LET'S READ THE SKY!

How do meteorologist predict the weather?

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MARC PER AL PLURILINGÜISME

A FAVOR DE L'ÈXIT ESCOLAR

LET'S READ THE SKY!

Escola Josep Pla
Melani García and Irene Torres

Generació Plurilingüe (GEP)
Year 2
2018-2019

PROJECT PLANNING TEMPLATE for CLIL and Content-Rich Environments

Identification of the GEP project:

Title	Let's read the sky!
Authorship	Melani García Núñez and Irene Torres Mérida
School	Escola Josep Pla
Students' CEFR Level (A1, A2...)	A1
Grade	3rd Primary
Content area(s)	Social Science
Number of sessions (4, 6 or 9)	7
Teacher(s) involved	Melani García Núñez and Irene Torres Mérida.
Key words	The weather elements: sunny, cloudy, windy, snowy, rainy and stormy. The weather station and its elements: thermometer (temperature), hygrometer (humidity), barometer (air pressure), anemometer (wind), rain

More information at: http://grupsderecerca.uab.cat/clilsi/

gauge and compass directions (north, south, east and west).

1. OUR PROJECT
Introduction: We use science and technology to predict the weather conditions. We want to show, explain and use the weather gadgets with our students in order to show them how meteorologist predict atmosphere changes!
Driving question: How do meteorologist predict the weather?
Final product: A leaflet explaining the elements in a weather station addressed to school community.

2. GOALS	2. HOW DO YOU KNOW STUDENTS ARE MAKING PROGRESS? (assessment criteria)
1. **Identify** the weather elements.	

	1. They can recognize the weather elements explained in class.
2. **Identify** the elements in a weather station and explain what they are used for.	2. They can describe the elements in a weather station, using the specific vocabulary related to each gadget.
3. **Hypothesise** and **discuss** about the way the gadgets in a weather station work.	3.1. They can discuss and get to an agreement about how an element work. 3.2. They can work collaboratively and respectfully in the development of the experiments.
4. **Record** and **analyze** data from the weather station device.	4. They can extract information from the weather station and record it.
5. **Use** the data from the weather station to **create** bar graphs.	5. They can create a bar graphs using the data recorded.
6. **Design** and **create** a leaflet explaining how a weather station works.	6. They can design and create a leaflet to inform the school community how a weather station work.

7. **Work** in a collaboratively way, respecting everybody's opinion.	7. They work collaboratively and respect all their classmates' opinions.

3. CURRICULUM CONNECTIONS SPECIFIC COMPETENCES AND KEY CONTENTS			
Subject-matter curriculum		**Foreign language curriculum**	
Specific Competences	**Key Contents**	**Specific Competences**	**Key Contents**
Science **Real world dimension.** **Competence 1:** Wonder about our environment, use strategies of data research and analyse results to find answers. **Health and body balance.** **Competence 7:** Raise awareness of our body, our own and other people's	**Science** **Competence 1:** Hypothesis formulation. Reaching a conclusion. **Competence 7:** Respect other people's opinions. **Competence 9:** Rules in the use of laboratory and daily life materials. **Competence 12:** Students participation at school: Roles	**Oral communication dimension.** **Competence 1:** Obtain basic information and understand simply oral speech. **Competence 3:** Interact orally according to a communicative situation, using strategies. **Reading comprehension dimension.**	**Competence 1:** Diverse oral speeches: songs, videos, instruccions, etc. **Competence 3:** ● Adapt to the communicative situation. ● Use the interaction formulae to communicate (greetings, say goodbye, ask for clarification, etc.)

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emotions and feelings to reach an emotional balance and contribute to the social harmony.

Technology and daily life dimension.
Competence 9: Use materials efficiently and with scientific and technological criteria, to solve daily situations.

Citizenship dimension.
Competence 12: Participe in the collective life through democratic values to improve social harmony and contribute to the creation of a caring and fair environment.

Maths

Communication and representation dimension.
Competence 9: Use different types of representations to mathematically express a concept.

and responsibilities.

Maths

Competence 9: Record data to design grids and graphs.

Competence 4: Apply strategies to obtain basic information and comprehend a written text.

Writing dimension.
Competence 8: Write simple texts with scaffolding.

Plurilingual and intercultural dimension.
Competence 12: Use plurilingual strategies to communicate.

Competence 4: Different types of texts.

Competence 8: Write short sentences and texts with a communicative purpose (a leaflet).

Competence 12: Use plurilingual strategies and do interlinguistic transfers.

4. 21ˢᵗ CENTURY COMPETENCES

Collaboration	**X**	Information, media and technology	**X**
Communication	**X**	Leadership & Responsibility	**X**
Critical Thinking and Problem Solving	**X**	Initiative & Self-direction	**X**
Creativity & Innovation	**X**	Social & Cross-cultural	**X**
Others:			

5. KEY COMPETENCES

Communicative, linguistic and audiovisual competence	**X**	Digital competence	**X**
Mathematical competence	**X**	Social and civic competence	

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Interaction with the physical world competence	**x**	Learning to learn competence	**x**
Cultural & artistic competence		Personal initiative and entrepreneurship competence	**x**

6. CONTENT (Knowledge and Skills)

CONTENT-RELATED KNOWLEDGE	CONTENT-RELATED SKILLS
Weather elements: temperature, humidity, air pressure, wind and rain. The weather station, its elements and they way they work: thermometer, hygrometer, barometer, anemometer, rain gauge and compass directions (north, south, east and west).	**Performing** experiments using the scientific method. **Making** hypothesis about the way the weather station elements work. **Collecting** data from the weather station in order to compare and analyse it. 6. **Creating** a bar graph with the data recorded. 7.**Creating** a leaflet in a collaboratively way, explaining the elements in a weather station.

7. REFERENCES

- https://search.creativecommons.org/
- https://commons.wikimedia.org/wiki/Commons:Quality_images/es
- https://www.youtube.com/
- https://answergarden.ch/
- https://www.fotojet.com/
- https://www.transum.org/software/RandomStudents/
- https://www.thinglink.com
- www.weathercloud.net
- https://www.dudley.gov.uk/
- http://eworkshop.on.ca/edu/pdf/Mod32_Poster_Rubric.pdf
- https://www.slideshare.net/cedecite/rubric-to-assess-a-digital-poster

8. COMMENTS (optional)

9. ACKNOWLEDGEMENTS (optional)

Skills: R: reading , S:speaking, L: listening, W: writing, I: Interaction

Interaction: T-S: teacher-student, S-S: student-student, SG: small groups, WG: whole group, S-Expert, S-World

Assessment: PA: Peer assessment, SA: Self-assessment, TA: Teacher assessment, AT: Assessment tools

10. UNIT OVERVIEW

Session	Activities	Timing	Skills	Interaction	ICT	Assessment
1	Weather forecast video and brainstorming.	15 min	L and S	Teacher -Student\n\nWhole group	Youtube\nInteractive whiteboard\nComputer	
	Driving question: How do meteorologist predict the weather?\nAnswergarden brainstorming.	20 min	W and S	Teacher -Student\nSmall groups	Answergarden\nComputers and laptops\nWhiteboard\nphoto-collage	

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	Previous knowledge self-assessment and ground rules.	5 min	R and W	Individually		Self-assessment about the goals to learn in the project.
	Song: The weather Song (Little Songs).	10 min	L	Teacher -Student Whole group	Youtube Interactive whiteboard Computer	
	Stick the weather elements	10 min.	R	Student- student In pairs		
2	Recap activity: Song "The weather Song" (Little Songs).	5 min	L and S	Teacher - student Whole group	Youtube Interactive whiteboard Computer	
	WeatherCloud Introduction (web page used by our school to obtain the data from the weather station) and data grid introduction.	20 min	L	Teacher - student Whole group	Interactive whiteboard Computer	
	School weather station introduction.	15 min	L	Teacher - student Whole group	Weather station gadget Interactive whiteboard computer	
	Let's go outside to see the weather station, to identify the weather station elements by observing the weather station.	20 min	L and S	Student-student Small groups		
3		15 min	L and S	Teacher-student		

	Magic box with replicas of the weather station elements. Brainstorming: What do you think they are used for?			Whole group		
	Running dictation: What are these weather elements used for?	30 min	L, S, W and R	Teacher-student Student- student	Computer White board	
	Running dictation correction.	15 min	L, S, W and R	Teacher- Student Whole Group	Computer White board Powerpoint presentation	
4	Rally Robin. Recap activity.	5 min	Speaking	Student-student		
	Thinglink	35 min	S, R and W	Student- student Small groups	Computer White board Thinglink poster	
	Thinglink correction	20 min	S, L, R, W	Teacher- Student Whole Group		
5	Taking readings: Students take readings by using real weather station gadgets.	40 min	S, R and W	Student- student Small groups		
	Comparing data. Students compare the data	20 min	S, R and W	Student- student		

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	recorded by the weather station and by themselves and draw conclusions.			groups		
6	Let's revise the weather gadgets names! (recap activity): Reorganize the letters to remember to weather gadgets' names.	5 min	R and W	Individually Whole group		
	Reading and interpreting graphs.	15 min	R and W	Teacher-student Small groups		
	Match the graphs! Match the graphs with their stories.	10 min.	S and R	Student- student Small groups		
	Design a temperature graph with the data recorded in the weather station!	30 min	R and W	Student- student In pairs		
7	How to make a leaflet: Explain what a leaflet is and show examples.	15 min	L, R	Teacher-student Whole group	Computer Whiteboard PP presentation	
	What do we want to explain? Pre-writing activity.	20 min	R, W	Student- student Small groups		
	Let's make a leaflet (Final product). Design a leaflet explaining the elements in a weather stations	60 min	R, W	Student- student Small groups		
	Self-assessment	10 min	R, W	Individually		Self-assessment about the goals they have learned in the

						project.
Plickers time!	15 min	L	Individually	Computer Whiteboard Plickers app	Teacher assessment about the project.

11. SESSION PLANNING

SESSION 1: How do meteorologist predict the weather?

Objectives of the session:

- **Identify** the weather elements.
- **Work** in a collaboratively way, respecting everybody's opinion.

Content-obligatory language for the session:

- **Vocabulary:** windy, cloudy, stormy, rainy, sunny, snowy
- **Grammatical structures:** What's the weather like today?

	Activities *include : Name and description; Assessment tool (if any); Material (including language support)*	⏱️	⚛️	🎴	💻	🔍
1.1	*Weather forecast video* to introduce the unit: **VIDEO**: https://www.youtube.com/watch?v=gpBuaU5OPi8	15 min	L and S	T-S WG	Youtube Interactive whiteboard Computer Language support	

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	After watching the video, we will do a brainstorming with students, so that they guess the topic of the unit.					
1.2	Driving question: How do meteorologist predict the weather? We are going to do a brainstorming, using Answergarden. In this brainstorming, we will encourage student to write everything that comes into their minds. A photo-collage will be used in order to support and give them ideas.	20 min	W and S	T -S SG	Answergarden Computers and laptops Whiteboard Photo-collage	
1.3	Previous knowledge self-assessment and Ground Rules. Students will have to complete a self-assessment grid, in which they can find the goals to learn in the project. This self-assessment will be useful to detect the real previous knowledge of our students. Explanation of ground rules.	5 min	R and W	Individu ally		SA
1.4	Song: The weather Song (Little Songs). 　　**SONG:** https://www.youtube.com/watch?v=mlHVLuC5NHg This activity is designed to identify the key vocabulary of the unit in the song. Students will have to pick the words up of the floor when they will listen them in the song.	10 min	L	T -S WG	Youtube Interactive whiteboard Computer	
1.5	Stick the weather elements (using T-P-S as a collaborative learning strategy). Students will have to read some texts and stick the corresponding weather symbols in the map.	10 min	R	S- S In pairs		

SESSION 2: A weather station.					
Objectives of the session: - **Know** how Weathercloud works. - **Record** data from the Weather cloud. - **Identify** the elements in a weather station. - **Work** in a collaboratively way, respecting everybody's opinion.					
Content-obligatory language for the session: - **Vocabulary:** sunny, cloudy, windy, snowy, rainy and stormy. The weather station and its elements: thermometer (temperature), hygrometer (humidity), barometer (air pressure), anemometer (wind), rain gauge and compass directions (north, south, east and west). - **Grammatical structures:** What's the weather like today?					

	Activities *include : Name and description; Assessment tool (if any); Material (including language support)*	⏱	⚛	🗂	💻	🔍
2.1	Song: The weather Song (Little Songs). **SONG:** https://www.youtube.com/watch?v=mlHVLuC5NHg We are going to use the song that we did last session as a recap activity. Students will have to sing the song at the beginning of the class.	5 min	L and S	T -S WG	Youtube Interactive whiteboard Computer	
	Weather Cloud Introduction:	20 min	L	T - S	Interactive whiteboard	

2.2	Weathercloud is a network of weather stations reporting data in real time from all over the world. It is the network that our school uses to obtain the data recorded in our weather station. We will explain and show how weathercloud works and everything we can find in the webpage, so they will have to extract data from it.			WG	Computer
2.3	Weather station introduction: We show them the gadget that we have in class that shows the data recorded by the weather station that our school has in the playground. After that, we will explain students how to record data using the specific grid designed. Each day students and teacher will devote 5 minutes in the morning to check Weathercloud and record the data from it.	15 min	L	T-S WG	Weather station gadget Interactive whiteboard computer
2.4	Let's go outside to see the weather station. Activity to identify the weather station elements by observing the weather station. With the help of Random Student Generator we group the class in groups of three or four students. We will explain that they are going to do an activity about the weather station, in which they will have to identify the weather station elements by observing them. Once they have identified the elements, we will correct the activity with the participation of all the students.	20 min	L and S	S-S SG	

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SESSION 3: Let's run!

Objectives of the session:

- **Explain** what the weather elements are used for.
- **Work** in a cooperative way, carrying out roles to do the task.

Content-obligatory language for the session:
- **Vocabulary:** anemometer, wind vane, hygrometer, barometer, rain gauge, thermometer.
- **Grammatical structures:** What is this used for? A _barometer_ measures _air pressure._

	Activities *include : Name and description; Assessment tool (if any); Material (including language support)*	⏱️	⚛️	🃏	💻	🔍
3.1	<u>Magic box:</u> This is an introductory activity in which the teacher will try to create expectations about the uses of the weather gadgets. The teacher will show replicas of the weather station elements to do a brainstorming. Students will make hypotheses about what these gadgets are used for. The teacher will not verify or deny the students hypothesis, since the solution will be in the running dictation activity they will do.	15 min	L S	T- S WG		
3.2	<u>Running dictation:</u> What are these weather elements used for? In this activity, the teacher spread the information he/she want the student to know around the classroom. In turns, the students will have to run to the pieces of information, remember as much as they can and retell them to their	30 min	L, S, W, R	T- S S-S	Computer, White board	

	partners.					
3.3	<u>Running dictation correction.</u> Using a <u>Powerpoint presentation</u>, the students will correct the running dictation activity.	15 min	L, S, W, R	T- S WG	Computer, White board, PP presentation	

SESSION 4: Weather station devices.

Objectives of the session:

- **Find out** the characteristics of the weather devices.
- **Work** in a collaborative way, looking for information on the multimedia poster.

Content-obligatory language for the session:
- **Vocabulary:** anemometer, wind vane, hygrometer, barometer, rain gauge, thermometer, sunny, windy, stromy, cloudy...
- **Grammatical structures:** What is this used for? How is _(air pressure, temperature…)_ measured?

	Activities *include : Name and description; Assessment tool (if any); Material (including language support)*	⏱	⚛	🎴	💻	🔍
4.1	<u>Rally Robin</u>. Recap activity to remember the key vocabulary of the project. In turns, the students say the names of the weather elements and the weather station devices.	5 min	S	S-S		
4.2	<u>Thinglink</u>. Multimedia poster with information about the weather instruments. The students will have to get into the Thingling web page and look for some information in a multimedia poster. The will have a task to do while searching on	35 min	S, R, W	S-S SG	Computer White board Thinglink poster	

	the poster.					
4.3	<u>Thinglink correction</u>. The teacher will get two groups together so that they can compare the answers that they have and clarify, add or modify their answers. Then, they will correct the activity with the whole group.	20 min	L, S, R, W	T- S WG	Computer White board	

SESSION 5: Taking measurements!

Objectives of the session:

- **Hypothesise** and **discuss** about the way the gadgets in a weather station work.
- **Work** in a collaboratively way, respecting everybody's opinion.

Content-obligatory language for the session:
- **Vocabulary:** The weather station and its elements: thermometer (temperature), hygrometer (humidity), barometer (air pressure), anemometer (wind), rain gauge and compass directions (north, south, east and west).
- **Grammatical structures:** We think that/have observed that...; I think the correct one is...

Activities *include : Name and description; Assessment tool (if any); Material (including language support)*	⏱	⚛	🗂	💻	🔍
<u>Taking readings:</u> Students take readings by using real weather station gadgets. This activity will be carried out in the playground, in a sunny and open area, since students will need to be in contact with the weather elements to take readings. The goal of the activity will be to compare the	40 min	S, R and W	S-S SG		

	data recorded in the weather station and the one the students record with the analogic weather gadgets.				
5.3	<u>Comparing data</u>. Students compare the data recorded by the weather station and by themselves and draw conclusions. They will make hypothesis about why the data they have recorded is different from the one in the weather station. They will make the hypothesis in groups (same groups as in the previous activity). We will project some substitution tables to guide them in their answers. However, all the contributions will be accepted, since we want our students to participate and speak even if they do it in their own language.	20 min	S, R and W	S-S SG	

SESSION 6: Reading and interpreting graphs!

Objectives of the session:
- **Use** the data from the weather station to **create** bar graphs.
- **Understand** graphs.

Content-obligatory language for the session:
- **Vocabulary:** Highest, lowest, how many.
- **Grammatical structures:** The weather station and its elements: thermometer (temperature), hygrometer (humidity), barometer (air pressure), anemometer (wind), rain gauge and compass directions (north, south, east and west).

Activities *include : Name and description; Assessment tool (if any); Material (including language support)*					

6.1	Let's revise the weather gadgets names! (recap activity): Students will have to reorganize the letters of the gadgets to write the words correctly. They will do the exercise individually, and the teacher will correct the activity with the whole group.	5 min	R and W	Ind. WG		
6.2	Reading and interpreting graphs: Students will have to look carefully at the graph to obtain the important information it is going to give them. They will have to complete the exercise in groups (4 or 5 students in each). They will have to answer the questions using the information in the graph.	15 min	R, W	T-S SG		
6.3	Match the graphs! Match the graphs with their stories. Students will have to match de graphs to its corresponding story.	10 min	S, R	S-S SG		
6.4	Design a temperature graph with the data recorded in the weather station! Using the data recorded during the project from the weather station, students will design a graph. They will do the exercise in pairs. They will choose ten days (of the total of days recorded) and they will copy the information in the grid below. This way, repetitions and errors will be avoided since each graph will be completely different and the information to make it will be summarize in a little table.	30 min	R, W	S-S In pairs		

SESSION 7: Let's make a leaflet.

Objectives of the session:
- **Design** and **create** a leaflet explaining how a weather station works.
- **Work** in a collaboratively way, respecting everybody's opinion.

Content-obligatory language for the session:
- **Vocabulary:** The weather station and its elements: thermometer (temperature), hygrometer (humidity), barometer (air pressure), anemometer (wind), rain gauge and compass directions (north, south, east and west).
- **Grammatical structures:** The _(air pressure, temperature…)_ is used to measure….; The unit to measure _(air pressure, temperature…)_ is...

	Activities include : Name and description; Assessment tool (if any); Material (including language support)	⏱	⚛	🗂	💻	🔍
7.1	How to make a leaflet. The teacher explains what a leaflet is and shows real examples to students. Then, he/she tells them the steps they have to follow to design it.	15 min	L, R	T-S WG	Computer Whiteboard PP presentation	
7.2	What do we want to explain? Before getting down to work on the leaflet, the students will do a writing pre-task activity to prepare the text they are going to include in their leaflets.	20 min	R, W	S-S SG		
7.3	Let's make the leaflet. Final product. Design a leaflet explaining the elements in a weather station. The teacher shows the students the RUBRIC with the criteria he/she is going to use to assess the leaflet.	60 min	R, W	S-S SG		TA

7.4	<u>Self-assessment.</u> The teacher gives the initial self-assessment back to students, so that they can reflect on what they have learned and complete the second column.	10 min	R, W	Ind		*SA*
7.5	<u>Plickers time!</u> The teacher assesses what students have learned with a dynamic ITC tool called *Plickers*. The teacher assign some cards with specific shapes to each student. This way the app can track their responses. The teacher poses a question and the students show their answers. Scanning their answers with the mobile phone, the teacher will know what they have learned!	15 min	L	Ind	Computer Whiteboard Plickers app	TA

P R O J E C T   D E S I G N   R U B R I C

Essential Element of PBL	Incorporates Best PBL Practices *The project has the following strengths:*	Needs Further Development *The project has essential PBL features but has some of the following weaknesses:*	Lacks Essential Features of Effective PBL *The project has one or more of the following problems in each area:*
Significant Content	The project is focused on teaching students important knowledge and skills derived from standards and key concepts at the heart of academic subject areas.	The project is aligned with standards and concepts from academic subject areas, but it may focus on too few, too many, or less important ones.	The project is not aligned with standards and what students learn is not important in terms of concepts from academic subject areas.

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21st Century Competencies	A limited number of important 21st century competencies are targeted to be taught & assessed.	Too few or relatively unimportant competencies are targeted, OR too many to be adequately taught & assessed.	The development of 21st century competencies is not included.
	There are adequate opportunities to Build 21st century competencies and they are rigorously assessed (with a rubric and feedback).	The project scaffolds the development of 21st century competencies to some extent, but there may not be adequate opportunities to build competencies or rigorously assess them.	It is assumed that some 21st century competencies will be gained by students, but the project does not explicitly scaffold the development of these competencies.
	Students work in collaborative teams that employ the skills of all group members; students may collaborate with people beyond their classmates.	Students work in teams, but it may be more cooperative than collaborative (the work of individuals is pieced together).	Students do all project tasks as individuals.
	Students are asked to analyze & solve problems and think critically, in an in-depth and sustained way.	Students are asked to analyze & solve problems and think critically, but not in depth or in a sustained way.	Students are not asked to think critically or solve problems.
	Students are given opportunities to use creativity and follow a process for innovation.	Students may find ways to be creative and innovative, but without using a process.	Students are not given opportunities to use creativity or follow a process for innovation.

n-Depth nquiry	Inquiry is sustained and academically rigorous: students pose questions, gather & interpret data, ask further questions, and develop & evaluate solutions or build evidence for answers.	Inquiry is superficial (information-gathering is the main task). Inquiry focuses on only one too-narrow topic, OR it tries to include too many issues, side topics, or tasks.	The "project" is more like an activity or applied learning task, rather than an extended inquiry. The "project" is unfocused, more like a unit with several tasks than one project.
Driving Question	DQ captures the project 's main focus. DQ is open-ended; it allows for students to develop more than one reasonable, complex answer. DQ is understandable & inspiring to students. To answer the DQ, students will need to gain the intended knowledge, skills, & understanding	DQ relates to the project but does not capture its main focus; it may be more like a theme. DQ meets some criteria for an effective DQ, but lacks others (it may lead students toward one particular answer, or it may be hard to answer thoroughly with the resources & time available and/or by students in this class).	There is no DQ. DQ is seriously flawed; for example: It has a single or simple answer. It is not engaging to students (it sounds too "academic," like it came from a textbook or appeals only to a teacher).

Need to Know	The project motivates students to learn new content knowledge or gain skills because they genuinely find the project's topic, Driving Question, and tasks to be relevant and meaningful. The Entry Event will powerfully engage students, both emotionally & intellectually (make them feel invested in the project & provoke inquiry)	The project motivates students to learn new content knowledge or gain skills because they see the need for them in order to complete project products and not be embarrassed to present their work. The Entry Event will gain student attention but it will not begin the inquiry process by creating a "need to know" or generate questions about the topic of the project.	The project does not motivate students to learn new content knowledge or gain skills. No Entry Event is planned. Day one of the project will feel like any other day (or worse, because it seems like more work than usual).
Voice & Choice	Students have opportunities to express "voice & choice" on important matters (the topics to study, questions asked, texts & resources used, products created, use of time, and organization of tasks). Students have opportunities to take significant responsibility and work independently from the teacher.	Students are given limited opportunities to express "voice & choice," generally with less important matters (deciding how to divide tasks within a team or which website to use for research). Students are expected to work independently from the teacher to some extent, although they have the skills and desire to do even more on their own.	Students are not given opportunities, if appropriate, to express "voice & choice" (to make decisions affecting the content or conduct of the project). Students are expected to work too much on their own, without adequate guidance from the teacher and/or before they are capable.

 More information at: http://grupsderecerca.uab.cat/clilsi/

Critique & Revision	Students are provided with regular, structured opportunities to give and receive feedback about the quality of their work-in-progress. Students are taught how to constructively critique each other's work-in-progress. Students use feedback about the quality of their work to revise and improve it.	Students are provided with opportunities to give and receive feedback about the quality of their work-in-progress, but they may be unstructured or only occur once. Students are given brief, general guidelines for critiquing each other's work-in-progress. Students look at and/or listen to feedback about the quality of their work, but do not substantially revise and improve it.	Students do not give and receive feedback about their work-in-progress. Students are not taught how to give constructive critique of each other's work-in- progress (it is brief, superficial, vague). Students do not use feedback about the quality of their work to revise and improve it.
Public Audience	Students share their work with other people from both within and outside the school, which may include online audiences. Students present culminating products and defend them in detail & in depth (by explaining their reasoning behind choices they made, their inquiry process, etc).	Students share their work only with classmates & the teacher. Students present culminating products, but their explanation of how & why they did things is limited to a short, superficial question/answer session.	Students do not share, present or exhibit their work.

ADAPTED FROM: 2014 BUCK INSTITUTE FOR EDUCATION

SELF-ASSESSMENT CHECKLIST

	CLIL-PBL Project - Teaching materials	✔ ✘
	The teaching materials are **visually attractive** and **well-organized**.	✔
	The teaching materials are **self-explanatory** and **ready-to-use.**	✔
	All activities and teaching materials are **original** and **created** by the course participant.	✔
	Any resource in any format (including videos, images, texts from the Internet), that is not original, is respectful of copyright and its **sources** are **cited**.	✔
	Students are presented with **multimodal** and **varied** input (spoken, written, visual, hands-on…).	✔
	Input is presented at the right **cognitive level**.	✔

Adapted from CLIL-SI 2015.
 More information at: http://grupsderecerca.uab.cat/clilsi/

Input is presented at the right **language level.**	✅
Students are **helped** in some way to **understand and process the input presented.**	✅
Visuals are used to support comprehension.	✅
Students are presented with **good questions** (explicit, implicit and referential) that help them process input and that challenge them not only to understand, but to think, create...	✅
There are **opportunities for significant linguistic output** (the students produce communicative "products", speak, write, interact…).	✅
Support is provided to help students read, write, speak and interact.	✅
A variety of **collaborative and cooperative learning strategies** are used throughout the sessions.	✅
Activities facilitate **inquiry and reflection** and promote the role of the teacher as a facilitator/coach.	✅
Task instructions are short, concise, **clear** and **comprehensible** to the students. Activities are written using an **appropriate level of language**.	✅

The teaching materials are written in **accurate English**. There are **no mistakes at all**.	✔

Session 1: How do meteorologist predict the weather?

Activity 1: Weather forecast video

Timing: 15 minutes

VIDEO: https://www.youtube.com/watch?v=gpBuaU5OPi8

We are going to use this video in order to introduce our unit.

The aim of this activity is to demonstrate that the use of videos stimulates not only the skill of listening through the ears, but also the skill of acquiring the information by means of the eyes.

The activity will allow students to decode the information presented through the images and words, and will motivate them towards the topic (Let's read the sky).

Instructions:

The teacher explains the activity to the students: They are going to watch a video twice. Students will have to watch it carefully.

1. The teacher will explain the importance of being engaged during the activity.

2. They start viewing the video.

3. Teacher and students will comment on the video at the end of the viewing. They can use the language supporting material that you can find below. The teacher will encourage students to speak. If they need to talk in their mother tongue (if they are not able to produce the word they want to say in English), The teacher will say and repeat the words in English, to help them and guide them in the activity interaction.

GENERAL STATEMENTS:

- The video is about...
- In the video, they say that...
- It deals with...
- It tells...
- It explains...
- It describes....

SEQUENCING THE EXPLANATION:

- First, then, after that, later, finally...

GIVING OPINIONS:

- In my opinion...
- From my point of view...
- I believe that...
- I thing that...

ASKING FOR CLARIFICATION:

I don't know this word......   What's the meaning of...?

I can't follow you. Can you speak slowly?

I didn't hear you. Can you repeat it, please?

I don't understand it. Can you explain it again, please?

KEY VOCABULARY:

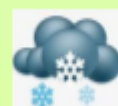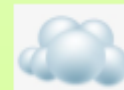| Windy	Stormy	Rainy	Sunny	Snowy	Cloudy

Activity 2: Driving question creative brainstorming!

Timing: 20 minutes

We are going to continue the session doing a brainstorming in order to activate the previous knowledge of the students. Brainstorming activities encourage children to participate without focusing on correct or incorrect answers, and it's a perfect activity to introduce new content.

Instructions:

1. The teacher has to explain the activity to the students. He/she has to tell them that they are not going to do a traditional brainstorming; they are going to brainstorm in a creative way! The teacher will explain that they are going to use AnswerGarden, as an educational tool.

2. Now it's time to make groups of 4 or 5 students and give to each group a laptop. The laptop will be ready to do the activity, with AnswerGarden already opened on their browsers.

3. The teacher has previously created an AnswerGarden introducing the driving question: "**How do meteorologist predict the weather?**" on the Create New AnswerGarden-page and he/she will share the AnswerGarden with the students.

4. The teacher projects a photo-collage (done with Fotojet: https://www.fotojet.com) in an interactive whiteboard. In the collage we can see the same question mentioned before: "How do meteorologist predict the weather?".

5. In groups of 4 or 5 students, they will start writing their answers to the question given. The teacher will have to encourage them to write everything that comes into their heads. They will be free to write words or little sentences (only 20 characters). The teacher will encourage students to brainstorm in their mother tongue if they are not able to produce the word they want to say in English. The teacher will write the words in English on the blackboard. If the teacher sees that the ideas they share are not enough, He/She can ask them oral questions to provide the information required.

6. Teacher and students will comment the words or sentences written down revising the AnswerGarden final result.

• Fotojet photo-collage:

How do meteorologist predict the weather?

Activity 3: Self-assessment and ground rules.

Timing: 5 minutes

The teacher explains the importance of following some rules when working in groups. Establishing these rules will ensure that students work together toward greater understanding and cooperate. The ground rules will be hanged in a visible place in the classroom.

It is also important to assess the students' previous knowledge and make them aware of the main goals of the project. Students will have to fill in the grid at the beginning of the project and at the end of it, in order to be aware of their learning process.

GROUND RULES:

When we work in group…

- We listen to what everybody says.

- We let everybody speak. Everybody should participate!

- We share responsibilities to make our group work.

- We cooperate in the development of all the tasks.

- We are polite and use the magic words: please, thank you…

- We are respectful with everybody's contributions and opinions.

- We get into agreements on how to do the activities.

Previous and post questionnaire about the goals to learn. **LET'S READ THE SKY!** Let's see what you know about the weather!	I have no clue! I have never heard of this concept.		I have seen or heard it! I have seen or heard it but, I don't know how to explain it.		I Know! I know the concept and I can explain it!		I know it well! I know it very well, and I can explain it to a classmate!	
	Beginning	End	Beginning	End	Beginning	End	Beginning	End
1. I can identify the weather elements.								
2. I can identify the elements in a weather station.								
3. I can explain what the elements in a weather station are used for.								
4. I can make hypothesis and discuss about the way the gadgets in a weather station work.								
5. I can record and analyse data from the weather station device.								
6. I can use the data from the weather station to create bar graphs.								
7. I can design and create a leaflet explaining how a weather station works.								
8. I can work in a collaborative and cooperative way, respecting everybody's opinion.								

Activity 4: The weather Song- Little songs (10 minutes)

SONG: https://www.youtube.com/watch?v=mlHVLuC5NHg

Songs are very useful tools, because they are motivational. They can be used to learn new vocabulary or to revise vocabulary already learnt.

In this activity, we are going to use the song as a revision of vocabulary already learned. Students will have to identify the key vocabulary of the unit in the song.

Activity:

Teacher will prepare (print and cut) some words of the song. He/She will place them on the floor, in the middle of the class. Students will have to listen to the song and pick the pictures up of the floor when the word is said.

Words to pick up:

WEATHER	SUNNY	SNOWY
TODAY	RAINY	STORMY
WINDOW	CLOUDY	WINDY

Activity 5: Stick the weather symbols

Timing: 10 minutes

Students will do this activity using the strategy Think-Pair-Share.

Think-pair-share (TPS) is a collaborative learning strategy where students work together to solve a problem or answer a question. This strategy requires students to:

• Think individually about a topic or answer to a question.

• Share ideas with classmates, building oral communication skills.

• It helps focus attention and engage students in comprehending the activity.

Before starting the activity, the teacher will explain to the students the real benefits of using the T-P-S strategy (mentioned above), and will model the procedure to ensure that students understand how to use the strategy.

During the activity, the teacher has to monitor and support students.

Instructions:

1. The teacher gives the exercise to students. They will have to read some texts and stick the weather symbols in the maps. Students think about what they know or have learnt about the topic. They try to do the exercise individually.

2. Each student should be paired with another student or a group of three.

3. Students share their thinking, their answers with their partners.

4. At the end of the activity, teachers can expand the "share" into the whole-class discussion, so each pair can present their answers to the entire class. In this way, they can correct the exercise they have just done.

● Read the text, cut the weather symbols and stick them in the correct place.

And now.... The weather for today! In France, it will be cloudy. In Italy, it will be sunny. In the United Kingdom it will be rainy. In Norway it will be snowy. In Portugal it will be stormy and in Germany, it will be windy.

Have a nice day!

- -

 Windy

 Cloudy

 Stormy

 Rainy

 Sunny

 Snowy

Session 2: A weather station

Activity 1: The weather song – Little Songs

Timing: 5 minutes

SONG: https://www.youtube.com/watch?v=mlHVLuC5NHg

We are going to use the song that we did last session as a recap activity. Students will have to sing the song at the beginning of the class.

Activity 2: Weathercloud introduction

Timing: 20 minutes

Teacher will show students Weathercloud: **https://weathercloud.net/**

Weathercloud is a network of weather stations reporting data in real time from all over the world. It is the network that our school uses to obtain the data recorded in our weather station.

The teacher will explain and show how weathercloud works and everything we can find in the webpage.

Activity 3: A weather station - introduction

Timing: 15 minutes

The teacher will show students the gadget that they have in class that shows the data recorded by the weather station that our school has in the playground. He/she will also explain them how a weather station works.

After that, the teacher will explain students how to record data using the specific grids designed. Each day students and teacher will devote 5 minutes in the morning to check Weathercloud and record the data from it.

ESCOLA JOSEP PLA - WEATHER GRID

Date	Temperature ºC	Humidity %	Wind Km/h	Rainfall l/m2	Air pressure hPa

Activity 4: Let's visit the school weather station!

Timing: 20 minutes

With the help of Random Student Generator we group the class in groups of three or four students.

The teacher explains the students that they are going to go outside to see the school weather station. He/She will also explain that they are going to do an activity about the weather station, in which they will have to identify the weather station elements by observing them.

Once they have identified the elements, the teacher will correct the activity with the participation of all the students.

Are they weather station elements? Circle them if you think so!

Session 3: Let's run!

Activity 1: Magic box

Timing: 15 minutes

In this activity the teacher will have a box with replicas of the weather station elements. The teacher will show the elements one by one and he/she will ask the students what they think these elements are used for. The teacher will write the ideas that come up on the blackboard. He/she will not correct the student's contributions, since they will know the answers doing the next activity.

Activity 2: Running dictation

Timing: 30 minutes

Running dictation is an amazing activity that involves speaking, listening, writing, walking and remembering! It is also a good strategy to introduce new content since it is so dynamic that students get immediately engaged in the activity.

Material:

- Powerpoint "Running dictation answer key".
- Students worksheets

Procedure:

1. Get students into groups of four or five people and assign them a number. Check that everybody knows which number they are.
2. Assign them roles, so that everybody is on task while doing the activity.
3. Tell them that you are going to call out numbers and those students who have these numbers will have to go to the centre of the classroom. Then, the teacher will say a sentence related to one of the weather station elements.
4. They will have to go back to their places and repeat what they have understood to their partners. They will write the sentence in the box in their worksheet.
5. At the end of the activity, the teacher will check what they have understood and they will correct the sentences by projecting the answers. (Use Powerpoint: Running dictation answer Key)

6. Afterwards, the teacher will show the pictures of the weather station elements one by one (these pictures are in the power point too), and students will have to match the sentences they have written with each of them. They will have to copy the correct answer in the weather station elements mind map.

In order to help students interact, the teacher will provide them some language support material (it can be projected in the interactive whiteboard):

RUNNING DICTATION - VOCABULARY HELP!

I don't know this word......

What's the meaning of...?

I can't follow you. Can you speak slowly?

I didn't hear you. Can you repeat it, please?

I don't understand it. Can you explain it again, please?

Who's next?

It's your turn!

Is this correct?

Say it more slowly, please!

Sentences for the Running Dictation

- o A **THERMOMETER** measures the air temperature.
- o A **HYGROMETER** measures the water vapour content of air or the humidity.
- o A **BAROMETER** measures air pressure
- o An **ANEMOMETER** measures wind speed.
- o A **RAIN GAUGE** measures the amount of rain that has fallen over a specific time period.

ROLES

To make the student engage in the activity and keep them on task, the teacher will establish roles in the group work. Since this is a cooperative activity and its success depends on the way students cooperate, it is important to make them clear that they depend on each other to complete the task.

Some medals will be provided to each student to remind them that they have task to develop.

Writer: These students write the sentences of the running dictation. They will take turns since they will also have to run when their number is called.

Spellchecker: These students will check the writing to see if they can improve it.

Encourager: These students will encourage their mates to keep on task and will collaborate in the activity.

Instructions in the student's worksheets

These are the worksheets that students will have to develop the tasks. You will see the materials ready to print in the following pages.

Running dictation

Are you ready to discover the main elements in a weather station? Your teacher will assign you a number from 1 to 5.

Be alert because she will say your number and you will have run to the whiteboard. Remember what you read and retell it to your partners! Write the sentences in the following box.

Mind map of the weather station elements
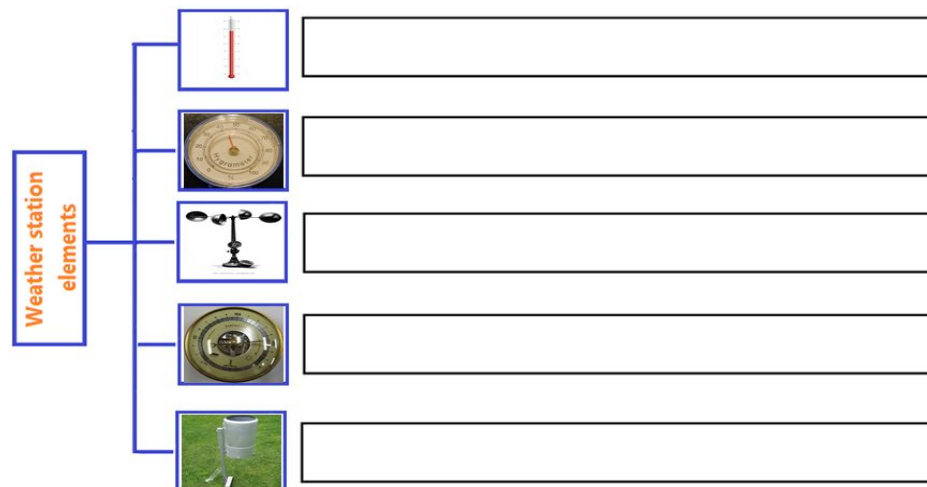
Activity 3: Running dictation correction

Timing: 15 minutes

When the students finish reading and writing the sentences, the teacher will check what they have understood and he/she will project the answers in a Powerpoint presentation. (Document PowerPoint Presentation Answer Key.)

Afterwards, the teacher will show the pictures of the weather station elements one by one (these pictures are in the power point too), and students will have to match the sentences they have written with each of them. They will have to copy the correct answer in the weather station elements mind map.

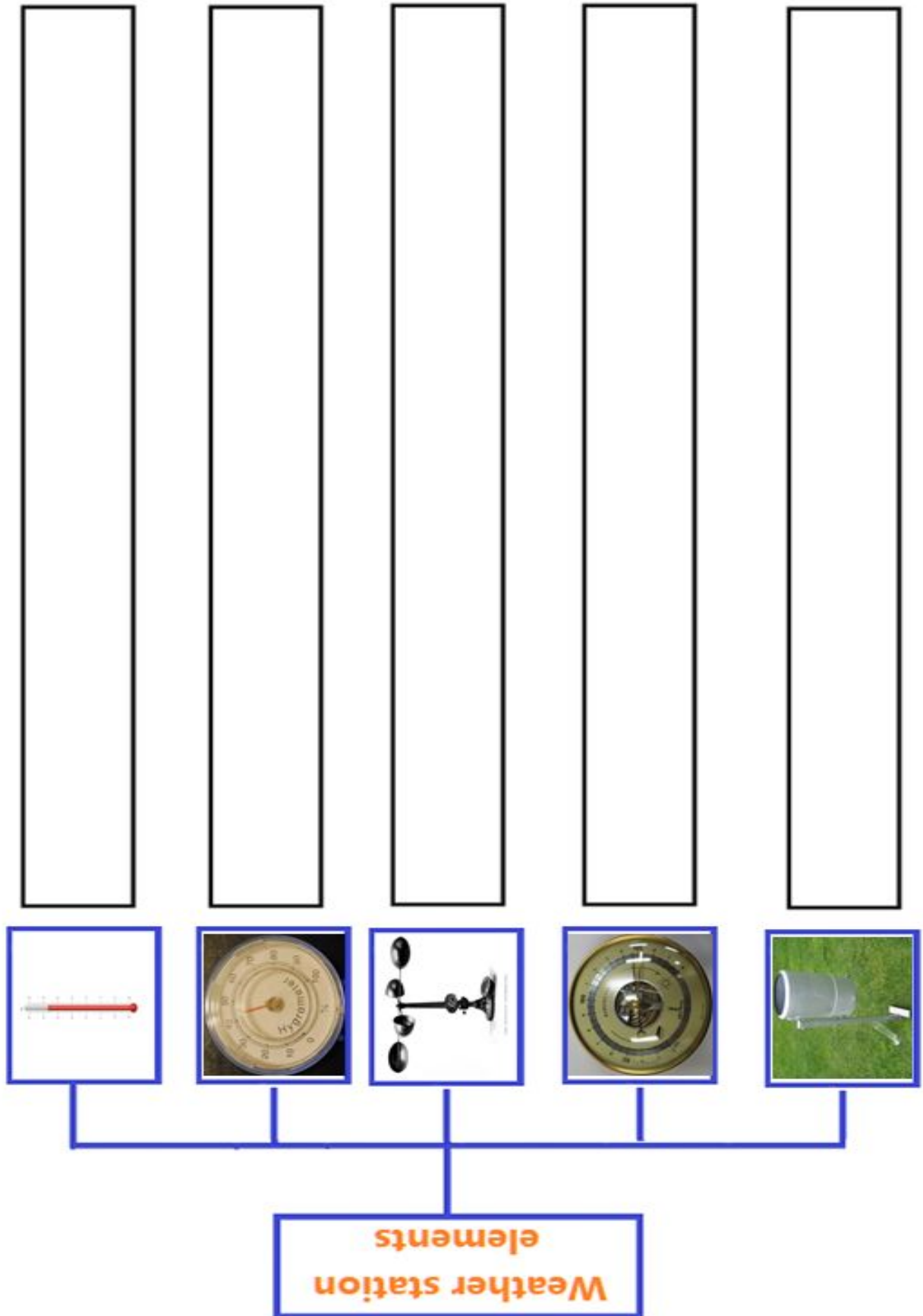## Running dictation

Are you ready to discover the main elements in a weather station? Your teacher will assign you a number from 1 to 5.

Be alert because she will say your number and you will have run to the whiteboard. Remember what you read and retell it to your partners! Write the sentences in the following box.

Weather station elements

Session 4: Weather station devices

After having done the running dictation activity of the previous session, students already know the names of the weather station devices and their main function. In this session, students are going to find out other characteristics of the weather station devices.

Activity 1: Rally Robin

Timing: 5 minutes

To start the session, the teacher will propose a short but funny recap activity called Rally Robin. In this activity students pair up and take turns to say names related to the topic the teacher has proposed. In this case, students will take turns to say vocabulary related to the weather and the weather station devices.

Activity 2: Thinglink

Timing: 35 minutes

In this activity, a multimedia poster will be used to find out some of the characteristics of the weather station devices.

Procedure:

- Get students in groups of three.
- The students get into Google and copy the following link in the address bar: https://www.thinglink.com/scene/1143122491128938497
- They read the information and watch the videos in the Thinglink.
- Then, they complete the tasks in the worksheet.

Thinglink

Read the information and watch the videos in the Thinglink. Then, complete the following tables:

Name:

- **What is it used for?**
  - To measure air pressure.
  - To measure rainfall.
  - To measure temperature.

  It is used to_____

- **The liquid inside a thermometer can be_____ or_____.**

- **When mercury goes up it is_____. When mercury goes down it is_____.**

- **The unit to measure temperature is...**
  - Degrees Celsius.
  - Degrees Fahrenheit.
  - Both answers are correct.

Name:

- **What is it used for?**
  - To measure temperature.
  - To measure humidity.
  - To measure air pressure.

  It is used to_____

- **How is humidity measured?**
  - In degrees Fahrenheit.
  - In percentages.
  - In Pascals.

- **What is humidity?**
  _____

- **Name places where hygrometers are used:**
  _____

Name:

- **What is it used for?**
  - To measure temperature.
  - To measure humidity.
  - To measure air pressure.

  _____

- **How is air pressure measured?**
  - In degrees Fahrenheit.
  - In a percentage.
  - In Pascals.

- **High pressure means _____ and _____conditions, while low pressure means_____ and _____conditions.**

- **A barometer indicates changes in weather conditions. Can you name the different conditions?**
  _____

Name:

- **What is it used for?**
  - o To measure temperature.
  - o To measure wind speed and indicate direction.
  - o To measure air pressure.
  _____

- **How is wind speed measured?**
  - o In inches.
  - o In percentages.
  - o In Kilometres per hour or miles per hour.

- **What is a wind vane used for? Name the directions the wind vane indicates.**
  _____

Name:

- **What is it used for?**
  - o To measure temperature.
  - o To measure rainfall.
  - o To measure air pressure.
  _____

- **How is rainfall measured?**
  - o In inches.
  - o In a percentage.
  - o In Pascals.

- **How do scientists call rain gauges?**
  _____

Activity 3: Correction

Timing: 20 minutes

When students finish completing the information about the weather station instruments, the teacher will make them compare the information that they have found out with their partners. To do so, students will join (two groups together) and some time will be given to compare, discuss and modify the information that they have in their tables. After that, the activity will be corrected with the whole group.

Session 5: Taking measurements!

This is going to be a hands-on session in which students will be able to manipulate the weather devices and find out how they work first-hand.

Activity 1: Taking readings

Timing: 40 minutes

This activity will be carried out in the playground, in a sunny and open area, since they will need to be in contact with the weather elements to take readings. The goal of the activity will be to compare the data recorded in the weather station and the one the students record with the weather gadgets. The following grid will be used to record the data.

COMPARING DATA: WEATHER CLOUD VS CLASS MEASUREMENTS		
Thermometer	*Weather station measurements*	
	Our measurements	
Hygrometer	*Weather station measurements*	
	Our measurements	
Barometer	*Weather station measurements*	
	Our measurements	
Anemometer	*Weather station measurements*	
	Our measurements	
Rain gauge	*Weather station measurements*	
	Our measurements	

Procedure:

1. The teacher divides the space in five stations. In each station, students will manipulate one of the gadgets in order to obtain the data.

2. The teacher will make five groups. Each group will be in a different station with a weather gadget.

3. Each gadget will have its own instructions. Students will have to follow them to obtain the data. They will be approximately 5- 8 minutes with each gadget.

This is a thermometer. The thermometer is used for measuring temperature.

To get the outside temperature, you need to follow these instructions:

1. Choose a shaded area.

2. Wait 5 minutes before checking the temperature.

3. Look at the thermometer and write the temperature it indicates in the grid.

This is a hygrometer. The hygrometer is used for measuring humidity. To get the outside humidity, you need to follow these instructions:

1.   Choose a location with no temperature fluctuations.

2. Wait 5 minutes before checking the humidity.

3. Look at the hygrometer and write the humidity it indicates in the grid.

This is a barometer. The barometer is used for measuring atmospheric pressure.

1. Look at the two hands the barometer has. You have to look at the black one.

2. Wait some minutes before checking the pressure.

3. Look at the atmospheric pressure it indicates, and write it in the grid.

This is a rain gauge. The rain gauge is used for measuring rainfall.

1. Observe at the rain gauge. It has been in the playground since last night.

2. Is there water inside?

If the answer is yes, write in the grid the amount of water.

If the answer is no, write 0 in the grid.

This is an anemometer. The anemometer is used for measuring wind speed.
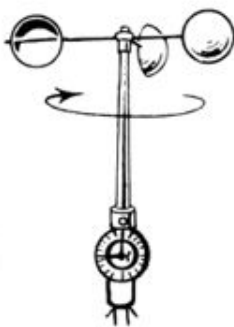
1. Hold the anemometer in an open space with no buildings blocking the air.

2. Observe if the anemometer cups spin or move a little bit.

3. If the cups move, write the wind speed it shows in the vertical shaft. If not, write 0 in the grid.

Activity 2: Comparing data.

Once they have taken all the data from the weather gadgets, students go back to the classroom and check the Weathercloud webpage to compare the data with the one they have.

After that, the students will make hypothesis about why the data they have recorded is different from the one in the weather station. They will make the hypothesis in groups (same groups as in the previous activity).

The teacher will pose the following question:

> Why do you think there are differences between the data recorded by the weather station and our measurements?

So that students will be able to answer this question, the teacher will project this substitution table to guide them in their answers. However, all the contributions will be accepted, since we want our students to participate and speak even if they do it in their own language.

We	think	that	the place was not good.
			the weather station is not working correctly.
			we haven't had enough time.
	have observed		the measurements of the gadgets are not correct.
	haven't followed	the instructions correctly.	

After the first question and answers, the teacher poses a final question:

Which of the measurements do you think is the correct one?
Why?

As in the previous question, the teacher will give scaffolding to the students with this table:

			it is digital.
I think the correct one is	the weather station data	because	we have done the activities very well.
	our own measurements		it is always making measurements
			we have followed the instructions.

Session 6: Reading and interpreting graphs

Activity 1: Let's revise the weather gadgets names! – Recap activity

Timing: 5 minutes

Students will have to reorganize the letters of the gadgets to write the words correctly. They will do the exercise individually, and the teacher will correct the activity with the whole group.

R E E T M T E H M R O _____	A R N E E T M E O M _____	R E T E M O R A B _____
H R Y E G T R E O M _____	G U A E G N A I R _____	N E V A N D W I ____ ____

## Activity 2: Reading and interpreting graphs

Timing: 15 minutes

The teacher gives the exercise to students. He/She will explain that they will have to look carefully at the graph to obtain the important information it is going to give them.

They will have to complete the exercise in groups (4 or 5 students in each). They will have to answer the questions using the information in the graph.

● *The graph shows temperatures over the year in Barcelona.*
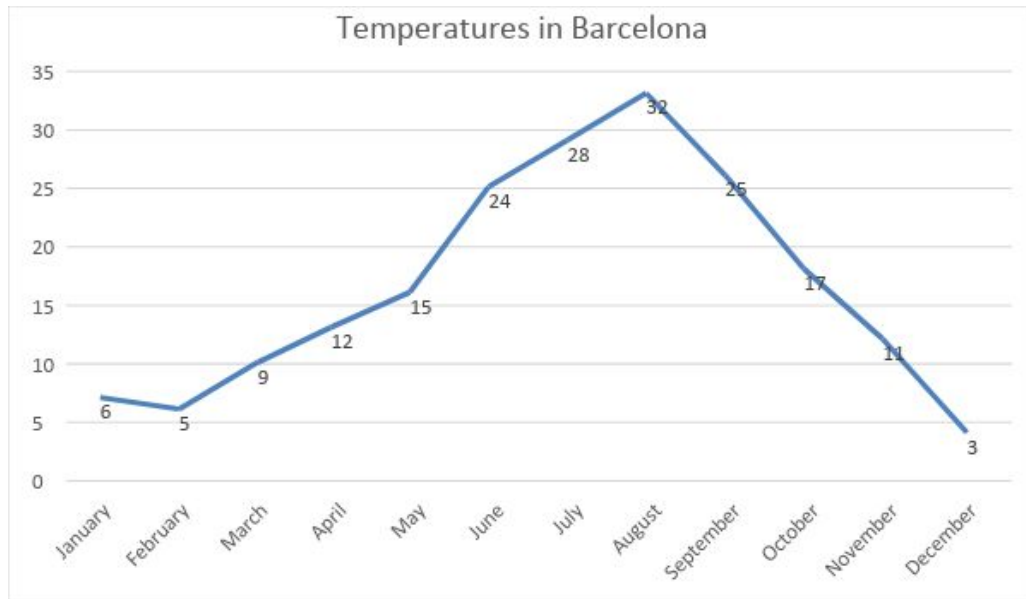
Use the graph to answer the questions below:

1. *Which month had the highest temperature?*

....

2. *Which month had the lowest temperature?*

....

3. *What is the difference in temperature between March and July?*

....

4. *How many months have a temperature higher than 30°C?*

....

5. *How many months have a temperature lower than 30°C?*

....

DIFFICULT WORDS!		
Highest	**Lowest**	**How many...?**

Activity 3: Match the graphs!

Timing: 10 minutes

Listen carefully to the stories the teacher is going to read out, and, in groups, match each story to its corresponding graph.

Stories:

1. We were eating in the canteen and it was very hot. But when we finished school, it started getting cold.

2. This week has rained a lot. On Wednesday it rained 50 l/m2. It was only sunny on Sunday.

3. Wow! This winter has been very windy! Specially in December and January. Fortunately, August wasn't windy at all!

4. Humidity affects the reproduction of many insects. They need humid conditions to survive.

Graphs:

A)

B)

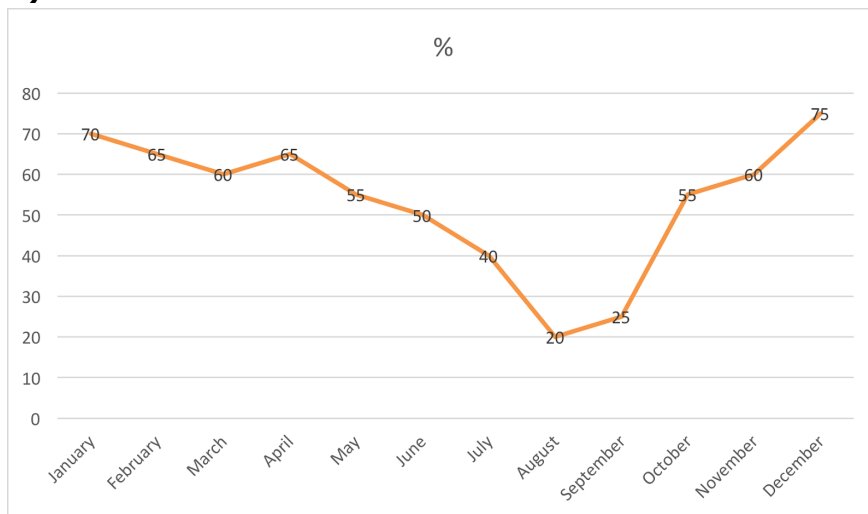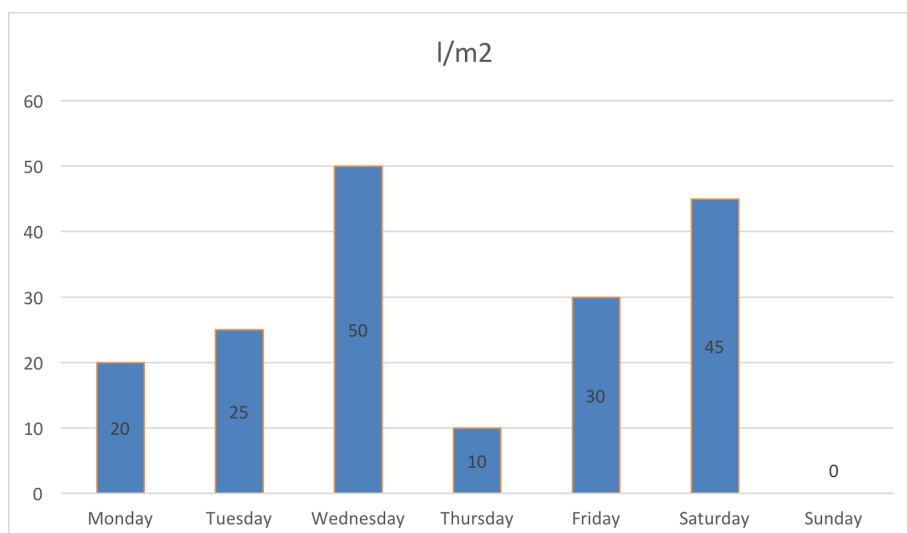°C

Time

C)

%

D)

l/m2
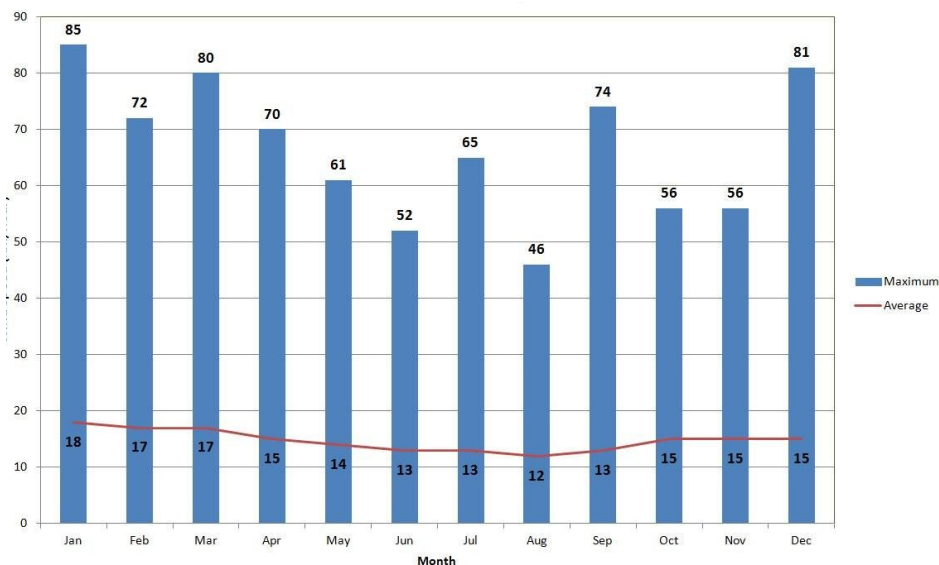
Activity 4: Design a temperature graph with the data recorded in the weather station!

Timing: 30 minutes

Using the data recorded during the project from the weather station, students will design a graph. They will do the exercise in pairs.

They will choose ten days (of the total of days recorded) and they will copy the information in the grid below. This way, repetitions and errors will be avoided since each graph will be completely different and the information to make it will be summarize in a little table.

DAYS	___	___	___	___	___	___	___	___	___	___
Temperature ºC	___	___	___	___	___	___	___	___	___	___

Complete the graph with the temperatures and answer the questions below:

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th
30																	
29																	
28																	
27																	
26																	
25																	
24																	
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1																	

1. *Which is the highest temperature?*
   ……………………………………………………………………………

2. *Which is the lowest temperature?*

   ……………………………………………………………………………

Session 7: LET'S MAKE A LEAFLET

Once students have seen all the elements in a weather station and know what they are used for and how they work, it's time to share what they have learned with the school community. **Since many people in our school community don't know that the school has a weather station in the playground and that teachers develop a project in 3rd grade to teach students how it works, we are going to take advantage of this project to inform other students and families. We are going to present what they have learned in the school's open day. In the open day, boys and girls will present the project and the final product of it. To do so, students are going to make leaflets in which they will explain what a weather station is, what elements it is made up of and where is located.**

This session will take up two hours, since there are included two moments of assessment (final self-assessment and teacher assessment) and the teacher will also explain and show a rubric with the criteria to assess the leaflet.

Activity 1: How to make a leaflet

Timing: 15 minutes

Making a leaflet is a challenging activity since students have to take into account many things to make the leaflet attractive and easy to read. Therefore, the first part of the activity consists of giving them instructions to guide them in the process.

With this purpose, the teacher will project a short PowerPoint presentation in which some images and instructions will be shown. He/she will also provide students with examples of real leaflets so that they get a clear idea of what they have to do.
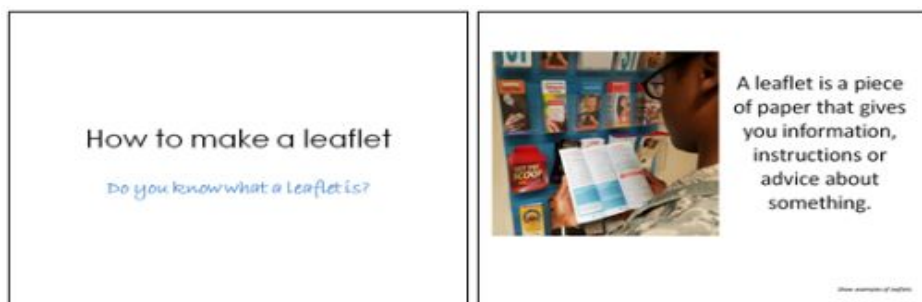
Power Point presentation slides

Activity 2: What do we want to explain?

Timing: 20 minutes

Since writing is always a challenging activity, the teacher will do a pre-task activity in order to help students write the sentences they will have to include in the leaflet. Students will have to complete some sentences with the information that is missing. This is information will be taken from the tables in session 4 (they looked for the information in the Thinglink), in which they had questions and multiple answer to choose. With this activity, they will transform these answers into sentences.

Complete the following sentences with the words missing. Use the information in the tables you completed with the multimedia poster:

❖ The thermometer is used to measure_____. The unit to measure temperature is_____. When mercury goes up it is_____. When mercury goes down it is_____.

❖ The hygrometer is used to _____. The unit to measure _____is_____. You can also see hygrometers in other places like_____.

❖ The barometer _____. The unit to measure _____is_____. The barometer indicates changes in the weather conditions: it can be_____.

❖ The anemometer_____. The unit to measure _____ is _____. The wind vane indicates the _____. There are four directions: _____.

❖ The rain gauge _____. The unit to measure _____ is _____. Scientists call the rain gauge_____ or _____.

Activity 3: Let's make the leaflet

Timing: 60 minutes

Once the teacher has given some instructions, he/she will give out some materials to carry out the activity. As students work, he/she will go around the class checking what students are doing, giving them some advice and guidance.
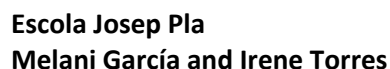
Materials:

- Din- A 4 papers
- Photos of the weather elements devices
- Blues and black pens
- Colored pencils

Rubric to assess the leaflet

The following rubric will be shown and explained in class before starting with the design of the leaflet, so that students will be aware of what they have to keep in mind to do a good job.

Category	Excellent 3	Good 2	Fair 1	Needs improvement 0
Titles	Titles are easily identified since there is a change in the colour and size. They are creative.	Titles are easily identified since there is a change in the colour or size.	Titles are too small and difficult to identify. They are related to the text they go with.	Titles are not related to the texts or are impossible to identify.
Presentation of the information	All the information is included and is very well organized. Extra relevant information has been added.	All the information is included and is well organized.	There is some information missing or is badly organized.	There is a fair amount of information missing or the information included is not relevant.
Attractiveness	The leaflet is exceptionally attractive in terms of design, layout, and neatness. All the texts go with an image.	The leaflet is attractive in terms of design, layout, and neatness. All the texts go with an image.	The leaflet is acceptably attractive though a bit messy. There are images missing or they are badly stuck.	The leaflet is messy or very poorly designed. It is neither neat nor attractive. There are images missing or they are badly stuck.
Handwriting and spelling errors	All texts are perfectly clear written and there isn't any mistake.	Texts are clearly written but there are between 2 or 3 mistakes.	Handwriting is readable and there are between 4 or 6 mistakes.	Handwriting is unreadable and there are more than 6 mistakes.
Team work	They have worked hard, have organized very well and everybody has collaborated.	They have worked hard, everybody has collaborated but they needed help to organize.	They have completed the task although they have had difficulties getting starting on tasks and organizing. Some students haven't collaborated.	They haven't been able to finish the task, because they weren't able to organized and get on task.

Activity 4: Self-assessment

Timing: 10 minutes

Previous and post questionnaire about the goals to learn. **LET'S READ THE SKY!** Let's see what you know about the weather!	I have no clue! I have never heard of this concept.		I have seen or heard it! I have seen or heard it but, I don't know how to explain it.		I Know! I know the concept and I can explain it!		I know it well! I know it very well, and I can explain it to a classmate!	
	Beginning	End	Beginning	End	Beginning	End	Beginning	End
1. I can identify the weather elements.								
2. I can identify the elements in a weather station.								
3. I can explain what the elements in a weather station are used for.								
4. I can make hypothesis and discuss about the way the gadgets in a weather station work.								
5. I can record and analyse data from the weather station device.								
6. I can use the data from the weather station to create bar graphs.								
7. I can design and create a leaflet explaining how a weather station works.								
8. I can work in a collaborative and cooperative way, respecting everybody's opinion.								

Activity 5: Plickers time!

Timing: 15 minutes

To do the final assessment of the project, the teacher will use an amazing tool call *Plickers*. Plickers allows to assess knowledge in a dynamic and motivating way. Exams and pencils are not necessary; students will just need the app's cards!

Instructions:

1. Download the App and sign up on Plickers.
2. Get the Cards. Each card must be assigned to one student, to track their responses.
3. Create the questions on the library of Plickers.
4. Scan students' answers and view their results. Plickers will instantly scan their students' cards and record their answers.

The questions in Plickers will be:

- The thermometer is used to measure the air pressure.
- The wind vane directions are: north, south, east and wild.
- Rain gauges are also called pluviometers by scientists.
- The anemometer is a gadget used to measure humidity.
- The barometer tells us if the air pressure is raising or falling.
- The unit we use to measure the temperature is Pascals.
- The meteorologists predict the weather using their intuition.
- The weather station helps us to predict the weather.
- Hygrometers are also used in some saunas and museums.
- Anemometers measure wind speed in m2.