CLIL Module Plan

Author(s)	Quagliarella Gia	Quagliarella Giacomo						
School	ITT "M.Buonarro	TT "M.Buonarroti" Trento						
School Grade	O Primary	O Middle			High			
School Year	01	O 2	③ 3		04 05		0 5	
Subject	Altro - Electrotechnics	Topic		Different methods of calcuating an unknown resistance				
CLIL Language	English			O Deutsch				

Personal and social-cultural preconditions of all people involved

The class if a third year high school. The class is composed by 24 learners with ages from 16 to 18 years old. There are students with special needs. From the language point of view: some students have a good language level (B1/B2) while others (the majority) need more support and thinking time to do the tasks. From the discipline point of view, the students are divided in two blocks, one is very correct with the behaviour and they are fast learners while the other group need more attention because of the poor discipline and the slow learning.

Students' prior	Subject	Language
knowledge, skills, competencies	Electricity, atoms, electrons, base of phisics and chemistry.	Classroom language: students should be able to understand easy sentences containing the explanation of the topic of the lesson, as well as to understand the explanation of the mathematical passages containing the most usual operations: sum, subtraction, multiplication, division, square root, exponentiation. They also must be able to ask for help or for clarifications.

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Lesson

Length 14 lessons, 42 hours

Description of teaching and learning strategies

The class will be divided in groups of 2 to 3 learners, there will be also, class work and independent work. The lesson will be as much as possible in L2 with some L1 in case of needed of particular explanations. The teacher is able to explain the subject in L2 with simple sentences at the same language level of the students. The teacher will give explanation in L2 in case of students will not understand some vocabulary. A glossary will be provided. It is easier if the lesson is in a laboratory because for the learners it is less difficult to perform something than to explain it. In this lesson the teacher initially will introduce the lesson providing the students with the necessary vocabulary using also text and exercises to give the student a proper preparation and knowledge. In this way they will be able to successfully perform the proposed exercises. For student with special needs there will be a glossary supplied and an extra attention from the teacher to their needs. All classes will last 3 hours and will be divided between practical and theoretical lessons.

Overall Module Plan

Unit: 1

OHM'S LAW

Unit length: 9 hours

Lesson 1

Ohm's Law, current, resistance, unit of measure

Lesson 2

Verifying Ohm's law

Lesson 3

Verifying ohm's law, a practical approch

Unit: 2

Ammeter Voltmeter method, types or resistors

Unit length: 12 hours

Lesson 1

Types of resistors

Lesson 2

Measure of resistance, preliminary calculations

Lesson 3

Ammeter Voltmeter method practical experience

Lesson 4

Clil test about the practital experiences done.

Unit: 3

 $\label{lem:measuring} \mbox{ Measuring resistance methods: the comparison }$

method

Unit length: 9 hours

Lesson 1

The comparison method theoretical approach

Lesson 2

The comparison method practical approach

Unit: 4

The Wheatstone Bridge method

Unit length: 9 hours

Lesson 1

Wheatstone Bridge method theoretical approch

Lesson 2

Wheatstone Bridge method practical approach

Lesson 3

Clil test

Unit: 5

Capacitors

Unit length: 6 hours

Lesson 1

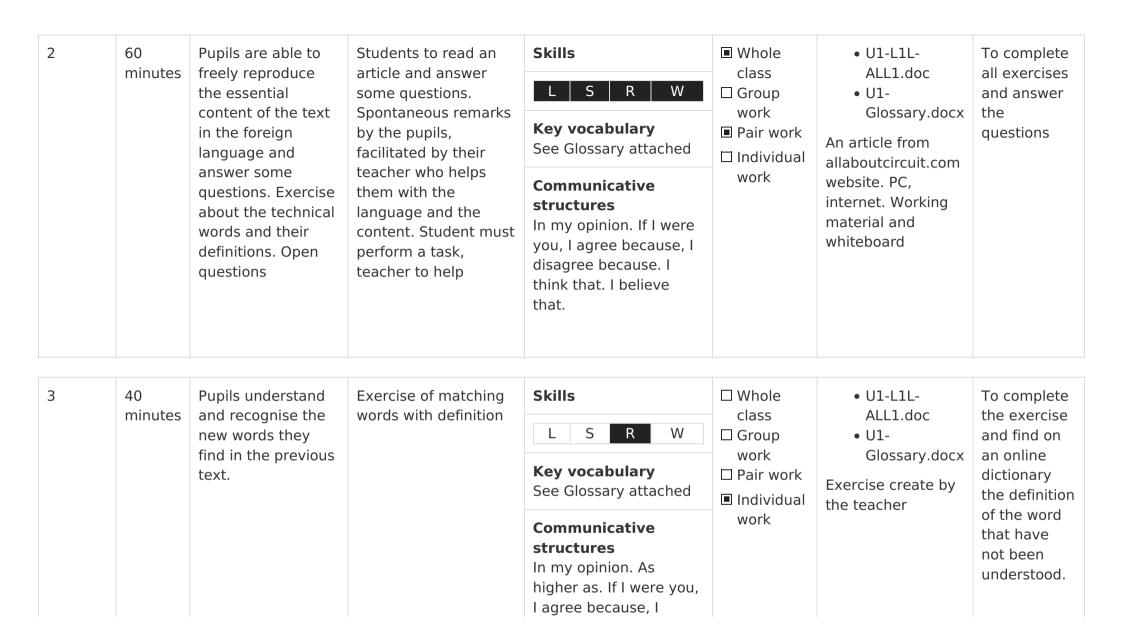
What is a capacitor?

Lesson 2

Students english presentation

Unit number 1 Lesson number 1 Title Ohm's Law, current, resistance, unit of measure

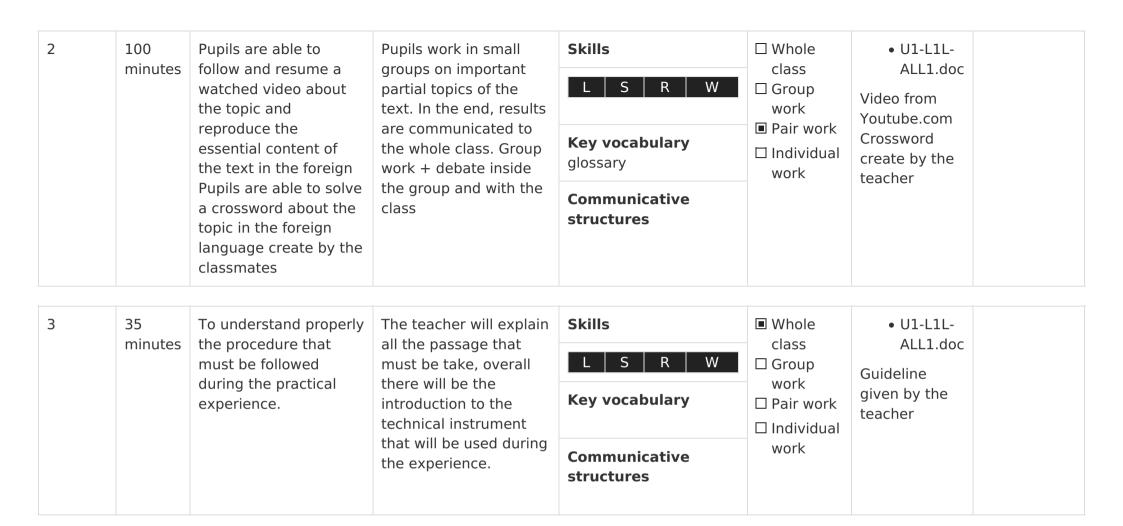
Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	50 minutes	How to fill up a technical relation. To understand how to use the instruments available in the laboratory.	Introduction at the topic of the lesson Teacher's introductory words	Skills L S R W Key vocabulary See Glossary attached Communicative structures In my opinion. If I were you, I agree because, I disagree because. I think that. I believe that.	■ Whole class Group work Pair work Individual work	• U1- Glossary.docx None, in this phase the teacher introduces few words as a basic vocabulary for the lesson and explain the technical aspect of the lesson	



disagree because.

 Unit number
 1
 Lesson number
 2
 Title
 Verifying Ohm's law

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate	Skills L S R W	■ Whole class		
			referring to preious classes. Teacher will give precise	Key vocabulary See Glossary attached	work Pair work Individual work		
				Communicative structures			



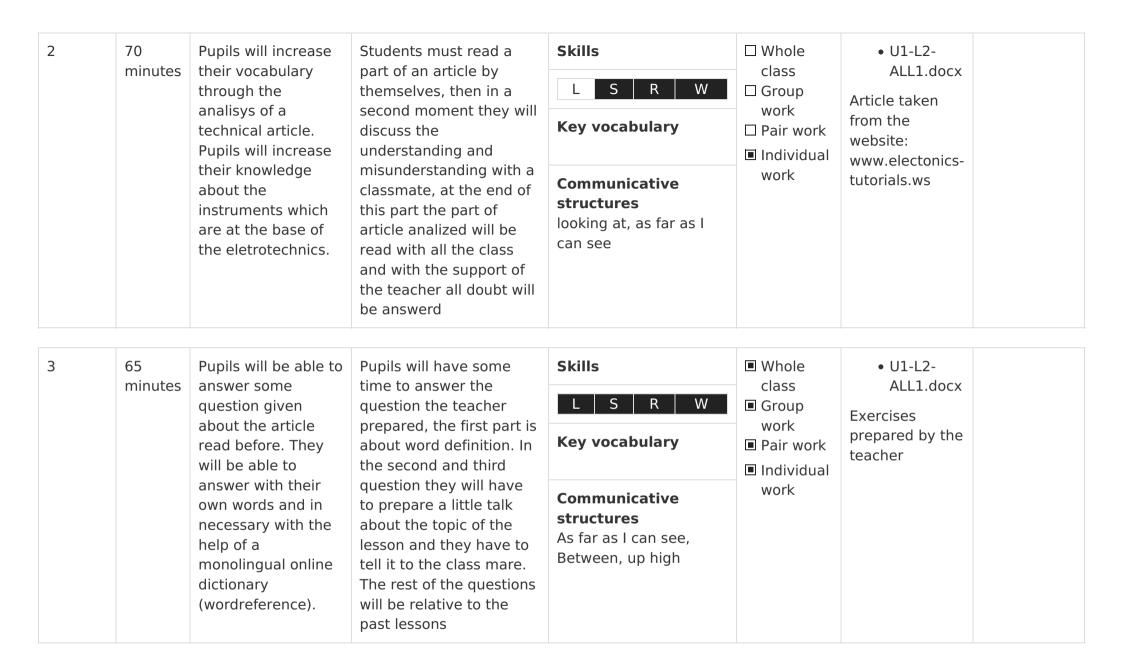
Unit number 1 Lesson number 3 Title Verifying ohm's law, a practical approch

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to preious classes. Teacher will give precise instructions about the experiment the class will perform.	Skills L S R W Key vocabulary glossary Communicative structures As well as, Although, not only, you can see from the picture, in my opinion, take into consideration.	■ Whole class □ Group work □ Pair work □ Individual work	• U1-L1L- ALL1.doc	

2	135 minutes	Pupils will be able to build, analyse and understand how a real electric circuit works and to apply the Ohm's law in order to determine the characteristic of a resistor.	Pupils work in small groups on a practical experience. They are required to prepare a report as homework regarding what experimented in class	Skills L S R W Key vocabulary glossary Communicative structures You can see, be careful	□ Whole class ■ Group work □ Pair work □ Individual work	• U1-L1L-ALL1.doc During the experience the student will be using the knowledge learned during previous classes. They will be provided with all datas they need in order to successfully complete the experiment.	As homework student must prepare a report in L2 regarding ohm's law applied in real life on a simple electronic circuit.
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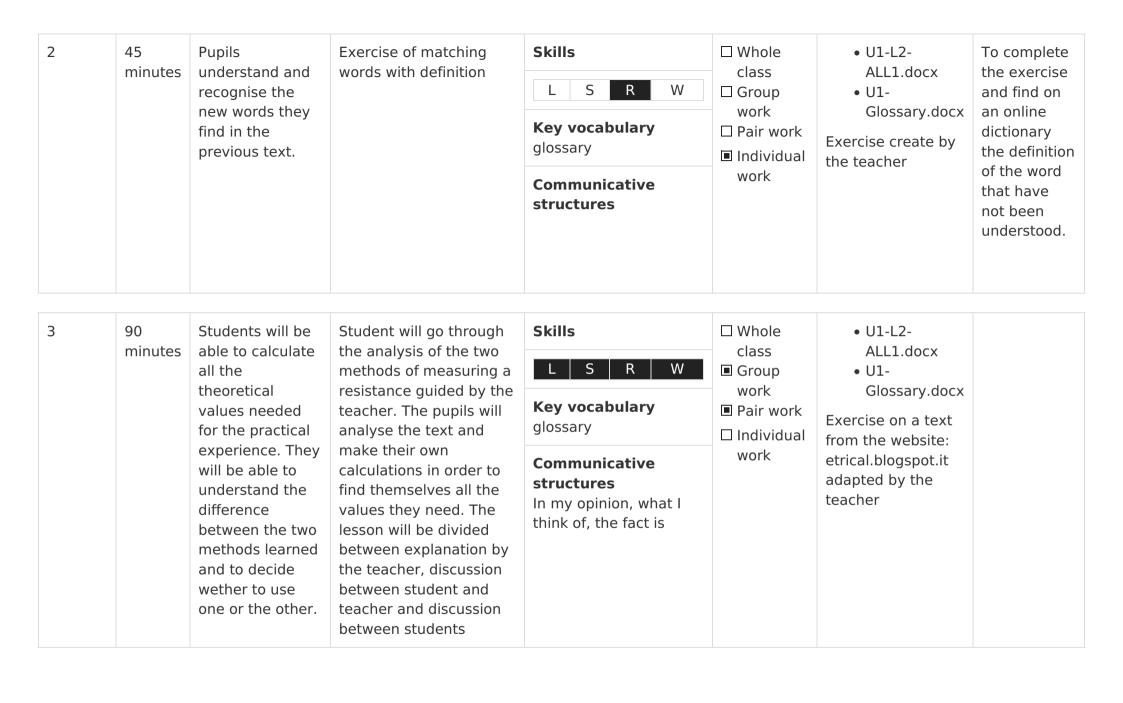
Unit number	2	Lesson number	1	Title	Types of resistors
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Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to previous classes. Teacher will give precise instructions about the experiment student are about to perform.	Skills L S R W Key vocabulary Communicative structures you can see from, if you check	■ Whole class Group work Pair work Individual work	• U1-L2- ALL1.docx	



Unit number 2 Lesson number 2 Title Measure of resistance, preliminary calculations

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	L 15 minutes		Introduction at the topic of the lesson. Teacher will activate the	Skills L S R W	■ Whole class	• U1-L2- ALL1.docx • U1-	
			knowledge about the topic of the lesson referring to previous	Key vocabulary glossary	work Pair work Individual work	Glossary.docx	
		cl	classes.	Communicative structures			



Unit number 2 Lesson number 3 Title Ammeter Voltmeter method practical experience

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to preious classes. Teacher will give precise instructions about the experiment student are about to perform.	Skills L S R W Key vocabulary glossary Communicative structures	■ Whole class □ Group work □ Pair work □ Individual work	• U1-L2- ALL1.docx • U1- Glossary.docx	

2	135 minutes	Pupils will be able to build, analyse and understand how the Ammeter Voltmeter method works through the creation of real electronic circuits	Pupils work in small groups on a practical experience. They are required to prepare a report as homework regarding what experimented in class	L S R W Key vocabulary glossary Communicative structures	□ Whole class ■ Group work □ Pair work □ Individual work	• U1-L2- ALL1.docx • U1- Glossary.docx During the experience the student will be using the knowledge learned during previous classes. They will be provided with all datas they need in order to successfully complete the experiment.	As homework student must prepare a report in L2 regarding ohm's law applied in real life on a simple electronic circuit.
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Unit number 2 Lesson number 4 Title Clil test about the practital experiences done.

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	150 minutes	Students will understand how much they learned through clil lessons about the first 2 experience done in the laboratory.	Test with open answers to perform completely in english about the topics touched during all previous lessons	Skills L S R W Key vocabulary glossary Communicative structures	■ Whole class □ Group work □ Pair work □ Individual work	• 3AUA CLIL test.docx Clil test given by the teacher	Answer all question by the end of the lesson

Unit number 3 Lesson number 1 Title The comparison method theoretical approach

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to previous classes.	Skills L S R W Key vocabulary glossary	■ Whole class □ Group work □ Pair work □ Individual	• U1-L3- ALL1.docx • U1- Glossary.docx	
		Communicative structures	work				

	15 minutes	Pupils will increase their vocabulary through the analisys of a technical article. Pupils will increase their knowledge about the methods they will use in the practical experience in order to find the value of a resistor	Students in groups and with the support of the teacher will analyse all aspect of the technical text they are asked to read. They will also simulate the circuit they will build in the practical experience using valued given. The teacher will guide the student through all aspect and will help in case of needed.	L S R W Key vocabulary glossary Communicative structures What I see is, after I read the article I think that	■ Whole class ■ Group work □ Pair work □ Individual work	• U1-L3- ALL1.docx • U1- Glossary.docx Text about the method taken from wikipedia, adapted and translated by the teacher.	
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3 85 The students Students in groups and Skills Whole • U1-L3minutes answering the individually they will class ALL1.docx S R question given complete all exercises and W Group • U1work and question they find on the Glossary.docx **Key vocabulary** completing the work sheet. On the first ■ Pair work Exercises prepared glossary exercises on exercise about matching ■ Individual by the teacher the work word with definitions they work Communicative will work individually. On sheet, they will structures increase their the second exercise they vocabulary are asked to answer some and they will open questions, the first be able to and second is to be done individually while the third answer some open question and forth has to be done in using the pair. The last two exercises words and has to be done individually. At the end of sentences each exercise, the teacher they learnt in the previous will ask some student to lesson. give to the class the solution or answer to a question to all class, the class will discuss about the answers.

Unit number 2 Title The comparison method practical approach

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to previous classes. Teacher will give precise instructions about the experiment student are about to perform.	Skills L S R W Key vocabulary glossary Communicative structures	■ Whole class □ Group work □ Pair work □ Individual work		

	135 minutes	Pupils will be able to build, analyse and understand how the Comparison method works through the creation of real electronic circuits	Pupils work in small groups on a practical experience. They are required to prepare a report as homework regarding what experimented in class	L S R W Key vocabulary glossary Communicative structures	□ Whole class ■ Group work □ Pair work □ Individual work	• U1-L3- ALL1.docx • U1- Glossary.docx During the experience the student will be using the knowledge learned during previous classes. They will be provided with all datas they need in order to successfully complete the	As homework student must prepare a report in L2 regarding ohm's law applied in real life on a simple electronic circuit.
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Unit number 4 Lesson number 1 Title Wheatstone Bridge method theoretical approch

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to previous classes. Teacher will give precise instructions about the experiment student are about to perform.	Skills L S R W Key vocabulary glossary Communicative structures	■ Whole class Group work Pair work Individual work	• U1-L4- ALL1.docx • U1- Glossary.docx	

2 25 minutes	Pupils will increase their vocabulary and understating of the material used in the laboratory through the analysis of a technical article.	Students to read an article and answer some questions. Spontaneous remarks by the pupils, facilitated by their teacher who helps them with the language and the content. Student must answer the questions at the end of the text, teacher to help	L S R W Key vocabulary glossary Communicative structures because of, what I think is	■ Whole class □ Group work ■ Pair work □ Individual work	U1-L4- ALL1.docx U1- Glossary.docx Article taken from the website: www.circuitglobe.com	Answer the question at the end of the text
3 110 minutes	Pupils will increase their vocabulary and understand the method they will use in the practical experience. Student will be able to follow a video about the topic and to fill up the gaps they will find in the transcription of the video. Pupils will	Pupils must perform task two and three. In the first task, students will be asked to watch and understand a video about Wheastone bridge taken from you tube. The pupils will watch the video at least three times, during the video they will have no subtitles. At the beginning they are not asked to fill up the exercise but only to get focused on the video and on the speaker voice. By the second time they watched the video they will be asked to fill up the gaps. At the end of the	Skills L S R W Key vocabulary glossary Communicative structures From what I understand from	■ Whole class ■ Group work ■ Pair work ■ Individual work	• U1-L4- ALL1.docx • U1- Glossary.docx Video from youtube.com technical text from wikipedia.	To complete the tasks

fully understand the process they will follow during the practical experience.	exercise with the help of the teacher, student will go through the analisys of the transcription and the answer given. In task three the students must analise, with the help of the teacher, the text about the topic of the lesson. The article will be read the first time individually by the students then the teacher will guide the class through the reading and understanding of the method. The student will be asked to read a piece of article, the reader will be choose by the teacher.			
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Unit number 4 Lesson number 2 Title Wheatstone Bridge method practical approach

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to previous classes. Teacher will give	Skills L S R W Key vocabulary	■ Whole class □ Group work □ Pair work □ Individual work	• U1-L4- ALL1.docx • U1-L4- ALL2.docx	
			precise instructions about the experiment student are about to perform.	Communicative structures			

2	135 minutes	Pupils will be able to build, analyse and understand how the Wheatstone Bridge method works through the creation of real electronic circuits	Pupils work in small groups on a practical experience. They are required to prepare a report as homework regarding what experimented in class	L S R W Key vocabulary glossary Communicative structures	□ Whole class ■ Group work □ Pair work □ Individual work	• U1-L4- ALL1.docx • U1-L4- ALL2.docx During the experience the student will be using the knowledge learned during previous classes. They will be provided with all datas they need in order to successfully complete the experiment.	As homework student must prepare a report in L2 regarding ohm's law applied in real life on a simple electronic circuit.
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Unit number 4 Lesson number 3 Title Clil test

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	150 minutes	Students will understand how much they learned through clil lessons about the experiences done in the laboratory.	Test with open answers to perform completely in english about the topics touched during all previous lessons	Skills L S R W Key vocabulary glossary Communicative structures	■ Whole class Group work Pair work Individual work	Clil test given by the teacher	Answer all question by the end of the lesson

Unit number	5	Lesson number	1	Title	What is a capacitor?
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Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to previous classes.	Skills L S R W Key vocabulary glossary	■ Whole class □ Group work □ Pair work □ Individual		
				Communicative structures	work		

2	125 minutes	Students will be able to navigate the internet and found all the info and material they need about a topic. They will understand the topic of the lesson through the analysis of the material researched.	Student must search the internet in order to find all information, characteristics and typical use of a capacitor. They will be asked to prepare some question about the topic that will be given to their classmates which will have to answer. The final correction will be with the whole class which will be guided by the teacher in a discussion about the answers given by the students.	L S R W Key vocabulary glossary Communicative structures	■ Whole class □ Group work ■ Pair work □ Individual work	• U1- Glossary.docx Student will have the PC and internet	Students at home will be asked to prepare a technical presentation in english about the topic of the lesson.
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Unit number5Lesson number2TitleStudents english presentation

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	15 minutes		Introduction at the topic of the lesson. Teacher will activate the knowledge about the topic of the lesson referring to previous classes.	Skills L S R W Key vocabulary	■ Whole class Group work Pair work Individual work	• U1- Glossary.docx	
				Communicative structures			

2	135 minutes	present a present a topic and to capa speak using a proper present a	The students in pair will present their work about capacitor using powerpoint. The students which will not present will be asked to follow the classmates and to analyse their job filling up a table given by the teacher. At the end of all presentation, the teacher will ask the student to vote which one is the best presentation. The winner will have a 0.5 point bonus in the final mark.	Skills L S R W Key vocabulary glossary	□ Whole class □ Group work ■ Pair work □ Individual work	• U1- Glossary.docx
		vocabulary To be able to follow the guideline given by the teacher.		Communicative structures		