	■ Whole class		Informal assessment:
		going to study and	and asks them what	asks them what L S R W			the teacher
		recall some key words	they know about the topic.	Key vocabulary Environment, pollution	work  Pair work  Individual work	inf du	collects some information during the
				Communicative structures			discussion
				Do you know? The argument of the module will be			

2	25 min	Students will learn first the specific terms needed to speak about environmental pollution. After that, the main routes of air, water and soil pollution will be presented.	Worksheets will be given to every working pair of students. The comprehension of the text will be supported by the use of a monolingual dictionary.	Key vocabulary Natural disaster, living organism, oil refineries, deforestation, coal, hazardous, mining, acid rain, climate change, greenhouse effect,.  Communicative structures Reading of the worksheet Do you know the meaning of ""? The meaning of ""?	□ Whole class □ Group work ■ Pair work □ Individual work	From page 135 to 137, pag 146-147 - ESP   New A Matter of Life, Paolo Brian, Edisco. Oxford Dictionary of English, Oxford university press	Informal assessment: the teacher collects some information during the educational activity.
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4	35 min	Students will learn to properly use the technical terms given, producing simple sentences.	The teacher asks every group to read aloud the answers to the questionnaire presented in phase 3 and makes corrections when needed.	Key vocabulary Natural disaster, living organism, oil refineries, deforestation, coal, hazardous, mining, acid rain, climate change, greenhouse effect,.  Communicative structures Can you read me your answer to question #? Is now clear the meaning of ""?	■ Whole class □ Group work ■ Pair work □ Individual work	Page 138 ESP   New A Matter of Life, Paolo Brian, Edisco.	Self assessment: the students will correct their answers by confronting with the work of their colleagues and with the solutions given by the teacher.
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 Unit number
 1
 Lesson number
 2
 Title
 Introduction to the movie

Activity	Timing	Learning Outcomes	<b>Activity Procedure</b>	Language	Interaction	Materials	Assessment
1	20 min A general The teacher explains the general setting and the movie "Erin Skills It Is R N		■ Whole class	link link	Informal assessment: the teacher		
		Brockovich" will be done. Students will learn to use simple sentences to present the themes	using the data sheet from the Internet Movie Database and by showing the movie trailer.	Key vocabulary Actors, Director, Screenwriter, plot, dialogue, trailer	work  Pair work  Individual work		will assess the degree of interaction of the students
		that will be explored during the view.		Communicative structures The movie is about Have you ever seen a movie in English? Did you have understood the part of this video?			

2	30 min	The students recall the basic grammatical and syntactical structures needed for the didactical activity .	The teacher presents to the class the worksheet and reads the comprehension questionnaire. There will be given some simple examples of the expected answers.	Key vocabulary toxic chemicals, contamination, health, long term consequence, symptoms  Communicative structures The corporation has polluted the with People living in the contaminated area	■ Whole class □ Group work □ Pair work ■ Individual work	• Worksheet 1.pdf	Informal assessment: the teacher will assess the degree of interaction of the students
				with People living in the			

Unit number 1 Lesson number 3 Title Viewing of the movie "Erin Brockovich"

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	10 min (The view of the movie will be split in two lessons of the length of 50 minutes each)	Students will be focused on listening	The teacher reads again the questions given during the previous lesson.	Key vocabulary toxic chemicals, contamination, health, long term consequence, symptoms  Communicative structures The corporation has polluted the with People living in the contaminated area started to manifest the following symptoms: The disease has been caused by	■ Whole class □ Group work □ Pair work □ Individual work	• Worksheet 1.pdf	Informal assessment: the teacher will assess the degree of interaction of the students

2	90 min	follow the plot of a movie in English, paying particular attention to the main themes of interest for the present activity (i.e. Environmental issues). They will be encouraged to take notes during the view, in particular for the sake of collecting specific keywords.  follow the plot of a movie. The fundamental parts of the plot will be paused and reprised for assuring a better understanding. The notes taken during the vision will be used at home to work over the questionnaire.  Communica structures Did you have understood to the movie? Communication guess the me ""? What' meaning of the plot will be paused and reprised for assuring a better understanding. The notes taken during the vision will be used at home to work over the questionnaire.	L S R W  Key vocabulary toxic chemicals, hexavalent chromium, tumors, Hodgkin's lymphoma, safe, class	• Worksheet 1.pdf	
			work over the	Communicative structures Did you have understood this part of the movie? Can you guess the meaning of ""? What's the meaning of this scene/dialogue? Can you find in this scene some information useful to answer one of the questions?	

3	20 min	The attention of the class will be focused on listening.	Will be asked to the students to recall the first part of the movie seen in the previous lesson by telling a synopsis to their colleagues.	L S R W  Key vocabulary toxic chemicals, hexavalent chromium, tumors, Hodgkin's lymphoma, safe, class action.	■ Whole class □ Group work □ Pair work □ Individual work	• Worksheet 1.pdf	Informal assessment: the teacher evaluate the comprehension by posing simple questions to the students.
				Communicative structures What's the main theme of the movie? What happens at the end of the first part? Can you describe the actions and the motivations of the main character?			

4 80 min Students will learn to Viewing of the **Skills** Whole Worksheet movie. The follow the plot of a class 1.pdf S R movie in English, fundamental parts W ☐ Group of the plot will be paying particular work **Key vocabulary** attention to the main paused and ☐ Pair work toxic chemicals, themes of interest for reprised for ■ Individual hexavalent chromium. the present activity assuring a better work tumors, Hodgkin's (i.e. Environmental understanding. The lymphoma, safe, class issues). They will be notes taken during action. the vision will be encouraged to take notes during the view, used at home to Communicative in particular for the work over the structures sake of collecting questionnaire. Did you have specific keywords. understood this part of the movie? Can you guess the meaning of "....."? What's the meaning of this scene/dialogue? Can you find in this scene some information useful to answer one of the questions?

Unit number 1 Lesson number 4 Title Reading of the scheduled worksheets

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	Done the assigned homework and recalled the activities done during the previous lesson, the	■ Whole class ■ Group	• Worksheet 1.pdf Oxford	Formative assessment (collect			
		students focus their attention on the comprehension of the main themes of the movie.	homework. The teacher eventually intervenes giving	Key vocabulary chemicals, hexavalent chromium, tumors, Hodgkin's lymphoma, safe, class action.	work  Pair work  Individual work	Dictionary of English, Oxford university press	feedback during the group discussion)
				Communicative structures Can you read me your answer to question #? Do you think the answer given by is correct? Is the answer complete? If it's not, what can be specified to make it more exhaustive?			

Unit number	2	Lesson number	1	Title	Extraction of Metals
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Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 min	Students find out what is the topic they are going to study and recall some key	Warm- up: teacher welcomes	Skills  L S R W	■ Whole class		Informal assessment: the teacher collects some information
		words	students and asks them what they know about	<b>Key vocabulary</b> Environment, pollution	work □ Pair work □ Individual		
			the topic.	Communicative structures Do you know? The argument of the module will be	work		during the discussion

2	25 min	Students will learn about the main techniques of metal extraction.	Worksheets will be given to every working pair of students. The comprehension of the text will be supported by the use of a monolingual dictionary.	Skills  L S R W  Key vocabulary Extraction, oxide, reduction, electrolysis, purify, molten compounds, electrolyte, cathode, anode	□ Whole class □ Group work ■ Pair work □ Individual work	• Worksheet 2.pdf  From page 37 to 41 - GCSE chemistry, complete Revision & Practice, CGP Oxford Dictionary of	Informal assessment: the teacher collects some information during the educational activity
			Communicative structures Reading of the worksheet Do you know the meaning of ""? The meaning of "" is What is electrolysis?		English, Oxford university press		

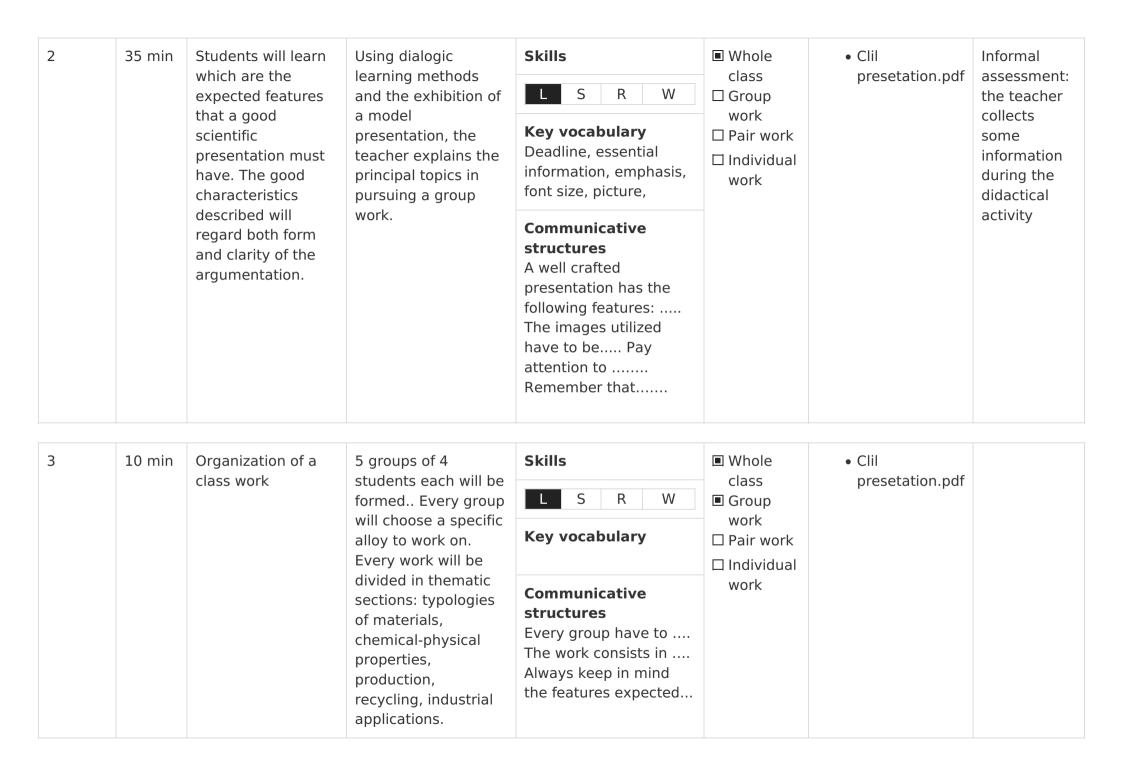
3	10 min	Students will learn about the benefits and the drawbacks of the process of metal extraction. Special attention will be paid in addressing the environmental issues, especially in relation to the possibilities linked to the application of recycling technologies.	Worksheets will be given to every working pair of students. The comprehension of the text will be supported by the use of a monolingual dictionary.	Key vocabulary Useful product, dangerous, subsidence, energy, fossil fuel, acid rain, landfill, money, waste.  Communicative structures Reading of the worksheet Do you know the meaning of ""? The meaning of "" is How much recycling is important for you? Why?	□ Whole class □ Group work ■ Pair work □ Individual work	• Worksheet 2.pdf  From page 42 to 43 - GCSE chemistry, complete Revision & Practice, CGP Oxford Dictionary of English, Oxford university press	Informal assessment: the teacher collects some information during the educational activity
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4	the chemico-physical properties of metals and their alloys.  their alloys.  be given to working particular students. Comprehent the text will supported use of a monolingu	the chemico-physical properties of metals and	Worksheets will be given to every working pair of students. The comprehension of the text will be supported by the use of a monolingual dictionary.	L S R W  Key vocabulary Strong, bendy, transition metal, conduct, corrode, hard, strong, steel, alloy, shaped, inflexible, corrosion-resistance	□ Whole class □ Group work ■ Pair work □ Individual work	• Worksheet 2.pdf  from pages 46 to 49 - GCSE chemistry, complete Revision & Practice, CGP Oxford Dictionary of	Informal assessment: the teacher collects some information during the educational activity
			Communicative structures Reading of the worksheet Do you know the meaning of ""? The meaning of "" is How much recycling is important for you? Why?		English, Oxford university press		

5	20 min	Students will learn to answer to scientific questions.	The teacher asks every group to read aloud the answers to the questionnaire presented in phase 3 and makes corrections when needed.	Key vocabulary Natural disaster, living organism, oil refineries, deforestation, coal, hazardous, mining, acid rain, climate change, greenhouse effect,.  Communicative structures Can you read me your answer to question #? Is now clear the meaning of ""?	<ul> <li>■ Whole class</li> <li>□ Group work</li> <li>■ Pair work</li> <li>□ Individual work</li> </ul>	Worksheet     2.pdf  Material written by the class	Self assessment: students will correct their answers by confronting with the work of their colleagues and with the solutions given by the teacher.
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 Unit number
 2
 Lesson number
 2
 Title
 Lead-in to Group Work

Activity	Timing	Learning Outcomes	<b>Activity Procedure</b>	Language	Interaction	Materials	Assessment
1	5 min	Introduction to the class work	Warm- up: teacher welcomes students and asks them what they know about the work	Skills  L S R W  Key vocabulary  Communicative structures Do you know? The argument of the module will be	■ Whole class Group work Pair work Individual work		

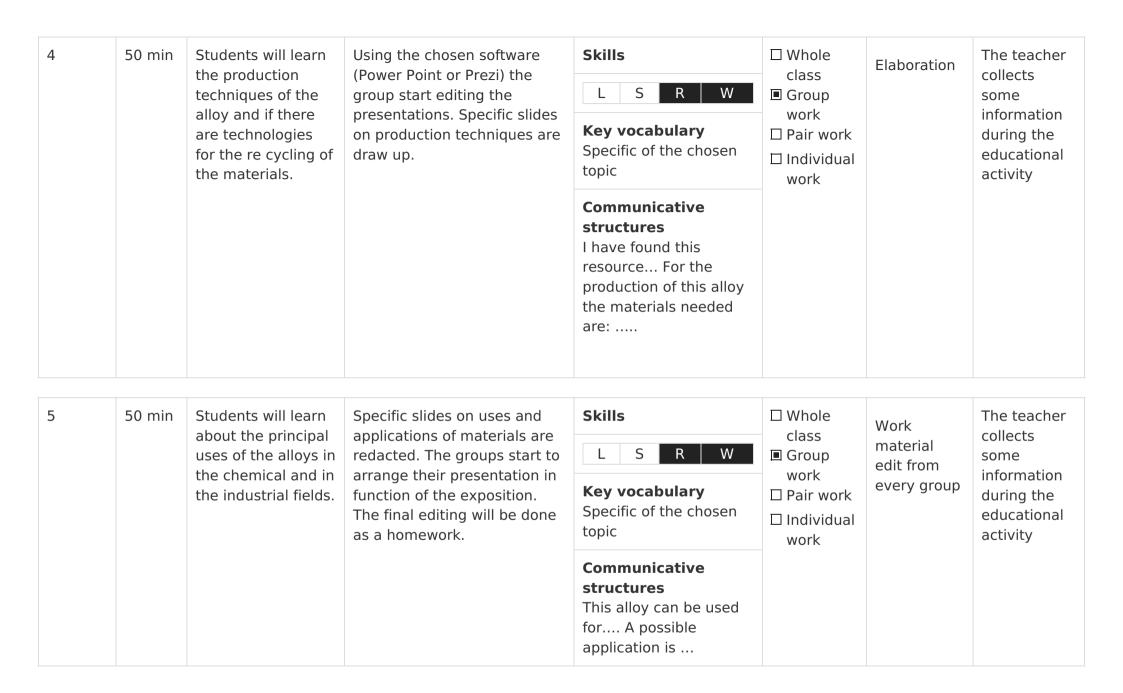


 Unit number
 2
 Lesson number
 3
 Title
 Group work on alloys

Activity	Timing	Learning Outcomes	<b>Activity Procedure</b>	Language	Interaction	Materials	Assessment
1	50 min	Students will learn how to do a bibliographic research on a chosen topic.	The groups will start to work in the PC room, beginning with a bibliographical research on the web. Every group choose a specific alloy to work on (e.g. brass, steel, cast iron etc)	Skills  L S R W  Key vocabulary Specific of the chosen topic  Communicative structures I have found this resource This page have interesting information This material is not suitable for our work	□ Whole class ■ Group work □ Pair work □ Individual work	Material found on the web by the work groups of students.	Informal assessment: the teacher collects some information during the educational activity

2	50 min	Students will learn about the chemical	In the PC Room the student groups will be asked to focus	Skills	□ Whole class	Overall	The teacher collects
	composition and their study on the structure the crystalline and composition of the	_	L S R W	■ Group	planification of the	some	
		structure of the alloy of choice.	chosen material.	<b>Key vocabulary</b> Specific of the chosen topic	work □ Pair work □ Individual work	presentation	information during the educational activity
				Communicative structures I have found this resource The composition is The structure of this alloy can be described as			

3	50 min	n Student will learn the principal chemico-physical	Gathered all the information needed, the groups start to elaborate their presentations,	Skills  L S R W	□ Whole class ■ Group	Elaboration	collects some
	properties of alloys. They will also learn to interpret numerical data.  using the specific apps (Power Point or Prezi).	<b>Key vocabulary</b> Specific of the chosen topic	work □ Pair work □ Individual work		information during the educational activity		
				Communicative structures I have found this resource This material has the following characteristics: On the base of the numerical data acquired, we can say that			



Unit number 2 Lesson number 4 Title Final exposition of the work done

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	3 h - 30 minutes for each presentation (presentation and discussion)	The educational goal of every presentation activity is the improvement of the communicative skills of the students. The class will learn about the characteristic of every alloy studied by the groups.	Every member of the work groups will report a part of the work done in front of the class and of an expert invited a s a guest. The teacher at the end of every presentation, will give suggestions on how to improve the work in the scientific and linguistic features. The suggestions will be worked on and implemented in the presentations as a homework.	L S R W  Key vocabulary  Communicative structures This slide is too long The images utilized are few/too many Instead of is better to say that	□ Whole class ■ Group work □ Pair work □ Individual work	Work material from every group	Formative assessment: the teacher will evaluate the work of every group on the base of the requirements expressed in lesson 2. The evaluation will take into account the expressive skills (vocabulary, fluency) and also the strength of the presentation.

2 2 h (15' Every group will Every member of the Skills ☐ Whole The teacher Presentations minutes for present a reediting work groups will class will evaluate redacted by S L R each of their work that report a part of the W Group the work of the work work done in front of work presentation) takes into account every group groups **Key vocabulary** □ Pair work the suggestions the class and of an on the base Specific of the chosen gathered in the expert invited as a of the ☐ Individual topic guest (a teacher of previous lesson. The requirements work educational goal of another class of the expressed in Communicative every presentation school). lesson 2. The structures activity is the evaluation In which way do you improvement of the will take into have improved your communicative skills account the presentation.. This slide of the students. The expressive can be modified.... skills class will learn about Overall, this the characteristic of (vocabulary, presentation is ...... every alloy studied fluency) and by the groups. also the strength of the presentation. The teacher will assign a grade.