CLIL Module Plan

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School Grade	○ Primary		○ Middle		◉ High
School Year	○ 1	○ 2	○ 3	○ 4	◉ 5
Subject	Scienze naturali		**Topic**	The atmosphere	
CLIL Language	◉ English		○ Deutsch		

Personal and social-cultural preconditions of all people involved	• These units where tested over a fifth-year high school class: 16 students (5 boys and 11 girls) and their science teacher. • Theirs is an experimental school with the “Italian liceo scientifico” setting, but with a modified timetable and curriculum, because the students, besides their scientific school-leaving certificate, at the end of their studies can get the qualification as ski or snowboard instructor and the mountain leader qualification. • No special needs or foreign students in the class. • General motivation for school subject, but scientific subjects are not preferred. • Quite passive type of students: they usually prefer a complete frontal lesson, they tend to take notes without changing their teacher’s words, and they are not interested in problem solving (they want the solution from the teacher). • Quite well-organized students: they are capable and trained to study before the school tests. • Teacher has a C1 certificated level of English and she is really motivated to CLIL even if she didn’t attend the official qualification course.

Students' prior knowledge, skills, competencies	Subject	Language
	• Know the meaning of the acronym CLIL. • Understand the general aim of CLIL lessons. • Have a general Science preparation as a 5th year scientific high school student. • Understand the Earth as a 4 spheres system: atmosphere, hydrosphere, lithosphere, biosphere and their interactions. • Describe in general Earth formation and the origin of the 4 spheres. • Know the definition of matter and energy. • Know the meaning of atom and molecule. • Know the International System of Units. • Explain the state of the matter according to the particle model of matter. • Can read and produce a diagram.	All of the students (B1 level according the European Framework of References for languages): • Can understand the main points of clear standard input on familiar matters regularly encountered in school, leisure, etc. • Can deal with most situations likely to arise while travelling in an area where the language is spoken. • Can produce simple connected text on topics that are familiar or of personal interest. • Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans. Some of them (B2 level according the European Framework of References for languages): • Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions. • Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. • Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.

Timetable fit	◉ Module	Length 20

Description of teaching and learning strategies	Typically for any lessons of this Module Plan there is a presentation (with notes for the teacher), to give the indications of the lessons' phases. In the slides, names of the attachments, worksheets and videos to use, are clearly indicated. The general lessons scheme is: review of previous lesson, engagement with a video or another activity, main part of the lesson/explanation, reinforce of new contents with another video or activity, self-assessment with log. The use of pictures and graphs is done, to make concepts clearer without the necessity of many words. The use of original language videos is aimed to repeat the main concepts (subject learning outcome) and the fix the right pronunciations and expressions (language learning outcome). During the lessons many different approaches will be used: • Participatory lesson • Problem solving • Scientific laboratory • Students' presentations • Videos with answers and questions (most of videos are visible by a link accessible with a nome.cognome@scuole.provincia.tn.it account) • Work in couples • Work in small groups • Group games After any lesson, at home students will study their notes and material given by the teacher and eventually watch the videos again. In some cases, other specific tasks may be given. ASSESSMENT Specific assessment material is attached to lessons and units. The marks given will take into account either the final learning results either the process bringing the students to them, with the objective to keep active the students during the whole phases of the module (see unit2 lesson10 general assessment where teacher assessment, self-assessment and peer assessment are taken into account). Assessment rules should be fixed by the teacher and communicated to the students before the beginning of activities. For any further explanation or material or for pointing out mistakes, feel free to contact me by email: giulia.andina@scuole.provincia.tn.it

Overall Module Plan

Unit: 1 The Atmosphere: Composition, Structure, and Temperature **Unit length:** 10 lessons	**Lesson 1** Introduction to Atmosphere - Weather and Climate - Atmosphere Composition
	Lesson 2 Atmosphere Layers
	Lesson 3 Equinoxes and Solstices
	Lesson 4 Seasons
	Lesson 5 Heat Transfer
	Lesson 6 Electromagnetic Spectrum
	Lesson 7 Scattering, Absortion, Reflection of the Solar Radiation
	Lesson 8 Positive and Negative Feedback - Greenhouse Effect
	Lesson 9 Temperature Controls (Latitude, Altitude, Land and Water, Geographic Position)
	Lesson 10 BBC Video Documentary "The Power of the Planet (episode 2: the Atmosphere)" - first part

Unit: 2 The Atmosphere: Moisture, Clouds, and Precipitation **Unit length:** 10 lessons	**Lesson 1** Changes of State, Latent Heat, Specific and Relative Humidity
	Lesson 2 Adiabatic Changes in the Atmosphere - Processes which Lift Air
	Lesson 3 Stable and Unstable Air
	Lesson 4 Laboratory Experiments on the Atmosphere
	Lesson 5 Student's Presentations of Laboratory Experiments
	Lesson 6 Student's Presentations of Laboratory Experiments
	Lesson 7 Clouds Classification
	Lesson 8 Precipitation
	Lesson 9 BBC Video Documentary "The Power of the Planet (episode 2: the Atmosphere)" - second part
	Lesson 10 Final Written Test on Unit 1 and 2

CLIL Lesson Plan

Unit number	1	**Lesson number**	1	**Title**	Introduction to Atmosphere - Weather and Climate - Atmosphere Composition

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of Earth as a system	Teacher opens the presentation and recalls the Earth formation and the viewing of it as a system of three spheres and presents the units on the Atmosphere	**Skills** L S R W **Key vocabulary** Earth system **Communicative structures** Functional language useful to describe past events (including past perfect tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson1 presentation.pptx unit1 lesson1 presentation	

2	15'	SUBJECT Understand the importance of atmospheric events in daily life	The class watches the video and, working in pairs they write a list of reasons why weather is important, then these are shared with the whole class	**Skills** L S R W **Key vocabulary** related to atmospheric events **Communicative structures** functional language useful to list facts (linkers such as "First of all, secondly, thirdly… and so on)	☑ Whole class ☐ Group work ☑ Pair work ☐ Individual work	unit1 lesson1 video1: link	
3	5'	SUBJECT Learn the atmosphere composition LANGUAGE Learn the names of some chemical elements	Teacher explains atmospheric composition	**Skills** L S R W **Key vocabulary** chemical elements **Communicative structures** functional language useful to describe a physical system (revision of passive form)	☐ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson1 presentation.pptx	

4	5'	SUBJECT Learn the reaction forming ozone LANGUAGE Talk about chemical reaction	Students think about ozone and try to write down the reaction working in groups then sharing with the class and the teacher eventually shows the correct version and summarizes	**Skills** L S R W **Key vocabulary** chemical reaction **Communicative structures** functional language to describe things or facts (mainly use of present tense)	☐ Whole class ☒ Group work ☐ Pair work ☐ Individual work	• unit1 lesson1 presentation.pptx	
5	15'	SUBJECT Learn the difference between weather and climate LANGUAGE Make comparison	The class watches the video and, working in pairs they write weather and climate definitions	**Skills** L S R W **Key vocabulary** concerning atmospheric conditions **Communicative structures** functional language to ask questions and make comparisons	☒ Whole class ☐ Group work ☒ Pair work ☐ Individual work	• unit2 lesson10 general assessment.docx Video: Weather and Climate 4’03’’ link	unit2 lesson 10 general assessment

6	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	Teachers gives the instructions to fill in the log and the students do it individually	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	2	**Title**	Atmosphere Layers

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	15'	SUBJECT Review of lesson 1 from a different point of view and adding new elements LANGUAGE Reinforce the knowledge of atmosphere vocabulary and listen to its correct pronunciation	The teacher opens the presentation and recalls the mains steps of the previous lesson with open questions to the students, then the class watches a video* summing up the composition of the atmosphere	**Skills** L S R W **Key vocabulary** atmosphere features, pollution, percentage, ppm **Communicative structures** functional language to describe with present perfect	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson2 presentation.pptx Video: Composition of the Atmosphere (Mr. Buss Earth Science Farmington High School) 4’22’’ link	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	10'	SUBJECT Understand the reason for atmospheric pressure existence and trend	The teacher asks the students what pressure is in physics and what atmospheric pressure is caused by They work in pairs and write the definition with the units of measurement and try to explain the reason why pressure decreases with altitude The teacher explains the presentation graph trend	**Skills** L S R W **Key vocabulary** related to atmospheric events **Communicative structures** functional language useful to list facts (linkers such as "First of all, secondly, thirdly… and so on)	☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work	• unit1 lesson2 presentation.pptx National Geographic video: Causes and Effects of Greenhouse Effect 3’04’’ link	
3	15'	SUBJECT Learn the atmosphere layers Understand the fact that layer atmosphere classification reflects temperature trend LANGUAGE Learn some specific words about atmosphere	Students work in groups to fill-in the empty labels of the picture reporting atmosphere layers (same presentation’s picture)	**Skills** L S R W **Key vocabulary** atmosphere layers’ names **Communicative structures**	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	• unit1 lesson2 presentation.pptx • unit1 lesson2 worksheet1.docx	

4	5'	SUBJECT Reinforce the understanding of atmosphere thermal structure LANGUAGE Make quantitative comparison	The class watches the video* and takes notes of new words or expressions The teacher may stop the video in key or difficult points and write new words or expressions on the board *The video is well done, but quite long: the teacher will decide to use only the relevant part	**Skills** L S R W **Key vocabulary** concerning temperature measures **Communicative structures** making comparisons and contrasting ideas; using the structure "the…the…" with comparative adjectives in parallel clauses to talk about proportionate increase or decrease (Ex. “the further… the lower”); use of preposition "beyond”	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Temperature and Structure of Atmosphere by KL Aviation 9’35’’ link	

5	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually. This part, if necessary may be assigned as homework	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful expressions to report/talk about facts	☐ Whole class ☐ Group work ☐ Pair work ☑ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	3	**Title**	Equinoxes and Solstices

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	10'	SUBJECT Review of lesson 2 from a different point of view and adding new elements LANGUAGE Reinforce the knowledge of atmosphere vocabulary and listen to its correct pronunciation	The teacher opens the presentation and recalls the mains steps of the previous lesson with open questions to the students, then the class watches the video* “The Extent of the Atmosphere”* *The video is short (2 minutes), shows many elements seen in the previous lesson and repeats the nature of atmospheric pressure empathizing the weakness of Earth atmosphere boundary	**Skills** L S R W **Key vocabulary** pressure units **Communicative structures** functional language useful to describe past events (including past perfect tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson3 presentation.pptx Video: Extent of the Atmosphere 2’28’’ link	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	10'	SUBJECT Understand the rotation and revolution Earth’s movements	The teacher explains two main movements of our planet, referred to the Sun.	**Skills** L S R W **Key vocabulary** related to position **Communicative structures** functional language to describe things or facts (mainly use of present tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson3 presentation.pptx	

3	15'	SUBJECT Learn the dates and characteristics of equinoxes and solstices LANGUAGE Make comparison	The class watches the video (5’30’’) and then, working in pairs they write: • a list of reasons for the existence of seasons • equinoxes and solstices definitions	**Skills** L S R W **Key vocabulary** rotation, revolution, Earth orbit, aphelion, perihelion **Communicative structures** making comparisons and contrasting ideas; using the structure "the…the…" with comparative adjectives in parallel clauses to talk about proportionate increase or decrease (Ex. “the longer… the greater”)	☒ Whole class ☐ Group work ☒ Pair work ☐ Individual work	Equinoxes and solstices 3’10’’ link	

4	10'	SUBJECT Learn the dates and characteristics of equinoxes and solstices LANGUAGE Make comparison	The teacher goes on with the presentation, distributes the worksheets and students, working in groups, fill-in the labels concerning Earth orbit around the Sun and 4 special days in our calendar: equinoxes and solstices	**Skills** L S R W **Key vocabulary** astronomy features **Communicative structures** useful expressions to report/talk about facts	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	• unit1 lesson3 presentation.pptx • unit1 lesson3 worksheet1.docx	
5	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually	**Skills** L S R W **Key vocabulary** astronomy features **Communicative structures** useful expressions to report/talk about facts	☐ Whole class ☐ Group work ☐ Pair work ☑ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	4	**Title**	Seasons

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 3	The teacher opens the presentation and recalls the main steps of the previous lesson with open questions to the students	**Skills** L S R W **Key vocabulary** solar system **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson4 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	5'	SUBJECT Understand that a different angle of beam (solar rays) corresponds to a different amount of energy per surface LANGUAGE Summarize scientific observations	The teacher divides the class into four groups and distributes a torch each The teacher asks the students to experiment illuminating a paper sheet with different angles and observe the amount and the size of light projected on the sheet The teacher asks the students to write down a sentence explaining the results on their exercise-book and to make a comparison with solar rays reaching the Earth	**Skills** L S R W **Key vocabulary** angle, tilt, surface, area **Communicative structures** functional language to describe scientific observations	☐ Whole class ☒ Group work ☐ Pair work ☐ Individual work	• unit2 lesson10 general assessment.docx • unit1 lesson4 presentation.pptx	The teacher checks the students working in groups and take notes of their: participation, speaking, results in unit2 lesson 10 general assessment table

3	25'	SUBJECT Visualize the different inclination of Sun rays in the different position of our planet along its orbit LANGUAGE Keep the attention (listening) to a quite difficult topic video	The class watches the video (9’30’’) and then, working in pairs they take notes: • one student about numbers • the other student about definitions The notes are shared in the class with the lead of teacher	**Skills** L S R W **Key vocabulary** mathematical words related to numbers, angles and graphs **Communicative structures** functional language to describe positions of objects and planets (use of passive form)	☒ Whole class ☐ Group work ☒ Pair work ☐ Individual work	• unit2 lesson10 general assessment.docx Video: Mechanism of The Seasons 5’59’’ by Kurdistan Planetarium link	unit2 lesson 10 general assessment table

4	5'	SUBJECT Order the regions on the Earth according to their latitude and consequent amount of solar energy received LANGUAGE Make comparison	The teacher distributes unit1 lesson4 worksheet1 and groups have to order the pictures and explain the ordering criterion	**Skills** L S R W **Key vocabulary** latitude, energy **Communicative structures** functional language for explaining facts (ex. this is due to…/that's why…/caused by…)	☐ Whole class ☒ Group work ☐ Pair work ☐ Individual work	• unit1 lesson4 presentation.pptx • unit1 lesson4 worksheet1.pptx	
5	5'	SUBJECT Understand that atmosphere filter changes with the inclination of Sun rays LANGUAGE Make comparison	The teacher shows slide 7 of presentation and asks groups to: • discuss the meaning of the picture • write down the solution Then the teacher gives the correct explanation	**Skills** L S R W **Key vocabulary** latitude, energy **Communicative structures** same as activity 4	☐ Whole class ☒ Group work ☐ Pair work ☐ Individual work	• unit1 lesson4 presentation.pptx	

6	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually	**Skills** L S R W **Key vocabulary** astronomic features **Communicative structures** functional language useful to describe past events (including past perfect tense)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	5	**Title**	Heat Transfer

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 4	The teacher opens the presentation and recalls the mains steps of the previous lesson with open questions to the students	**Skills** L S R W **Key vocabulary** Earth system **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson5 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	15'	SUBJECT Understand that heat isn’t transferred in the same way in different systems LANGUAGE Describe different situations and compare them	The teacher divides the class into four groups and distributes for each group: • 2 balloons • 1 lighter • 1 candle in a metal cup A source of water is needed to fill balloons The teacher gives the students these instructions: • inflate the balloons and leave one filled simply with air, while add water the other one (half of the volume) • light the candle and pass each balloon over it; pay attention to the eyes (balloons' fragments could be dangerous!) • compare the results The teacher asks the students to write the explanation of “poppable” and “unpoppable” balloons (it’s related to the heat transfer possibility in two different means: air and water)	**Skills** L S R W **Key vocabulary** related to heat and temperature **Communicative structures** functional language to make comparisons	☐ Whole class ☒ Group work ☐ Pair work ☐ Individual work	• unit1 lesson5 presentation.pptx	

3	10'	SUBJECT Learn the 3 mechanisms of heat transfer LANGUAGE Learn the specific language about heat and temperature	The teacher, with open questions to the students, recalls the difference between heat and temperature The teacher, showing the presentation and making practical examples, explains conduction, convection and radiation	**Skills** L S R W **Key vocabulary** heat, temperature related words **Communicative structures** passive form	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson5 presentation.pptx	
4	15'	SUBJECT Interpret daily facts connected to heat transfer LANGUAGE Describe with the specific language situations related to heat and temperature	The teacher, showing the unit1 lesson5 attachment1 asks to single students to describe orally the different pictures concerning heat transfers	**Skills** L S R W **Key vocabulary** physical processes **Communicative structures** functional language to describe physical processes (present tense)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson5 attachment1 heat transfer picture.pdf	The teacher takes notes about the effectiveness of students' answers and take notes of them in unit2 lesson 10 general assessment table

5	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually	**Skills** L S R W **Key vocabulary** physics features **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	6	**Title**	Electromagnetic Spectrum

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 5 LANGUAGE Answers and questions	The teacher asks the students open questions and review the contents of the previous lesson, in particular the key word is radiation as one of the possible mechanism of heat transfer	**Skills** L S R W **Key vocabulary** words connected to heat transfers **Communicative structures** functional language useful to describe past events (including past perfect tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson6 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	10'	SUBJECT Scaffolding the structures to understand radiations LANGUAGE Write short definitions or sentences	The teacher starts with a brainstorming activity on ELECTROMAGNETIC SPECTRUM: coloured pieces of paper may be used or also other online applications as Mentimeter or Wordclouds With the pieces of paper one canvas bag may be used to collect them and then the other students catch others' one piece of paper and read it to the class	**Skills** L S R W **Key vocabulary** related to radiation **Communicative structures** functional language useful to describe a physical system (revision of passive form - present tense sentences)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson6 presentation.pptx	
3	5'	SUBJECT Learn what electromagnetic spectrum is LANGUAGE Learn some specific scientific vocabulary	Teacher explains electromagnetic spectrum	**Skills** **L** S R W **Key vocabulary** physics units **Communicative structures**	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson6 presentation.pptx	

4	10'	SUBJECT Learn the relation between energy and frequency in a electromagnetic wave LANGUAGE Talk about physical phenomena	Students work in pairs to find the unit of measurement and meaning of ⌵ and h	**Skills** L S R W **Key vocabulary** physics units **Communicative structures** functional language useful to describe a physical system (revision of passive form)	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	• unit1 lesson6 presentation.pptx	

5	15'	SUBJECT Learn the composition of solar light LANGUAGE Ask questions	Viewing of a NASA video about solar radiation Make four teams and, ask the teams to formulate two questions about the video to the other groups The team with the highest number of correct answers wins (teacher assigns the score)	**Skills** L S R W **Key vocabulary** concerning radiations **Communicative structures** making comparisons and contrasting ideas; using the structure "the…the…" with comparative adjectives in parallel clauses to talk about proportionate increase or decrease (Ex. “the hotter… the shorter")	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	Radiation from the Sun and Earth by NASA Earth Observatory 2’18’’ link	The teacher takes notes about the effectiveness of students’ questions and answers in unit2 lesson 10 general assessment table
6	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually	**Skills** L S R W **Key vocabulary** radiation **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ☑ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	7	**Title**	Scattering, Absortion, Reflection of the Solar Radiation

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 6	Activity Procedure The teacher asks the students open questions and review the contents of the previous lesson New lesson may be introduced watching shadows and lights in the 1st slide of presentation: ask questions to the students about the reasons of black, grey and white areas in the picture	**Skills** L S R W **Key vocabulary** radiation **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson7 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	5'	SUBJECT Understand the interactions between solar energy and atmosphere particles	Viewing of video to engage and introduce teacher's explanation. At the end of the video is included a negative and positive feedback explanation, which will be a topic of next lesson	**Skills** L S R W **Key vocabulary** related to solar energy **Communicative structures** functional language useful to list facts (linkers such as "First of all, secondly, thirdly… and so on)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video: The Albedo Effect Explained with the Daisyworld Model (NASA) 3'46'' link	
3	10'	SUBJECT Understand the interactions between solar energy and atmosphere particles Understand the concept of albedo	The teacher defines: reflection, scattering, absorption and explain the picture The teacher defines albedo and makes examples (different from the black and white daisies in the previous video)	**Skills** L S R W **Key vocabulary** related to solar energy **Communicative structures**	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson7 presentation.pptx	

4	25'	SUBJECT Synthetize the main aspects of atmosphere behaviour towards solar energy with a team’s game LANGUAGE Write and match definitions	Make four teams and, concerning the video and the teacher’s explanations ask the teams: • write 5 definitions on pieces of paper • write 5 labels with the terms matching the definitions • put everything in a canvas bag and pass the bag on the team at their right • take the bag of the other team and try to match the definitions correctly The teacher assigns the score to the correct definitions written and to the correct definitions matched The team with the highest score wins	**Skills** L S R W **Key vocabulary** related to solar energy **Communicative structures** functional language to give definitions	☐ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson7 presentation.pptx	The teacher takes notes about the effectiveness of students’ questions and answers in unit2 lesson 10 general assessment table

5	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt... I still have to understand or further study...)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	8	**Title**	Positive and Negative Feedback - Greenhouse Effect

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 7	The teacher asks the students open questions and review the contents of the previous lesson	**Skills** L S R W **Key vocabulary** radiation **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson8 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	10'	SUBJECT Scaffolding the structures to understand greenhouse effect LANGUAGE Write short definitions or sentences	The teacher asks the students open questions and review the contents of the previous lesson The teacher starts introducing today’s lesson with a brainstorming activity (single students) on GREENHOUSE EFFECT: coloured pieces of paper may be used or also other online applications as Mentimeter or Wordclouds With the pieces of paper, one canvas bag may be used to collect them and then the other students catch others’ one piece of paper and read it to the class	**Skills** L S R W **Key vocabulary** related to heat and radiation **Communicative structures** functional language for explaining facts (ex. this is due to…/that's why…/caused by…)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson8 presentation.pptx	

3		SUBJECT Understand the possible regulations in a system (biological or not) LANGUAGE Read websites and collect correct information	The teacher makes four teams and, using the Internet, makes the students look for: 1. positive feedback definition 2. negative feedback definition 3. positive feedback example in a biological/non-biological system 4. negative feedback example in a biological/non-biological system Teams read their research results and the teacher assigns the first price to the best	**Skills** L S R W **Key vocabulary** physical/biological systems **Communicative structures** functional language useful to list facts (linkers such as "First of all, secondly, thirdly… and so on)	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	• unit1 lesson8 presentation.pptx	The teacher takes notes about the effectiveness of students' research in unit2 lesson 10 general assessment table
4	5'	SUBJECT Understand the Greenhouse effect LANGUAGE Listen to the correct pronunciation of words related to solar energy	Viewing of video unit1 lesson8 video1: "Greenhouse effect" (4'07'')	**Skills** L S R W **Key vocabulary** related to solar energy **Communicative structures**	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video: How Do Greenhouse Gases Actually Work? 3'09'' link	

5	10'	SUBJECT Realize the fact that Greenhouse effect is possibly regulated with a positive feedback regulation	The teacher, reminding also the video seen in the previous lesson “The Albedo Effect Explained with the Daisyworld Model (NASA)”, asks to draw a mind map picturing positive feedback regulation for Greenhouse effect	**Skills** L S R **W** **Key vocabulary** related to systems **Communicative structures** functional language to shortly describe physical effects	☐ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson8 presentation.pptx	The teacher takes notes of the most significant drawings in unit2 lesson 10 general assessment table
6	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually	**Skills** **L** S R **W** **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	1	**Lesson number**	9	**Title**	Temperature Controls (Latitude, Altitude, Land and Water, Geographic Position)

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 8 LANGUAGE Summarize Synthetize	The teacher asks the students open questions and review the contents of the previous lesson	**Skills** L S R W **Key vocabulary** Earth system **Communicative structures** functional language useful to describe past events (including past perfect tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson9 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	12'	SUBJECT Understand the most important data about temperature LANGUAGE Communication with math language	The teacher explains how the record of the maximum-minimum thermometer allows to calculate the list of most important parameters concerning temperature The teacher delivers unit1 lesson9 worksheet1 and students in pairs fill-in the worksheet with the proper formula	**Skills** L S R W **Key vocabulary** related to mathematical operations **Communicative structures** functional language to talk about specific characteristics using superlative forms.	☑ Whole class ☐ Group work ☑ Pair work ☐ Individual work	• unit1 lesson9 presentation.pptx	
3	15'	SUBJECT Learn the temperature controls LANGUAGE Make comparisons	The teacher explains the definition of “temperature control” underlining that the main factor influencing temperature is the amount of SOLAR ENERGY receipt, which depends on Sun angle and length of daylight therefore, in the end, depends on LATITUDE The teacher explains the effect referring to: 1. Water specific heat 2. Water	**Skills** L S R W **Key vocabulary** physical processes related **Communicative structures** functional language to describe physical processes (present tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson9 presentation.pptx	

			transparency (land opacity) 3. Water heating in the deep because its state is liquid and mixes 4. Evaporation 5. The teacher makes examples with local situation (i.e. Garda lake Mediterranean climate) The teacher explains the effect of altitude making examples of local situation (i.e. Cima Grostè 2901m asl and Mezzocorona 219 m asl : same latitude, but different temperatures) The teacher explains the effect of altitude making examples of Seattle and Spokane, same latitude and altitude, but the first with a coastal climate and the second with a continental climate. Use local examples if known The teacher explains the effect of cloud cover making examples				

4	15'	SUBJECT Synthesize the temperature controls LANGUAGE Strengthen the scientific words knowledge and their correct pronunciation	Students watch the video and take individual notes	**Skills** L S R W **Key vocabulary** concerning heat, climate, temperature **Communicative structures** functional language to ask questions and make comparisons	☒ Whole class ☐ Group work ☐ Pair work ☒ Individual work	Video lesson: Temperature Controls 12’54’’ link	
5	3'	SUBJECT Strengthen the knowledge of most important data about temperature Learn how to use internet meteorological data Reflect on learnings LANGUAGE Communication with math language Write a report	The teacher assigns for homework update the log and to calculate: • Daily mean temperature • Daily range of temperature • Monthly mean • Annual mean • Annual temperature range using local meteorogical data found in the Internet (i.e Meteotrentino data archive)	**Skills** L S R W **Key vocabulary** concerning math operations **Communicative structures** functional language (taken from the field of mathematics) to describe maths formulas (ex. divided by/ plus / minus…etc)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx • unit1 lesson9 presentation.pptx	

CLIL Lesson Plan

Unit number	1	**Lesson number**	10	**Title**	BBC Video Documentary "The Power of the Planet (episode 2: the Atmosphere)" - first part

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	3'	SUBJECT Brief review of lesson 9 LANGUAGE Summarize Synthetize	The teacher asks the students open questions and review the contents of the previous lesson	**Skills** L S R W **Key vocabulary** temperature controls **Communicative structures** functional language useful to describe past events (including past perfect tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work		As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table
2	42' (30' for the video	SUBJECT Reinforce some	Viewing of BBC Documentary “The Power of the Planet	**Skills**	☐ Whole class	• unit1 lesson10 worksheet1.docx	The teacher takes notes about the

and 12' for the game)	knowledges about atmosphere LANGUAGE Listen to a documentary in English Ask questions	episode 2: the Atmosphere" – first part (the whole video lasts 59') It's an amazing and breath-taking video with a very clear pronunciation and it can be seen in two lessons, considering some stops to repeat key points Students divided into four teams take notes on unit1 lesson10 worksheet1 template (teacher may suggest that one student in the group takes notes about numbers, one takes notes about proper names of people and places, one takes notes about scientific concepts, one about emotive sensations or else…) Explain the teams that by the end of the viewing, they will formulate two questions about the video to the other groups After lesson 9 of unit 2 (second part of the video) the team with the highest number of correct answers wins (teacher assigns the	L S R W **Key vocabulary** concerning atmosphere **Communicative structures** making comparisons and contrasting ideas	☑ Group work ☐ Pair work ☐ Individual work	link	effectiveness of students' questions and answers in unit2 lesson 10 general assessment table The teacher takes note about the intermediate teams' score, which will be integrated in unit 2 lesson 9 with the viewing of the last part of the video

			score)				
3	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually (if time is too short this part can be assigned as a homework)	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ▣ Individual work		

CLIL Lesson Plan

Unit number	2	**Lesson number**	1	**Title**	Changes of State, Latent Heat, Specific and Relative Humidity

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of unit 1	The teacher opens the presentation and recalls the main steps of the previous unit (10 lessons) with open questions to the students	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit2 lesson1 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table
2	10'	SUBJECT/LANGUAGE Memorize the names of changes	Following the presentation (slide 2) the	**Skills**	☑ Whole class	• unit2 lesson1 presentation.pptx	

		of state in English	teacher starts a game and gives the following instructions: • make 2 teams (right and left part of the class could be ok) • 1 student for each team stands up with their back to the board • their team suggests a passage of state (i.e. from solid to liquid) and they have to guess the correct name of the state passage (ONLY ENGLISH PERMITTED!) - they are allowed to ask for and give hints, such as first letter or rhyming word/s that may help them get the right answer • the team who finishes first wins	L S R W **Key vocabulary** related to state of the matter **Communicative structures** functional language to describe things or facts (mainly use of present tense)	☑ Group work ☐ Pair work ☐ Individual work		

3	10'	SUBJECT Understand latent heat connected to changes of state LANGUAGE Reinforce right knowledge and pronunciation of scientific words	Viewing of video about change of state The teacher uses the video to repeat the changes of state and explain latent heat* Students work in pairs to write a synthetic definition of latent heat with an example of its consequences in their daily life (they can possibly search on the Internet) *Latent heat and changes of state should have been already studied in chemistry, and this part of the lesson should be rapid	**Skills** L S R W **Key vocabulary** related to state of the matter **Communicative structures** functional language useful to list facts (linkers such as "First of all, secondly, thirdly… and so on)	☐ Whole class ☐ Group work ☒ Pair work ☐ Individual work	Video: Change of state by FuseSchool 4’36’’ link	

4	3'	SUBJECT Understand the difference between specific and relative humidity and calculate relative humidity using a table LANGUAGE Reinforce right pronunciation of scientific words	Viewing of video to introduce teacher's explanation	**Skills** L S R W **Key vocabulary** related to state of the matter **Communicative structures** functional language useful to list facts (linkers such as "First of all, secondly, thirdly… and so on)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video: What is humidity? 1'36'' link	

5	7'	SUBJECT Understand the difference between specific and relative humidity and calculate relative humidity using a table	The teacher, using the presentation explains the relation between temperature and relative humidity and how to use the table to calculate relative humidity in different situations Then, using the pictures explains the different situations for reaching the dew point (saturation): increasing the amount of water vapor or diminishing the temperature	**Skills** L S R W **Key vocabulary** related to water state of the matter **Communicative structures** functional language useful to list facts (linkers such as "First of all, secondly, thirdly… and so on)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit2 lesson1 presentation.pptx	
6	10'	SUBJECT Reinforce the comprehension about the possible water states in the atmosphere LANGUAGE Learn to	The teacher divides students into four groups and ask them: “Look in the	**Skills** L S R W	☒ Whole class ☐ Group work ☐ Pair work	• unit2 lesson1 presentation.pptx	The teacher checks the students works and take notes of them in unit2 lesson 10

		describe physical elements mainly using affirmative sentences	Internet for landscape pictures with clouds, fog, precipitation, snow, etc. and write the description and explanation about what is happening in that situation from a scientific point of view" Then each group reads the explanation to the class Different variations of this activity can be done: • using the landscape outside the windows if possible • using one student/group's description to make the others draw the situation and compare it to the picture or vice versa • making a	**Key vocabulary** changes of state **Communicative structures** functional language to describe the sky/the form of the clouds and other physical elements mainly using affirmative sentences	☐ Individual work		general assessment table	

			competition, etc.				
7	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to fill in the log and the students do it individually	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt... I still have to understand or further study...)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	2	**Lesson number**	2	**Title**	Adiabatic Changes in the Atmosphere - Processes which Lift Air

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	3'	SUBJECT Review of lesson 1	The teacher opens the presentation and recalls the mains steps of the previous lesson with open questions to the students	**Skills** L S R W **Key vocabulary** changes of state **Communicative structures** functional language useful to describe past events (including past perfect tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson2 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	10'	SUBJECT Understand adiabatic processes Understand what occurs to the uplifted air in different cases LANGUAGE Learn new specific scientific words	The teacher asks the students if in their daily life they have experienced some cooling or heating of gas containers i.e. warming of the pump while inflating or cooling of the CO2 cartridges while inflating a bike tyre or cooking with a camping gas heater The teacher gives the definition of adiabatic changes The teacher explains the key point that before the reaching of dew point the air uplifted cools with the dry adiabatic rate, while, after the reaching of dew point the air uplifted cools with a smaller rate, due to condensation latent heat release The teacher compares the possible cases: stable air and unstable air	**Skills** L S R W **Key vocabulary** movement related dew point **Communicative structures**	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit2 lesson2 presentation.pptx	

3	12'	SUBJECT Fix concepts: adiabatic processes, air uplifting LANGUAGE Listen to the correct pronunciation of new specific scientific words Learn new expressions	Students watch the video and take their individual notes	**Skills** L S R W **Key vocabulary** concerning gases **Communicative structures** functional language useful to describe a physical system (revision of passive form)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video lesson: Adiabatic processes, lapse rates and rising air 10’57’’ link	

4	7'	SUBJECT Understand the reasons for air lifting	SUBJECT Understand the reasons for air lifting The teacher explains that there are 3 kinds of processes lifting air: 1. Orographic lifting 2. Frontal wedging 3. Convergence	**Skills** L S R W **Key vocabulary** movement related **Communicative structures**	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit2 lesson2 presentation.pptx	

5	15'	SUBJECT Fixing the reasons for air lifting LANGUAGE Ask questions	The class watches the video The teacher makes four teams and asks the teams to formulate two questions about the video to the other groups The team with the highest number of correct answers wins (the teacher assigns the score)	**Skills** L S R W **Key vocabulary** movement related **Communicative structures** functional language to ask questions about physical phenomena using wh- questions and passive forms	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	Video: How is air lifted in the atmosphere and what happens when it rises? 4’55’’ (start at 0’58’’, the first part is not relevant) link	The teacher takes notes about the effectiveness of students’ questions and answers in unit2 lesson 10 general assessment table
6	3'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually. If time is short this activity may be assigned for homework	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ☑ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	2	**Lesson number**	3	**Title**	Stable and Unstable Air

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	Review of lesson 2	The teacher recalls the mains steps of the previous lesson with open questions to the students In order to proceed, complete understanding of the previous lesson concepts (adiabatic processes and dry/wet cooling rate) is necessary The following lesson is an in-depth lesson about the question of air stability afforded in lesson 2 According to the necessity/response/time of the class it can be skipped	**Skills** L S R W **Key vocabulary** adiabatic process **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson3 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	10'	SUBJECT See the different cases of air parcel destiny LANGUAGE Listen the correct pronunciation of new specific scientific words	To introduce concept of air stability, the class watches the video	**Skills** L S R W **Key vocabulary** concerning gases **Communicative structures** future tenses	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video: Is a rising air mass stable or unstable? 8’26’’ link	
3	30'	SUBJECT Understand the reasons for air lifting LANGUAGE Present a difficult scientific fact to the class	The teacher prepares 1 full colour copy of unit 2 lesson 3 worksheet 1 and gives the following indications: • Make 4 groups • Each group has a picture of unit 2 lesson 3 worksheet 1 • Each group studies and discusses the picture (5’) and prepares a 2’ explanation for the whole class • Each group presents their picture The teacher controls the accuracy of explanations and helps the students, if necessary	**Skills** L S R W **Key vocabulary** movement related **Communicative structures** functional language useful to describe difficult concepts that will require - again - the use of passive form. Ex.: "The air is uplifted by...".	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	• unit2 lesson3 presentation.pptx • unit2 lesson3 worksheet1.pptx	The teacher checks the students works and take notes of them in unit2 lesson 10 general assessment table

4	1'	SUBJECT Obtaining sky pictures for next activity of lesson 7	The teacher assigns homework for the following 10-15 days Every student will daily take pictures of the sky, possibly cloudy part of the sky or contrails (aircraft's vapor trail) and bring the files at school within lesson 7	**Skills** L S R W **Key vocabulary** contrail **Communicative structures** functional language to give/understand operative instruction	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work		
5	4'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to fill in the log and the students do it individually	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt... I still have to understand or further study...)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	2	**Lesson number**	4	**Title**	Laboratory Experiments on the Atmosphere

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	50'	SUBJECT Experiment practically three important concepts studied in the previous lessons (latent heat, land and water specific heat, relative humidity)	Before the lesson prepare the lab with three posts In post 1 they will need: 2 big empty beakers, some potting soil, water, scales, 2 equal thermometers or temperature electronic probes (i.e. GLX or mobile phone Bluetooth apps) or kitchen thermometers, mobile phone or another chronometer In post 2 they will need: water, 2 equal thermometers, cotton flock and twine to fix it, psychrometer (if possible), mobile phone or another chronometer In post 3 they will need: a test tube with solid fragments of stearic acid fixed on a tripod, 1 thermometer, 2 water beakers for bain-marie (1 with cold and the other with	**Skills** L S R W **Key vocabulary** laboratory tools and procedures **Communicative structures** functional language: imperative sentences (Take the tube test! - Heat the beaker...! - lab language).	☐ Whole class ▣ Group work ☐ Pair work ☐ Individual work	• unit2 lesson4 presentation and worksheet1.pptx	

			with cold and the other with hot water), a heater, mobile phone or other chronometer The teacher divides the class into 3 groups and gives one worksheet copy to each group The teacher and laboratory technician (if possible) help the groups to complete their experiment and to fully understand the scientific explanation behind the results				

CLIL Lesson Plan

Unit number	2	**Lesson number**	5	**Title**	Student's Presentations of Laboratory Experiments

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	95'	SUBJECT Reinforce the understanding of latent heat, land and water specific heat, relative humidity. LANGUAGE Understand/give specific indications for applying a procedure	N.B. Activity may be held preferably in two lessons in a row or in two separate lessons The teacher explains that students will assess the other groups' work using unit2 lesson5 worksheet1 Students divided into groups present their presentations, sharing with their school mates the experiments they have done The teacher controls that groups' explanations are correct and clear and encourages a fair assessment	**Skills** L S R W **Key vocabulary** laboratory tools and procedures **Communicative structures** functional language: reporting an experiment (ex: In order to carry out the experiment we have taken…/we've done….)	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	• unit2 lesson5 assessment1.docx	Peer assessment using unit2 lesson5 assessment1

2	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to update the log and the students do it individually	**Skills** L S R W **Key vocabulary** laboratory tools and procedures **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ▣ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	2	**Lesson number**	6	**Title**	Student's Presentations of Laboratory Experiments

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1		See lesson number 5		**Skills** L S R W **Key vocabulary** **Communicative structures**	☐ Whole class ☐ Group work ☐ Pair work ☐ Individual work		

CLIL Lesson Plan

Unit number	2	**Lesson number**	7	**Title**	Clouds Classification

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 3	The teacher recalls the mains steps of lesson 3 with open questions to the students and reminds the students that today they will need their sky photo files, then opens the unit2 lesson7 presentation	**Skills** L S R W **Key vocabulary** concerning clouds **Communicative structures** functional language useful to describe past events (including past perfect tense)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit2 lesson7 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	5'	SUBJECT View the different types of clouds LANGUAGE Learn new words concerning shapes and listen to correct pronunciation	Students watch the video about Clouds Classification and take individual notes The teacher writes new words at the sides of the board while video is playing	**Skills** L S R W **Key vocabulary** concerning different shapes and characteristics of clouds **Communicative structures** functional language to reproduce accurate descriptions	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video: Classifying clouds 4’04’’ link	

3	35'	SUBJECT Learn to use the NASA GLOBE Cloud chart to observe sky and determine the different types of clouds and contrails LANGUAGE Present a scientific study to the class	The teacher prepares 4 full colour copies of unit 2 lesson 7 worksheet 1 The teacher divides the class into 4 groups (at least 1 computer for each group is needed) The teacher checks the accuracy of explanations and helps the students, if necessary Students download sky pictures taken since lesson 3 Students use chart to classify sky photos and prepare a presentation for the class	**Skills** L S R W **Key vocabulary** concerning different shapes and characteristics of clouds **Communicative structures** See previous activity	☐ Whole class ☒ Group work ☐ Pair work ☐ Individual work	• unit2 lesson7 worksheet1 GLOBE Cloud Chart.pdf • unit2 lesson7 presentation.pptx	

4	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	This activity may be assigned for homework if time is needed The teacher gives the instructions to update the log and the students do it individually	**Skills** L S R W **Key vocabulary** clouds classification related **Communicative structures** useful language and expressions to report facts (ex. I have learnt... I still have to understand or further study...)	☐ Whole class ☐ Group work ☐ Pair work ☒ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	2	**Lesson number**	8	**Title**	Precipitation

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	5'	SUBJECT Review of lesson 7	The teacher recalls the main steps of lesson 7 about clouds with open questions to the students The teacher opens the presentation and introduces this lesson recalling how often, but not always, clouds may lead to precipitation	**Skills** L S R W **Key vocabulary** concerning clouds **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit2 lesson8 presentation.pptx	As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table

2	8'	SUBJECT Understand the two different processes which form precipitation LANGUAGE Learn scientific words and listen to their correct pronunciation	Viewing of the video to introduce the lesson’s object The teacher writes new words at the sides of the board while video plays and stops if necessary to underline new expressions	**Skills** L S R W **Key vocabulary** concerning precipitation **Communicative structures** functional language useful to describe a complicated scientific theory	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video: Bergeron and Collision Coalescence Process 6’10’’ link	
3	12'	SUBJECT Understand deeply and memorize the two different processes which form precipitation LANGUAGE understand accurate descriptions of complicated scientific theory The teacher repeats the key concepts seen in the video; there are two possible mechanisms of generating	The teacher repeats the key concepts seen in the video; there are two possible mechanisms of generating precipitation: Bergeron process and Collision-Coalescence process For Bergeron process comprehension, the complete understanding of the concepts of	**Skills** L S R W **Key vocabulary** saturation **Communicative structures** functional language useful to describe a physical system (revision of passive form)	☐ Whole class ☑ Group work ☐ Pair work ☐ Individual work	• unit2 lesson8 presentation.pptx	

		precipitation: Bergeron process and Collision-Coalescence process For Bergeron process comprehension, the complete understanding of the concepts of supercooling and supersaturation is necessary Skills o Whole class x Group work o Pair work o Individual work unit2 lesson8 presentation	supercooling and supersaturation is necessary				

4	20'	SUBJECT Describe orally the different kinds of precipitation LANGUAGE Learn new words about weather	Viewing of two videos The teacher writes new words at the sides of the board while video plays Students work individually to produce questions to the rest of the class about the videos (any right question or answer produced will score 1 point). The student with the highest score wins (the teacher is the judge)	**Skills** L S R W **Key vocabulary** concerning precipitation **Communicative structures** functional language useful to describe a physical system (revision of passive form)	☒ Whole class ☐ Group work ☐ Pair work ☐ Individual work	Video: What is precipitation? 6’11’’ link Video: What is Fog? 1’00’’ link	The teacher checks the students works and take notes of them in unit2 lesson 10 general assessment table

5	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	This activity may be assigned for homework if time is needed The teacher gives the instructions to fill in the log and the students do it individually	**Skills** L S R W **Key vocabulary** concerning precipitation **Communicative structures** useful language and expressions to report facts (ex. I have learnt... I still have to understand or further study...)	☐ Whole class ☐ Group work ☐ Pair work ☐ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	2	**Lesson number**	9	**Title**	BBC Video Documentary "The Power of the Planet (episode 2: the Atmosphere)" - second part

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	3'	SUBJECT Brief review of lesson 8 LANGUAGE Summarize Synthetize	The teacher asks the students open questions and reviews the contents of the previous lesson	**Skills** L S R W **Key vocabulary** precipitation **Communicative structures** functional language useful to describe past events (including past perfect tense)	☑ Whole class ☐ Group work ☐ Pair work ☐ Individual work		As part of a more comprehensive assessment, in this particular phase, the teacher will take notes about how spontaneously, and how often each student answers the questions, using unit2 lesson 10 general assessment table
2	42’ (30’ for the	SUBJECT Reinforce some	Viewing of BBC video “The Power of the Planet episode 2: the	**Skills**	☐ Whole class	• unit1 lesson10 worksheet1.docx	The teacher takes notes about the

	video and 12’ for the game)	knowledge about atmosphere LANGUAGE Listen to original language documentary	Atmosphere” – second part: the whole video lasts 59’ and the first part already seen during unit1 lesson10. Students divided into four teams take notes on unit1 lesson10 worksheet1 template (the teacher may suggest that one student in the group takes notes about numbers, one takes notes about proper names of people and places, one takes notes about scientific concepts, one about emotive sensations or else…) The teacher tells the teams that by the end of the viewing, they will have to formulate two questions about the video to the other groups Considering also lesson 10 of unit 1 (first part of the video) the team with the highest number of correct answers wins (the teacher assigns the score)	L S R W **Key vocabulary** concerning atmosphere **Communicative structures** See Unit 1 lesson 10	☒ Group work ☐ Pair work ☐ Individual work	link	effectiveness of students’ questions and answers in unit2 lesson 10 general assessment table Teacher officialises the game winner team

3	5'	SUBJECT Reflect on learnings LANGUAGE Write a report	The teacher gives the instructions to fill in the log and the students do it individually (if time is too short, this part can be assigned as a homework)	**Skills** L S R W **Key vocabulary** atmosphere features **Communicative structures** useful language and expressions to report facts (ex. I have learnt… I still have to understand or further study…)	☐ Whole class ☐ Group work ☐ Pair work ▣ Individual work	• unit1 lesson1 worksheet1 log.docx	self-assessment with the log

CLIL Lesson Plan

Unit number	2	**Lesson number**	10	**Title**	Final Written Test on Unit 1 and 2

Activity	**Timing**	**Learning Outcomes**	**Activity Procedure**	**Language**	**Interaction**	**Materials**	**Assessment**
1	50'	SUBJECT Verify the Atmosphere units: • Composition, Structure, Temperature • Moisture, Clouds and Precipitation LANGUAGE Understand written questions and problems Write in a clear and schematic form synthetic answers	The teacher hands out the photocopies (also the colour version could be projected on the interactive board) Students do the test (answer ten questions)	**Skills** L S **R** **W** **Key vocabulary** atmosphere related **Communicative structures** functional language to give definitions or solutions to problems (ex. the definition of weather or climate - Climate is..../Weather is ...)	☐ Whole class ☐ Group work ☐ Pair work ▣ Individual work	• unit2 lesson10 answers.docx • unit2 lesson10 test and rubric.docx	See the rubric in the second page of the test