PROMISED

PLANET UNDER STRAIN: WHEN BALANCE BREAKS DOWN

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THEORETICAL FRAMEWORK

WHAT IS PROMISED?

PROMISED (***PROM****oting twin transition through **I**ntegrated STEAM in bilingual **S**econdary **ED**ucation*) is a European project funded by Erasmus+ (2023-1-ES01-KA220-SCH-000157221) that aims to transform teaching practices in secondary education by integrating:

- ***STEAM education*** (Science, Technology, Engineering, Arts and Mathematics),
- ***CLIL*** (Content and Language Integrated Learning),
- and real-world challenges related to the ***twin transition***:
  - ***Green transition*** (sustainability, environmental awareness),
  - ***Digital transition*** (technological innovation, digital literacy).

The PROMISED framework, developed by Universidad de Burgos (Spain), Universidad de Granada (Spain), CFIE Burgos (Spain), Matej Bel University (Slovakia), and Howest University of Applied Sciences (Belgium), supports teachers in designing learning experiences that are interdisciplinary, plurilingual and competence-based, aligning with the priorities of the European Green Deal and the Digital Education

MAIN GOALS OF PROMISED

a. ***To support the development of students' key competences*** related to sustainability, digital literacy, scientific thinking and linguistic skills.
b. ***To encourage the use of interdisciplinary, project-based and inquiry-based approaches*** that make learning more engaging and meaningful.
c. ***To promote the use of a foreign language (L2)*** as a tool for learning across content areas.
d. ***To foster teacher collaboration*** through co-design, co-implementation and co-assessment of learning sequences.

HOW DOES THE PROMISED FRAMEWORK WORK?

The PROMISED framework is designed to be flexible and adaptable. It offers three levels of implementation, allowing schools to progressively integrate bilingual, interdisciplinary teaching, starting from a single subject and moving towards fully collaborative, cross-curricular projects. Each level involves the use of a foreign language, as a vehicle for learning.

a. ***Level 1: One subject + L2:*** development of ***STEAM and digital skills*** within a single subject taught through a foreign language (L2).
b. ***Level 2: Two subjects + L2:*** connection of two or more subjects through ***cross-cutting concepts***, maintaining disciplinary boundaries while fostering curricular integration.
c. ***Level 3: Fully integrated project + L2:*** holistic learning through ***fully integrated projects*** centred on ***sustainability skills*** and complex problem solving.

Level 3

Level 2

Level 1

Sustainability

Problem Solving

Problem Solving

Crosscutting
Concepts

Crosscutting
Concepts

Geography

Physical Education

Technology

English as a Foreign Language

L2

STEM Skills
Digital Skills

STEM Skills
Digital Skills

Geography

L2

Technology

L2

English as a Foreign Language

L2

STEAM

STEAM

SBL

SBL

CLIL

CLIL
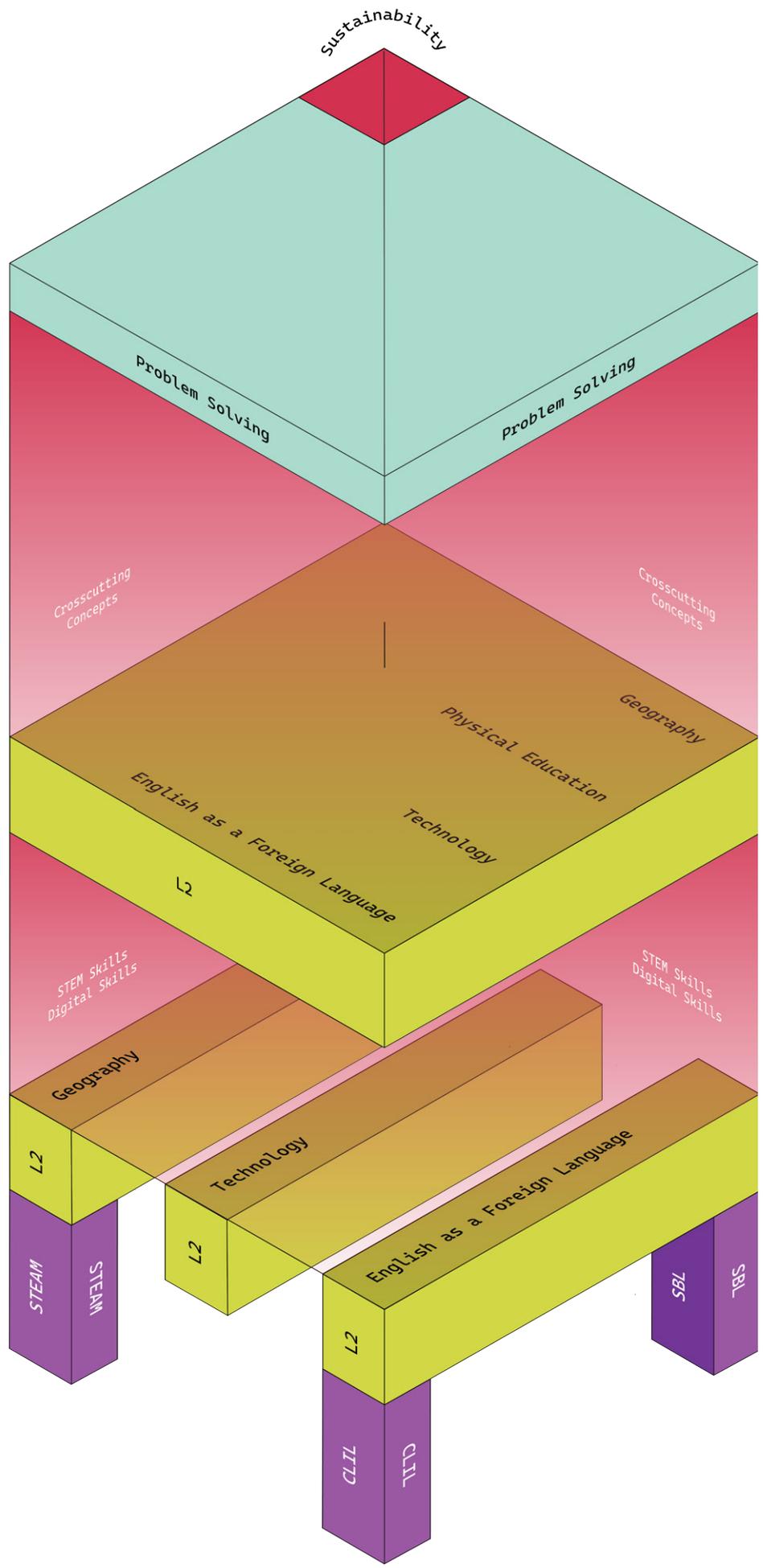
METHODOLOGICAL FRAMEWORK

At the heart of the PROMISED framework lies a simple but powerful idea: students learn best when they work on real problems that matter. Each unit starts from a challenge that feels relevant, meaningful and connected to the world around them. These are not imaginary or abstract topics, they are based on real-life situations, such as energy poverty, pollution, or the loss of biodiversity. When students feel that what they are doing in the classroom has a purpose beyond school, they become more engaged, more curious, and more motivated to learn.

All these challenges are explored through the lens of what we call the Twin Transition, the two big changes shaping our societies today:
- the *green transition,* focused on sustainability and environmental responsibility, and aligned with the United Nations Sustainable Development Goals (SDGs);
- the *digital transition*, which brings technology, data and innovation into everyday life, and involves the development of digital skills in a functional and responsible way.

These two themes are always present in PROMISED units, helping students understand how their learning connects to the bigger picture. Whether they are designing a simple prototype, reading a story, or discussing a global issue, they are also thinking about how to make the world more sustainable and how to use technology in smart, ethical ways.

To make this kind of learning possible, PROMISED brings together three main teaching approaches that work hand in hand in every unit:
- **a.** **STEAM:** this stands for Science (Natural and Social), Technology, Engineering, the Arts and Mathematics. In our framework, we consider STEAM as an integrated educational approach that connects these subjects instead of teaching them separately. In PROMISED, students use ideas and skills from different areas to explore real problems and find creative solutions. The goal is to help them see how knowledge works together in real life.
- **b.** **CLIL (Content and Language Integrated Learning):** CLIL means teaching subject content through a foreign language. The goal is not just to learn the language, but to use it as a tool to understand and communicate ideas. From this approach, students achieve an optimal level of cultural understanding, linguistic diversity is considered, and it is an attempt to overcome the limitations of traditional teaching by integrating the curriculum. According to Coyle et al. (2010), one of the most basic considerations is that there should be a balanced treatment among four key areas, which are: a) content, b) communication, c) cognition, and d) culture (see Figure 1). In PROMISED, students build subject knowledge while developing their communication skills through what is known as the language triptych, which includes language for learning, language of learning, and language through learning (see Figure 2).
- **c.** **Storytelling:** serving as the starting point of each unit, storytelling introduces meaningful connections through a graphic novel or comic. Instead of starting with abstract explanations, students begin by reading a visual story that presents a relatable situation connected to the central challenge. This narrative trigger helps them understand why the topic matters, creates emotional engagement and supports comprehension. The story acts as a unifying thread that connects inquiry, language development and subject content throughout the unit, giving coherence and purpose to the entire learning process.

All of these general approaches are combined with active methodologies that guide how content is explored in each unit, such as inquiry-based science education (IBSE), the teaching of social knowledge and history through a problem-oriented and action-based approach, modelling,
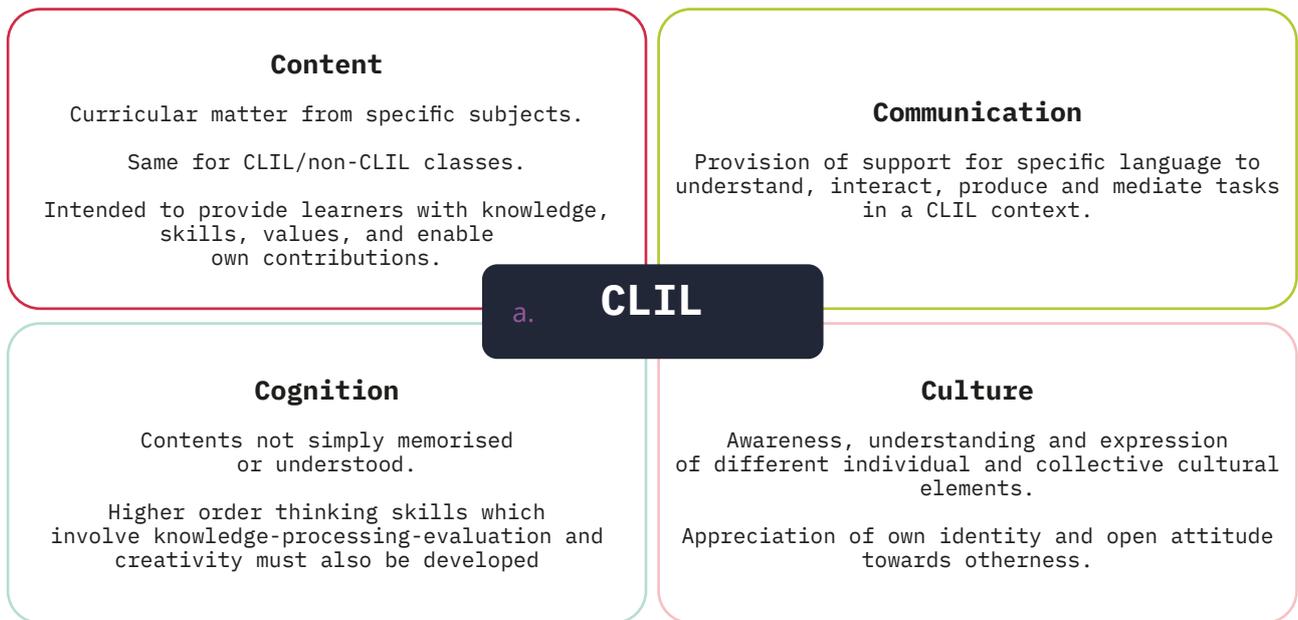
Content

Curricular matter from specific subjects.

Same for CLIL/non-CLIL classes.

Intended to provide learners with knowledge, skills, values, and enable own contributions.

Communication

Provision of support for specific language to understand, interact, produce and mediate tasks in a CLIL context.

a. **CLIL**

Cognition

Contents not simply memorised or understood.

Higher order thinking skills which involve knowledge-processing-evaluation and creativity must also be developed

Culture

Awareness, understanding and expression of different individual and collective cultural elements.

Appreciation of own identity and open attitude towards otherness.

Figure 1
Foundations of CLIL and the 4Cs Model

Language for Learning

Language skills and functions that students need to participate effectively in classroom activities. It includes the language needed for tasks such as asking questions, collaborating with peers, and conducting experiments.

Language of Learning

Specific vocabulary and grammatical structures that students need to understand and engage with the content of the lesson.

Language Through Learning

Language that students develop as they engage with and reflect on the content. It is the emergent language that arises from the learning process itself.
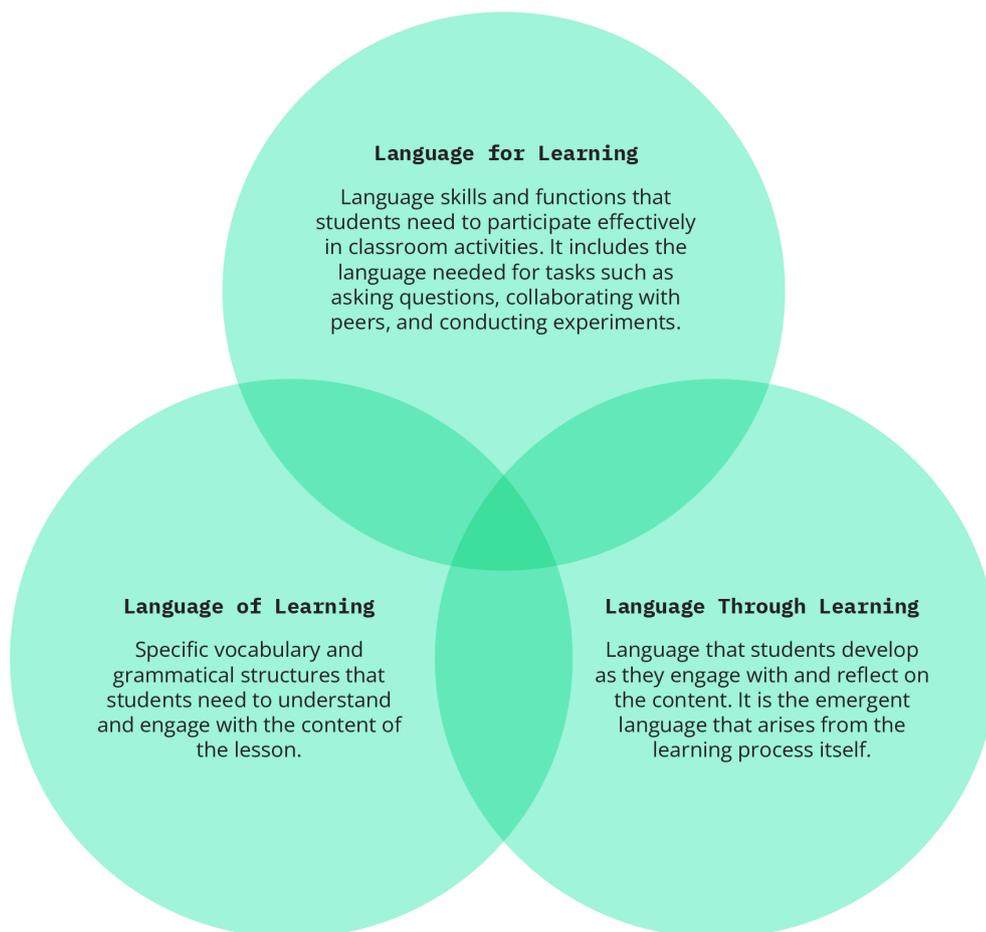
Figure 2
Language triptych: language of, for and through learning.

engineering design methodology, design thinking, and coding. These methodologies are integrated into the learning process to foster autonomy, engagement and interdisciplinary thinking.

In addition, PROMISED integrates a set of cross-cutting concepts that help students connect knowledge across disciplines, especially within STEAM and the social sciences. These concepts encourage learners to identify patterns, understand causes, analyse systems and think critically. The core concepts include: patterns, cause and effect, scale, proportion and quantity, systems and system models, energy-matter flows, structure and function, and stability and change.

For a full description of each methodology and the crosscutting concepts, see PROMISED Pedagogical Framework.
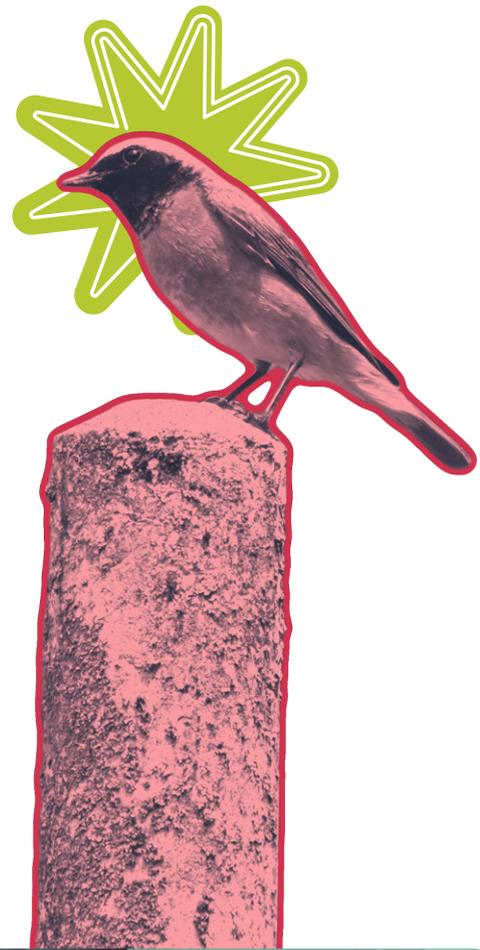
CORE RECOMMENDATIONS

All the elements presented in this unit are intended as flexible guidelines, not fixed prescriptions. Teachers are not expected to follow every step exactly as written. Instead, the activities, materials and structure are designed to be adapted to the specific needs of each group, school context and teaching style. The proposals serve as a framework to inspire meaningful teaching and learning and can and should be adjusted as necessary. What truly matters is that the core principles (interdisciplinary work, active methodologies, and real-world relevance) remain central. To ensure effective integration, it is essential that all participating teachers reach a shared agreement on objectives, key contents, and timing. Without coordination, there is a risk of teaching each subject in isolation and simply combining outcomes at the end. True curricular integration happens when all disciplines contribute in a coherent, connected way throughout the process.

This integration includes joint evaluation, which is not done separately in each subject but designed collaboratively. Teachers agree on common assessment criteria and tools, making sure that students are evaluated on what they produce and learn across the whole project—not just in one area. This allows for a more holistic understanding of student progress and reinforces the idea that the work is genuinely interdisciplinary.

CLIMATE UPRISING

LVL 1

1. SUBJECTS

Level 1 with the integration of:

✳ *Social Sciences: geography*

✳ *L2*

Book: *Sunakay,* by Meritxell Martí and Xabier Salomó.

This unit is designed for learners of Spanish at A2–B1 levels of the Common European Framework of Reference for Languages, with the possibility of progression towards level B2. In addition, it is aligned with the curricular contents of Social Sciences and with the students' competence level. However, it can easily be adapted to other educational levels, with more guided and simplified activities for younger groups, or with deeper research and critical analysis tasks for older students. In this way, the proposal maintains a flexible and versatile character that allows its implementation across different educational stages.

2. PROJECT GOALS AND LEARNING

Scientific and environmental understanding
- To understand the real impact of marine pollution at a global level.
- To reflect on the importance of environmental conservation and our role in this process.
- To analyse the relationship between harmful substances and ocean ecosystems.
- To discuss the influence of human actions on natural disasters.

Information search and analysis
- To formulate hypotheses and evaluate scientific information.
- To research geographical coordinates, tectonic plates and real data about tsunamis.
- To compare sources and distinguish between factual information and dystopian fiction.

Oral and written comprehension and production (L2)
- To understand general and specific information in oral and written texts about marine pollution.
- To prepare and deliver oral presentations.
- To design a coherent graphic novel in L2.
- To use structures to describe, argue, debate and formulate hypotheses in L2.

Artistic and creative expression
- To create a graphic novel based on the universe of *Sunakay*.
- To design dystopian images based on catastrophic scenarios.
- To produce a poster with aesthetic and communicative intent.

Digital competence
- To share content and collaborate using digital tools.
- To search for, filter and evaluate information using AI tools.
- To create digital content using generative AI.
- To protect personal data and privacy in digital environments.

Critical thinking and reflection
- To evaluate the credibility of dystopian scenarios from a scientific perspective.
- To reflect on how to prevent environmental catastrophes.
- To identify implicit messages and visual metaphors in graphic narratives.

Cooperative learning
- To collaborate actively in the planning and creation of the comic.
- To improve language skills through cooperative tasks.
- To develop the ability to work effectively and respectfully with classmates during group work.
- To express and defend one's own ideas in a reasoned way, valuing different points of view in discussions and debates.

Final product
- A group dystopian graphic novel and its promotional poster.

3. SDGs
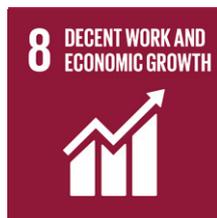
Discover the SDGs:

4. CROSSCUTTING CONCEPTS

Cause and effect: mechanism and explanation

Students analyse how certain human actions (such as marine pollution, deforestation or urban development in high-risk areas) can worsen or even trigger natural disasters. Throughout the unit, this concept is addressed by researching real tsunamis, reflecting on the impact of harmful substances on the ocean, and representing, in their graphic novels, scenarios in which human intervention has direct consequences for the balance of the planet.

Stability and change

The project invites reflection on how ecosystems, societies and urban environments can be transformed either suddenly or progressively due to natural or human factors. Through the analysis of real cases and the creation of dystopian worlds, students identify elements that alter the stability of a system and propose possible responses to change. This idea is embodied in the graphic narratives, which show the "before" and "after" of a catastrophe.

Patterns

Students identify visual, thematic and structural patterns both in comics from different cultures and in the natural phenomena studied. Work is done on detecting similarities in the effects of pollution, in the emotions elicited by images of disasters, or in the way dystopian narratives address environmental degradation. This concept reinforces the understanding of regularities across different contexts.

Scale, proportion and quantity

This concept is addressed by comparing disasters in different parts of the world and by analysing real data on their magnitude and consequences. Students locate geographical points, interpret maps and become aware of how a small human action can have a large impact. They also reflect on the proportion between causes and effects in ecological and social contexts.

5. SKILLS

This concept is addressed by comparing disasters in different parts of the world and by analysing real data on their magnitude and consequences. Students locate geographical points, interpret maps and become aware of how a small human action can have a large impact. They also reflect on the proportion between causes and effects in ecological and social contexts.

5.1 STEAM SKILLS

This unit integrates STE(A)M competences (Science, Technology, Engineering, Arts and Mathematics) in order to foster critical thinking, problem solving and creativity. Through inquiry-based learning and the creation of a dystopian graphic novel, students develop the following skills:

- *Asking questions and defining problems:* identifying the human causes that worsen natural disasters and formulating meaningful questions about the environmental impact of our actions.
- *Planning and executing research:* collecting data, interpreting sources and producing visual representations based on the analysis of real tsunamis, the use of geographical coordinates and the study of the Sunakay case in order to better understand natural phenomena.
- *Analysing, predicting and interpreting data:* using scientific reasoning to explain how human factors can trigger or intensify catastrophes, and to anticipate their consequences in different contexts.
- *Mathematical reasoning and algorithmic thinking:* working with magnitudes, coordinates, scales and interactive maps, and using strategies of location, comparison and quantitative interpretation.
- *Argumentation based on data and evidence:* defending ideas based on research, connecting real data with dystopian scenarios, and proposing sustainable solutions or reflections.
- *Developing and using models:* creating graphic and narrative representations to explain natural and social phenomena.
- *Building statements (for science) and designing solutions (for engineering):* generating creative and visual alternatives in the graphic novel and the poster.
- *Collecting, evaluating and communicating information:* developing multiple forms of scientific, oral and visual communication, and conveying conclusions clearly, coherently and creatively through the graphic novel, presentations or debates.

5.2 DIGITAL SKILLS

In the current context, technology plays an essential role in learning, research and content production. This unit therefore incorporates the development of the following digital skills:

- *Information and data literacy:* searching for, selecting and evaluating information from geographical, scientific and audiovisual sources. Through the use of maps, coordinates and online resources, students develop a critical perspective on the reliability and relevance of the data used.
- *Digital communication and collaboration:* exchanging ideas, formulating hypotheses and presenting results through collaborative tools and digital environments. Group work to design the graphic novel and to build dystopian scenarios using AI-based image generators fosters shared decision making.
- *Digital content creation:* designing visual and narrative materials such as graphic novels, posters and presentations, integrating graphic elements, text and social messages. These products are developed with teacher guidance and, when appropriate, with the support of the ICT coordinator, in order to ensure that students receive the necessary training in the digital tools used.
- *Problem solving using digital tools:* using artificial intelligence to generate images representing dystopian scenarios, refining prompts according to the results obtained and understanding how these tools work and their potential for representing complex situations.
- *Safety:* adopting responsible practices to protect personal data and privacy when using digital tools. Students reflect on the importance of properly configuring their accounts, recognising potential online risks and ensuring the safe use of information in the collaborative environments they use to create and share their productions. ducciones.

6.1. CLIL FRAMEWORK

6.1. 4C'S OF CLIL

4C	DESCRIPTION
CONTENT	• To study natural disasters, with a particular focus on tsunamis and their social and environmental impact. • To analyse the human causes that worsen these phenomena. • To create a dystopian graphic novel based on the picture book Sunakay. • To apply knowledge from Geography, Social Sciences, Environmental Studies and ICT.
COGNITION	• To develop critical thinking through questions such as "Can human action make a tsunami worse?". • To formulate hypotheses and argue using evidence in debates and projects. • To plan, analyse, synthesise and communicate information in different formats (oral, written and visual). • To design a graphic story collaboratively with a clear narrative structure.
COMMUNICATION	• To use the L2 (Spanish) to describe images, debate the causes of disasters, present hypotheses, narrate through comics and create posters. • To express opinions, emotions and arguments (using functional language and verb tenses). • To collaborate in group projects using digital tools, presentations and debates. • To create communicative products: comics, oral presentations, booktrailers, posters, etc.
CULTURE	• To explore comics from other cultures (Iran, Japan, Colombia, etc.) in order to reflect on diversity and cultural perspectives. • To connect the project with the SDGs, especially SDG 13 (Climate Action). • To reflect on the perception of disaster and sustainability from different cultural perspectives. • To analyse cultural symbolism in Sunakay and in the students' own productions.

CONTENT: It is essential to guide students to understand that a tsunami is not only a natural disaster, but also a phenomenon whose social consequences largely depend on human management. Encourage students to investigate the relationship between the degradation of coastal ecosystems and mass urban development in the increase in mortality in this type of natural disaster. The aim is for them to identify the human factor as a determining element in the consequences of these catastrophes.

COGNITION: Provide students with a scientific text and ask them to read it and extract its most relevant ideas. The challenge is to transform this information into a newspaper article, a podcast, or a television programme.

COMMUNICATION: Bring different images of natural disasters to class and invite students to observe them and describe what they see. You can encourage them to research the meaning of any words they do not know. They can then create a glossary including specialised vocabulary related to these topics.

CULTURE:

PERSÉPOLIS

AMAZONA

6.2. THE LANGUAGE TRIPTYCH

Language of Learning (Vocabulary)

Students need to understand and use this vocabulary in order to access the content:

- *Environment and natural disasters:* tsunami, earthquake, hurricane, drought, volcanic eruption, landslide, resource scarcity, pollution, waste, biodiversity, sustainability, tectonic plate, epicentre, magnitude, aftershock, early warning, catastrophe, evacuation, risk, environmental impact.
- *Geographical coordinates:* latitude, longitude, hemisphere, location, map, ocean, continent.
- *Literary and graphic language:* panel, speech bubble, visual metaphor, text layout, illustration, narrative rhythm, development, climax, resolution.
- *Dystopian vocabulary:* post-apocalyptic setting, exclusion zone, submerged city, ruins, survival, collapse, shelter, uncertain future.

Language for Learning (Processes)

Functional language needed to take part in tasks:

- *Formulating hypotheses:* "If humans keep polluting…, then…", "Our hypothesis is that…".
- *Observing and describing natural phenomena:* "A great deal of destruction can be observed on the coast…", "The tsunami was caused by an underwater earthquake…".
- *Comparing and analysing data:* "In this graph we can see that…", "By comparing the consequences of…, we can conclude that…".
- *Writing reports or conclusions:* "The results show that…", "After researching, we conclude that…".
- *Expressing opinions:* "I think that…", "In my opinion…", "From my point of view…".
- *Debating and comparing:* "In comparison with…", "However…", "Whereas…".
- *Collaborating:* making suggestions, asking questions, answering, agreeing, negotiating roles.
- *Structures for the comic:* narration in the first and third person, appropriate use of present and past tenses, exclamations and emotional expressions.

Language through Learning (Incidental Language)

Language that students acquire naturally through interaction with authentic materials:

- New expressions that emerge from Sunakay, videos, debates or comics from other countries.
- Complex narrative structures, visual metaphors and symbolism.

- Emerging vocabulary through digital tools (AI, online dictionaries, peer feedback).
- Use of set phrases or spontaneous connectors when discussing ideas.

7. UDL

Applying UDL to this unit based on *Sunakay* involves ensuring access, participation and expression of learning for all students, taking into account their different learning styles, language levels and working paces. Through comics, natural disasters and dystopia, the unit offers a context rich in images, emotions and functional language, which is ideal for applying the three principles of UDL: multiple means of engagement, representation and expression. For this reason, the use of the following strategies is recommended:

- *Constant visual support:* use of maps, images, diagrams, booktrailers and vocabulary cards to facilitate the comprehension of environmental and narrative vocabulary.
- *Structured and modelled language:* providing sentence frames, connectors and useful expressions to formulate hypotheses, opinions and arguments in both oral and written tasks.
- *Flexibility in production:* allowing students to express their understanding through drawings, comics, digital models, dramatizations, recordings or mind maps, not only through written texts.
- *Complementary cooperative work:* forming groups with diverse profiles in order to foster peer learning (for example, pairing students who are strong in visual work with those who prefer writing).
- *Tiered tasks:* in the creation of the comic, some students may focus only on a key scene or use templates with pre-designed panels if needed.
- *Specific support for students with special educational needs:* use of pictograms, guided reading of texts, the option to record oral answers instead of writing, or the use of screen readers and subtitles in videos.

These measures are integrated into the different phases of the unit. For example, in graphic creation or oral expression tasks, different levels of visual and linguistic support will be provided, allowing each student to find an appropriate way to communicate their learning. In this way, full and equitable participation is encouraged from the beginning of the creative process to the final reflection, ensuring that all students take an active part.

8. MAIN TEACHING METHODOLOGIES

This unit is mainly based on *inquiry* applied to Social Sciences, and also incorporates *modelling* and *design thinking* (see more in the PROMISED theoretical framework).

9. ASSESSMENT

Assessment in this unit is carried out continuously and flexibly, adapting to the needs and characteristics of each group. It focuses on both the learning process and the final outcomes, evaluating content mastery, use of the target language, and the development of transversal skills. The following strategies and tools are proposed:

The following strategies are proposed as general recommendations and can be adapted to suit the specific context of each classroom:

- *Systematic observation:* teachers are encouraged to observe student perfor-mance throughout the unit, paying atten-tion to task completion, work organisation, participation in group activities, and the use of English in context. This informal obser-vation provides valuable insights into students' engagement, autonomy, and collaboration.
- *Rubric-based evaluation of final products:*

rubrics can be used to assess students' final outputs, focusing on scientific accuracy, clarity of communication, feasibility of solutions, and effective use of L2 (including language accuracy, task-appropriate structures, and subject-specific vocabulary). It is advisable to share the rubrics with students in advance (see Appendix B).

- *Self-assessment:* students reflect on their own learning, identifying strengths and areas for improvement in collaboration, language use, and task completion. Tools such as reflection sheets or digital prompts may support this process (see Appendix C).
- *Peer assessment:* each student evaluates their own participation and that of their teammates using a shared rubric focused on collaboration, commitment, and indi vidual accountability. This strategy promo tes responsibility, empathy, and critical thinking, while helping to ensure a fair distribution of tasks (see Appendix D).

10. DESCRIPTION OF THE SEQUENCE OF ACTIVITIES

The following table presents the structure of the teaching sequence, organised into three main phases linked to the process of creating a graphic novel: before the creation of the graphic novel, during the creation of the graphic novel, and after the creation of the graphic novel. These phases are visually distinguished by thick vertical lines to facilitate their identification and follow-up.

Each activity includes an estimated duration and specifies the subjects involved. For greater visual clarity, a colour-coding system has been used:

Social studies activities are marked in **pink**.

Foreign language activities (Spanish as an L2) are marked in **green**.

Activities	1.1	1.2	2.1	2.1	3
Duration (mins)	45	45	45-55	45-55	45-55
Natural Science					
L2					

- Before starting the unit, it is essential for the teachers involved (for example, social studies and foreign language) to meet in order to coordinate the sequencing of activities, the distribution of responsibilities, and the role that each subject will play in the assessment process. Clarifying who will lead each task and agreeing on shared objectives helps to ensure coherence and smooth implementation. Whenever possible, adopting a co-teaching approach (either through joint sessions or complementary classes) will foster didactic coherence, mutual support, and richer interdisciplinary learning.

- These guidelines are completely flexible and should be adapted to the needs and specific pace of each group. Teachers may select and prioritise the activities that best suit their students, choosing as many as they consider necessary or appropriate.

4.1	4.2	4.3	4.4	5	Final Project
40-50	50-60	55-65	40-50	45-55	45-55

10.1. ACTIVITIES BEFORE THE CREATION OF THE GRAPHIC NOVEL

ACITIVITY 1

ACITIVITY 1.1 ✳ (45)

MATERIALS

Sunakay picture book (printed or digital)

Projector or digital whiteboard

Notebook or worksheet to take notes and structure ideas

List of narrative connectors

Table of expressions to give opinions (such as the one provided in the handout)

STEPS

First look at *Sunakay*

Students carefully observe the cover of the picture book Sunakay, projected on the board or shown in print. On the basis of a series of guiding questions, they formulate hypotheses about the content of the book. They imagine the setting in which the story takes place, who the protagonists are, what role the ocean or the environment plays, and what the main conflict might be. First, they reflect individually, then they exchange ideas in pairs, and finally they share their interpretations with the whole class. The questions guiding their observation are:

- *What is the picture book about?*
- *Where do you think this story takes place? What is it like?*
- *Is there any human figure on the cover? Who do you think they are? How are they dressed?*
- *What do you think "Sunakay" might mean? Is it a place, a person, a city?*
- *What colours appear on the cover? What feeling do they convey?*
- *What problem seems to be central to the story?*
- *Does this cover represent the real world? What current issue does this picture book address?*

TIPS FOR TEACHERS

- Before starting, activate visual and environmental vocabulary by projecting an image of the cover and asking aloud: *What can you see? What is in the background? And in the foreground?*
- Provide a visual list with model expressions on the board: *At the top there is…, On the left you can see…, It seems that…, Maybe it is a city…*
- Model a hypothesis aloud with an example: *I think these girls are alone because the environment looks destroyed.* Then invite the students to build their own hypothesis using *I think / It seems to me that / It is possible that…*
- Briefly introduce the use of the periphrasis be + -ing with visual examples: *The girls are sailing, They are looking for something in the sea.* You can show illustrations from the book to help make the connection.

To facilitate description, visual analysis and the formulation of hypotheses, students are provided with a visual organiser containing key expressions and organised language categories. This resource acts as linguistic support (scaffolding) and guides their oral and written production in the foreign language.

This organiser helps them to structure their ideas and to use formulae such as:

At the bottom there is… / On the left you can see… / It seems that they are running away… / Maybe they are heading towards…

In addition, it allows them to incorporate lexical elements related to the environment, emotions, figures and actions, thus expanding their communicative competence in L2 from the very beginning of the project.

TIPS FOR TEACHERS

- Use a simple template to organise observation:

VISUAL ELEMENT	OBJECTIVE DESCRIPTION	HYPOTHESIS
Human figure	Two girls in the centre	Maybe they are sisters

- Invite students to compare their hypotheses in pairs before sharing them with the whole group in order to create a safe environment.

ACITIVITY 1.2 ❋ (45 ,)

MATERIALS

Sunakay picture book (printed or digital)

Projector or digital whiteboard

Notebook or worksheet to take notes and structure ideas

List of narrative connectors

Table of expressions for giving opinions (such as the one in the link provided)

STEPS

TIPS FOR TEACHERS

- Use the book trailer as a resource to validate or question the hypotheses formulated in the previous activity. Before playing it, ask the question: What do you think we are going to confirm? What might surprise us?
- Do a first complete viewing without interruptions. Ask the students **not to take notes yet**, but simply to watch and let themselves be carried by the images, the sound, and the atmosphere. This helps to foster a more global and emotional understanding.

Taking *Sunakay* apart

After a comprehensive reading of the whole picture book, students reconstruct the sequence of the story by identifying the beginning, the middle and the ending. To do so, they use appropriate narrative connectors (for example: This is the story of..., Then..., Finally...). Next, they carry out a visual analysis: they describe the emotions conveyed by the illustrations, interpret the use of colour, analyse the characters' gestures, and assess the role of images in the construction of meaning. They reflect on the natural disasters represented, such as the tsunami, and discuss the relationship between ocean pollution and the effects of the disaster. The questions guiding this phase are:

- *What emotions do the images convey to you?*
- *What meaning do you think the colours have?*
- *What do you think of the two protagonists? What are their facial expressions like?*
- *How important are the images in the story? Are they relevant?*
- *What natural disaster can be observed in this picture book?*
- *Do you think that the fact that the ocean is polluted influences the effects of the tsunami?*

To close the activity, students share their answers and take part in a short discussion with their group.

- For the second viewing, hand out a table with key sections. For example:

MAIN CHARACTERS	SETTING	WORDS OR IDEAS THE VIDEO SUGGESTS TO ME

  This helps to guide attention and facilitates the structured collection of information.
- Provide a vocabulary bank that students can use during or after the viewing:
  - *Pollution, waste, destruction, hope, species, save, protect, sea, city, disaster, life, rebirth…*
  - Add emotions and environmental adjectives: *desolate, dull, dirty, clean, bright, devastated…*

- Suggest an active comparison at the end:
  - Which hypotheses you made when looking at the cover are confirmed by the video? What have you discovered now that you had not imagined before?
- If the group has sufficient digital competence, offer the possibility of taking notes directly in a collaborative tool (such as Padlet, Jamboard or Canva), thus fostering cooperative work and the creation of a digital concept map.
- Encourage students to use structures such as:
  - *I think that… / In my opinion… / It seems to me that… / From my point of view…*
  - *Maybe… / Perhaps… / It is possible that…*
  - *They are sailing / they are exploring / they are running away… (use of be + -ing).*

SKILLS DEVELOPED IN THE ACTIVITY 1.1 Y 1.2:

STE(A)M skills:
- Asking questions and defining problems
- Analysing, predicting and interpreting data
- Developing and using models
- Collecting, evaluating and communicating information

Sustainability skills:
- Systems thinking
- Futures thinking
- Values thinking

- Collaboration
- Integrated problem-solving

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

ACITIVITY 2

ACITIVITY 2.1 ✳ (45-55')

MATERIALS

Sunakay picture book (printed or in digital format, at least the illustration of the tsunami)

Real photographs of tsunamis (searched by the students or previously selected)

Informative text about the Indian Ocean tsunami (on paper or projected)

Class notebook or note-taking template

Board or screen for whole-class sharing

Access to devices with an internet connection

STEPS

Natural disasters – What if it were you?

Students investigate the phenomenon of tsunamis by combining real images, illustrations and scientific sources. They begin by searching the internet for photographs of recent tsunamis, which they then compare with the illustrations from the picture book Sunakay. They carefully observe both visual sources and analyse their differences:

- *Which image conveys a greater sense of destruction?*
- *Which one seems more apocalyptic to them?*
- *What effect does seeing an illustration rather than a real photograph have on their perception of the disaster?*
- *What other natural disasters do they know?*
- *Do they think that human action has influenced the magnitude of its consequences?*

Next, the students read a short informative text about the Indian Ocean tsunami that occurred on 26 December 2004. They underline the most striking facts and answer key questions that help them process the information:

- *How many people died?*
- *Why is it considered one of the most severe disasters in history?*
- *What consequences did it have for coastal populations?*

- Before reading the informative text, prior knowledge can be activated by asking: *What do you know about the 2004 tsunami? Have you heard about Southeast Asia or Indonesia?*
- To contextualise the reading, it is useful to project an image of the affected area and point out the most severely damaged countries. This can also be expanded with this National Geographic article, which is accessible and highly visual:

- If you wish to work on other natural disasters (such as wildfires or volcanic eruptions), this session can be extended as a cross-curricular introduction to natural phenomena, as long as it fits within the planning.
- To ensure linguistic accessibility, it is advisable to review key technical vocabulary beforehand (epicentre, magnitude, wave, coast, devastation, etc.) and to provide a visual glossary if necessary.
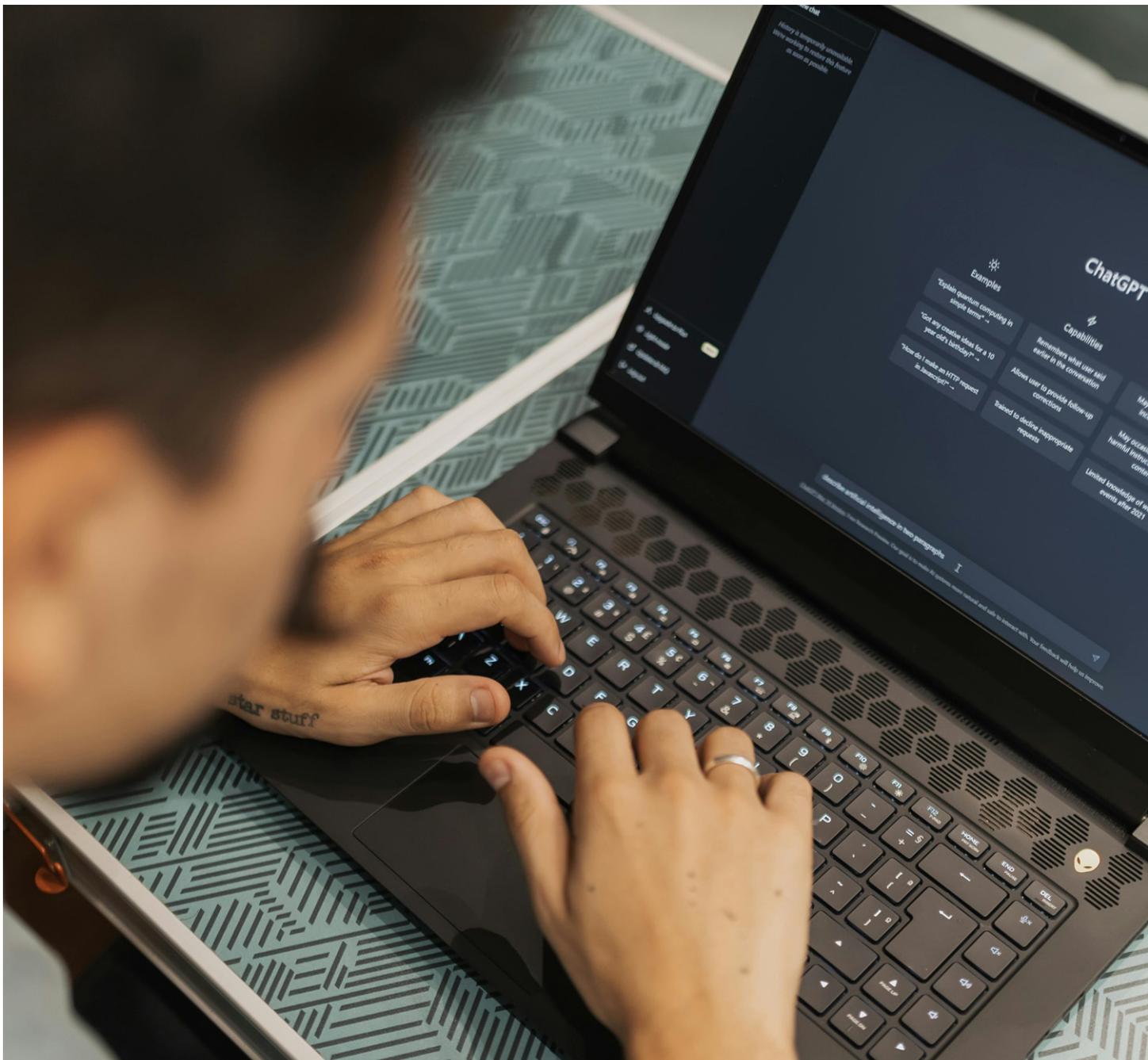
- Before working with interactive maps, it is advisable to review the basic concepts of physical geography. You can project a simple definition of a tectonic plate such as this:
  - *A tectonic plate is a large rigid portion of the lithosphere that moves over a more flexible layer. Its movement can cause earthquakes, volcanoes and tsunamis.*
  - This can be reinforced with an animation or a visual diagram showing plate movement and its relationship with the Earth's relief.
- Accompany the work with coordinates with a short prior demonstration of the search process in Google Earth or in the web viewer. Make sure that students recognise terms such as latitude, longitude, hemisphere, and exact location.
- These three NOAA links allow students to work on advanced skills related to the interpretation of geographical and chronological data:
  - Tsunami travel time calculator
  - Tsunami time lapse since 1850
  - It is recommended to project them collectively before allowing students to explore them independently.

MATERIALS

Devices with internet access (one per pair or per student)

Access to *U.S. Tsunami Warning Centers, Natural Hazards Viewer and Google Earth* or an alternative geographic coordinate viewer

Physical or digital map of tectonic plates (optional)

Location and research worksheet (printed or editable)

Board or wall display for group presentations

STEPS

Maps that speak: coordinates, causes and consequences

Students access the official tsunami warning website:

There, they explore the interactive map, locate recent earthquakes, and click on the green symbols to check the exact location and their geographical coordinates. This allows them to observe in real time the global distribution of seismic activity.

Students then contrast this information with the tectonic plates map available at:

Through this comparison, they reflect on the relationship between earthquakes and plate boundaries:
- *Is there any relationship between the location of earthquakes and tectonic plates?*

Next, they work with geographical coordinates to locate two specific points on the planet:
- *A. Latitude: 3° 17′ 42″ N | Longitude: 95° 58′ 55″ E*
- *B. Latitude: 44° 37′ 59″ N | Longitude: 63° 34′ 59″ W*

They enter both coordinates into Google Earth or the natural hazards viewer and find out which country they are in, the name of the locations, and what type of catastrophe occurred there. Afterwards, they investigate the following aspects:
- *What natural disaster took place?*

- *In what year did it happen?*
- *What was the main cause of the phenomenon?*
- *What damage did it cause in terms of victims, infrastructure and the environment?*

Finally, students connect geographical and environmental content with their own experience and view of the world. Through critical reflection, they consider their role as citizens in the face of natural disasters:

- *Do they know any example in which human action has been decisive, either by causing the disaster or by worsening its effects?*
- *How would they have acted if they had been in one of those situations?*
- *Do they think we are better prepared today to face a catastrophe of this kind? Why?*

They share their answers in small groups and then take part in a whole-class discussion where different perspectives are presented. This activity not only helps them to understand the impact of natural disasters, but also to develop critical awareness and a commitment to the sustainability of the planet.

- To broaden the critical reflection on the relationship between disasters and human action, the historical example of the Halifax disaster (1917) can be introduced, documented here:
  - This makes it possible to contrast natural and human-made catastrophes.
- Teachers may offer the option of presenting the research either orally (a mini presentation, a short talk) or in writing (a report, a diary entry).
- It is recommended to close the activity with a short debate on the influence of human action on natural disasters and its connection with the SDGs (especially SDG 13: Climate Action).

TIPS FOR TEACHERS

SKILLS DEVELOPED IN ACTIVITIES 2.1 AND 2.2:

STE(A)M skills:
- Asking questions and defining problems
- Planning and executing research
- Analysing, predicting and interpreting data
- Mathematical reasoning and algorithmic thinking
- Developing and using models
- Collecting, evaluating and communicating information

Sustainability skills:
- Systems thinking
- Futures thinking
- Values thinking
- Strategic thinking
- Collaboration
- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation
- Problem-solving with digital tools

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

✳ ACITIVITY 3

- The images generated by the groups can be printed and hung on the classroom walls to create a visual exhibition.
- Organise an observation activity in which students visit the images created by their classmates and write on three post-its:
  - A noun that expresses the emotion the image produces in them (*sadness, fear, hopelessness…*).
  - The cause or human factor they think has caused or worsened the disaster.
  - A short slogan to prevent this type of event from happening.
- Each group sticks their three post-its on each image, creating a collective composition with the impressions of the rest of the class.
- At the end of the activity, organise a whole-class discussion to comment on:
  - The most frequently mentioned emotions.
  - The most commonly identified causes.
  - The most effective or creative slogan for each image.
- An informal vote can be held to choose the most powerful slogan of the exhibition or the image that has had the greatest impact on the group.

MATERIALS

Devices with an internet connection (one per group)

Access to an AI image generation tool (Craiyon, DALL·E, Bing Image Creator, etc.)

Access to ChatGPT or another AI tool to formulate and refine prompts

Class notebook or template to write down key ideas before generating the image

Guideline sheet with useful expressions to describe scenes (position, state, action, weather, environment, etc.)

Projector or digital whiteboard

Optional: presentation tool (Canva, PowerPoint, poster paper, etc.)

STEPS

Dystopian future

Students explore the concept of dystopia through the universe of *Sunakay*, which presents a possible, though devastating, future. Using this reference, they reflect as a group on what a dystopian society is and how it is represented visually. They discover that a dystopia is the opposite of a utopia: a vision of the future marked by destruction, suffering, or the loss of humanity.

In groups, they design an image of a dystopian scenario generated with artificial intelligence (such as ChatGPT or an image generator). In order to achieve a good result, they must formulate the prompts correctly, experiment with different attempts, and make adjustments if necessary.

Each group decides on the essential elements of their scene:

- The type of setting where the image takes place: city, beach, mountain, classroom, stadium, etc.
- The natural disaster that occurred previously: tsunami, fire, hurricane, landslide, etc.
- The human factor that caused or worsened the catastrophe: a lit cigarette butt, illegal construction, deforestation, pollution, etc.

- A detailed description of what they want to appear in the image: the state of the environment, the presence or absence of people, the atmosphere, the colours, the objects, etc.

After generating the image, students analyse it and prepare a short oral or written presentation in which they explain:
- What they have represented.
- Which elements they have chosen and why.
- How their image relates to the idea of dystopia.
- What message they want to convey.

Throughout the process, they collaborate to refine their ideas, revise their vocabulary, and use appropriate structures to describe scenes in Spanish. This activity allows them to develop their creativity while reflecting critically on the future of the planet and the impact of human action.

STE(A)M skills:
- Asking questions and defining problems
- Developing and using models
- Collecting, evaluating and communicating information
- Argumentation based on data or evidence
- Building statements and designing solutions

Sustainability skills:
- Futures thinking
- Values thinking
- Strategic thinking
- Collaboration
- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation
- Problem-solving with digital tools

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

10.2. ACTIVITIES DURING THE CREATION OF THE GRAPHIC NOVEL

ACITIVITY 4

ACITIVITY 4.1   40-50'

MATERIALS

Worksheet or notebook

Template to structure characters, setting and conflict

List of natural disasters (printed or projected)

Board

STEPS

The seed of the story

Students work in groups to shape the main idea of their own dystopian graphic novel. They take the universe of *Sunakay* as inspiration to create an original story that takes place after a natural disaster. First, they review the possible types of catastrophes (hurricanes, fires, droughts, earthquakes, etc.) and choose which one will be the central focus of their story. From there, they design the setting, define the protagonists, and reflect on the challenges they will have to face.

Each group creates a complete narrative outline that will serve as the basis for their comic. At this stage, they make collaborative decisions about:

Introduction:
- *Who are the main characters?*
- *What are their names? What are they like (physically and psychologically)?*
- *Where is the story set? Is it a real place, an imagined one, or a place transformed after the catastrophe?*

Development:
- *What problem do the characters have to face as a consequence of the natural disaster?*
- *What obstacles do they encounter along the way?*
- *How do they manage to resolve (or fail to resolve) the situation?*

- Remind them that a graphic novel has a more extended development than a short comic. Encourage them to think of their story as a complete narrative with a closed ending.
- Before they develop the outline, present simple examples of graphic novels so that they can understand the rhythm and depth of these stories.
- Introduce the vocabulary related to natural disasters and dystopian settings. You can project it or hand it out as a support sheet.
- Provide a template to organise the narrative ideas: characters, setting, conflict, solution and ending.
- To make decision-making easier, suggest that groups start with a brief synopsis of their story before filling in the full outline.

Ending:

- *How does the story end?*
- *What do the characters learn?*
- *What message does the ending convey?*

Throughout the process, students share ideas, compare viewpoints, and use the linguistic structures practised in class to describe characters, settings, and actions. The aim is not only to organise information, but also to collectively imagine a coherent and meaningful story that reflects the consequences of natural disasters and the influence of human action on them.

Once the outline is completed, they present it to the teacher and their classmates in a short oral presentation, where they explain their narrative choices and receive suggestions before moving on to the scriptwriting phase.

ACITIVITY 4.2 ✳ (50-60')

STEPS

Storyboarding: from text to panel

Once the narrative outline has been defined, students transform their story into a script adapted to the graphic novel format. To do this, they review each part of their plot and turn it into a visual sequence made up of panels, dialogues and, if necessary, fragments of external narration.

Working in groups, students decide which moments of their story will be represented in each panel. They think carefully about what should appear in the image (characters, setting, actions, emotions) and about what the characters should say. They learn to combine text and image in a coherent and expressive way.

The work is organised as follows:

- Panel by panel, the groups write down:
  - *Visual description of the scene:* background, characters, positions, atmosphere, dominant colours, emotional state.
  - *Dialogue:* what the characters say in the speech bubbles. They make sure that each intervention makes sense in context and reflects the characters' personality.
  - *External narration* (if applicable): sentences outside the speech bubbles that help to contextualise the action, indicate a time jump or express inner thoughts.

The students distribute roles within the group (writing the dialogues, drafting the descriptions, checking the language) and work together to build a script that is balanced, clear and visually powerful. During this process, they apply their knowledge of Spanish as a foreign language to choose appropriate expressions, use verb tenses correctly and adapt the register to the communicative situation of each scene.

At the end, each group revises its script as if it were a small illustrated stage script and gets ready to turn it into actual panels in the next phase.

TIPS FOR TEACHERS

- Hand out a template with clearly separated spaces for panel description, dialogues and external narration.
- Work beforehand on typical comic structures: use of the present tense, expressions to show thoughts (I think that, I do not think that…), and time markers (suddenly, meanwhile, in the end…).
- Show a simple example of an annotated script in panel format:
  - *Panel 1: A forest. A sunny afternoon. A group is having a picnic.*
  - *Character 1 (thinking): "I do not think anything will happen…"*
  - *Narrator: "Something terrible will happen today…"*
- Remember that dialogues should be short, expressive and consistent with the character's personality.
- Check that the text inside and outside the speech bubbles makes narrative and grammatical sense.

ACITIVITY 4.3 ✳ (55-65')

MATERIALS

Blank paper or comic grid paper

Pencils, erasers, felt-tip pens or basic drawing materials.

Ruler or panel guideRuler or panel guide

Board

STEPS

The art of telling stories through images

With the script already written, the groups get ready to give their graphic novel a visual form. In this phase, they turn the text into images and plan the graphic composition of each page. The students design the first sketches, trying out different ways of arranging the panels, placing the characters and conveying emotions through drawing.

Each group makes collaborative decisions about:
- *How many panels to include on each page, taking into account the importance of each scene and the narrative rhythm.*
- *How to organise the space: they decide where to place the dialogues, facial expressions, gestures, key objects and background details.*
- *How to represent emotions: they think about which visual elements they can use to show fear, sadness, distress or hope in each situation.*

During the process, the students produce initial sketches that allow them to experiment with different versions. They draw by hand or digitally, depending on the resources available, and evaluate together which layout is the clearest, most expressive and visually appealing. They discuss aspects such as:
- Is the sequence of the story easy to follow?
- Do the panels reflect well what we wanted to show?
- Are there any elements that distract or that should stand out more?

This work fosters graphic creativity, but also visual communication, teamwork and strategic planning. Each group makes an effort to translate what they imagined and wrote in the previous script into images, seeking coherence between text and image and taking care of both the artistic and the narrative aspects.

At the end of the session, the students share their initial sketches with another group to receive a first round of comments and suggestions before moving on to the final version.

ACITIVITY 4.4 ✳ (40-50')

MATERIALS

Printed version of each group's comic or final script

Checklist or review rubric

Board

STEPS

Final Review

Once the groups have completed their panels and the layout of their pages, the students carry out a final review of their graphic novel. The aim is to improve the result from a linguistic, visual and narrative point of view. To do so, the students adopt a critical perspective on their own work, assessing the clarity of the texts, the coherence of the story and the expressiveness of the images.

They begin by reviewing the dialogues: they check whether they are understandable, whether they fit the characters' personalities and whether they use natural language. They also evaluate whether there are unnecessary repetitions or whether any speech bubble can be simplified or improved.

They then move on to the external narration, checking whether it is well placed, whether it provides useful information and whether it balances the rhythm of the story. They make sure that the reader can follow the sequence without confusion.

At a linguistic level, the students review:
- The correct use of the verbal periphrasis "going to + infinitive" and verb tenses (for example: but something bad will happen vs. but something bad is going to happen).
- The thematic vocabulary related to the chosen natural disaster.
- Grammatical and spelling structures, adapting them to the level of Spanish they are working on.

In addition, they observe whether the images adequately reflect the emotions, the setting and the events that build the story. They ask themselves:
- *Does the scene communicate what we wanted to tell?*
- *Is the relationship between text and image clear?*
- *Is there anything we could improve or redo?*

TIPS FOR TEACHERS

- Hand out a rubric or checklist with the elements they must review: clarity of dialogues, narrative coherence, and correct use of vocabulary and grammatical structures.
- Organise a peer review between groups: one group presents their comic and the other reviews it using the template.
- Pay special attention to the use of verb tenses, agreement and the vocabulary worked on (natural, technical or dystopian).
- Remind them that they can add narrative text outside the speech bubbles if necessary to clarify the action or reinforce the atmosphere.
- Encourage the group to decide together which changes to apply after the peer review.

Each group can use a rubric or a checklist to guide the review. Finally, they share their work with another group to carry out a peer review, where they receive constructive suggestions before considering their graphic novel finished.

This final stage reinforces the sense of authorship, shared responsibility and continuous improvement. The students thus close a complete creative process, from the conception of the story to the final production.

SKILLS DEVELOPED IN ACTIVITIES 4.1, 4.2, 4.3 Y 4.4:

STE(A)M skills:
- Asking questions and defining problems
- Planning and executing research
- Developing and using models
- Collecting, evaluating and communicating information
- Argumentation based on data or evidence
- Building statements and designing solutions

Sustainability skills:
- Systems thinking
- Futures thinking
- Values thinking
- Strategic thinking
- Collaboration

- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation
- Problem-solving with digital tools

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

✳ ACITIVTY 5

STEPS

TIPS FOR TEACHERS

- This activity aims to help students develop critical thinking by comparing the elements of their graphic novel with scientific, social and environmental reality. It is advisable to guide the reflection with questions such as: *Could this happen in the real world?, What makes it plausible or not?, Which part of the disaster is based on real facts?*
- To facilitate the analysis, it may be useful to provide a double-entry template with columns such as: *Story element, Is it scientifically possible?, Justification.*
- It is important to insist that this is not about penalising imagination, but about fostering a critical view of the boundary between fiction and possibility. Students should assess which aspects could be prevented if appropriate measures were taken, and which elements clearly belong to the realm of fantasy.

Final Review

Once they have finished their graphic novel, the students analyse whether the elements they have represented in their story could happen in a real future. They work in groups to identify the scientific, environmental, social and technological features that are part of the dystopian world they have created, from the type of natural catastrophe to its effects on society, technological advances or setbacks, the reaction of governments, or the behaviour of the population.

To begin with, they draw up a list of the main aspects present in their comic, organised by categories:

- *Scientific or environmental* (for example: sea level rise, scarcity of resources, desertification, toxic waste).
- *Social (for example:* forced migration, inequality, repression, lack of access to drinking water).
- *Technological* (for example: use of drones, underground cities, surveillance networks, survival technologies).

Then, each group reflects on the plausibility of each element. They discuss whether it is something that is already happening, whether it could happen in the future, or whether it is an unrealistic narrative device. They support their ideas with examples or prior knowledge from social sciences, natural sciences or geography.

They ask themselves questions such as:
- *Which elements of our story could really happen?*
- *Which ones already exist or are beginning to appear?*
- *Which parts have we exaggerated for narrative purposes?*
- *Do we think this situation could be avoided? How?*

Finally, they share their reflections and complete a double-entry chart in which they include:

    a. Which elements of our story could really happen?
    b. Which ones already exist or are beginning to appear?
    c. Which parts have we exaggerated for narrative purposes
    d. Do we think this situation could be avoided? How?

This activity helps them to better understand the relationship between fiction and reality, to strengthen their critical thinking, and to connect their artistic production with current scientific and social knowledge.

- This activity also makes it possible to introduce connections with the Sustainable Development Goals, especially in relation to human impact on natural disasters. You can encourage students to link their stories to real mitigation measures.
- If possible, this can be used as an opportunity to work with short popular-science resources (videos, infographics or simple articles) that show real examples of the prediction, prevention or management of natural disasters.

STE(A)M skills:
- Asking questions and defining problems
- Analysing, predicting and interpreting data
- Developing and using models
- Argumentation based on data or evidence
- Collecting, evaluating and communicating information

Sustainability skills:
- Systems thinking
- Futures thinking
- Values thinking
- Strategic thinking
- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

10.3. ACTIVITIES AFTER THE CREATION OF THE GRAPHIC NOVEL

45-55'

FINAL PROJECT

MATERIALS

Group's graphic novel

Cardboard or A3 paper and drawing materials (physical format)

Devices with internet access (digital format)

STEPS

Make everyone read your graphic novel!

Once the graphic novel is finished, students become the promoters of their own work. In groups, they design a poster that captures the audience's attention and summarises the spirit of the story. This poster simulates a launch campaign for their graphic novel and will be displayed in the classroom as the closing activity of the project.

Each group includes the following elements on their poster:
- *Title of the graphic novel:* it should be striking and reflect the dystopian theme.
- *Main image:* an illustration or a meaningful scene from the story or its characters.
- *Slogan or featured phrase:* a short tagline that arouses the reader's curiosity.
- *Additional information:* a fictitious publication date and the group's pen name.

The poster is designed in A3 format or digitally, taking care with the layout of the content, the use of colours, and aesthetic coherence with the narrative. The posters are presented orally in class or displayed as the final gallery of the project.

STE(A)M skills
- Developing and using models
- Formulate statements and design solutions.
- Collecting, evaluating and communicating information

Sustainability skills
- Futures thinking
- Values thinking
- Collaboration

Digital skills
- Digital communication and collaboration
- Digital content creation

Habilidades lingüísticas y AICLE (4Cs)
- Content
- Communication
- Cognition
- Culture

SAVING THE PLANET

1. SUBJECTS

Level 2 unit with the integration of:

✳ **Natural Science: Chemistry**

✳ **Arts**

✳ **L2**

Book: Sunakay, by Meritxell Martí and Xabier Salomó.

This unit is designed for secondary school students with a B1 level, with the possibility of extension towards B2 in more demanding tasks (such as debates or the writing of scientific reports). However, if the inquiry activities are simplified and the linguistic difficulty is adjusted, it can also be adapted for students with an A2 level, allowing them to take part in descriptions, short pieces of writing or visual posters with teacher support. In addition, they already have the necessary maturity to deal with content related to natural sciences, the environment and the foreign language at an intermediate to upper-intermediate level of competence.

If the research tasks are simplified and the linguistic difficulty is adjusted, it can also be used with younger students. In the same way, by expanding the inquiry activities or incorporating digital tools and more complex analyses, it can be adapted for higher grades. It is therefore a flexible proposal that can be applied in different European educational contexts depending on the level and autonomy of the group.

2. PROJECT GOALS AND LEARNING

Scientific and environmental understanding
- To investigate the impact of harmful substances on marine ecosystems using reliable sources.
- To explain the causes and consequences of marine pollution in local and global contexts.
- To relate natural phenomena and human activity on the basis of scientific evidence or verified data.
- To justify the importance of environmental conservation through evidence-based arguments.
- To propose individual or collective actions to reduce ecological impact.

Searching, analysing and managing information
- To formulate hypotheses about environmental issues using prior data.
- To search for, select and organise relevant information through the use of AI and digital sources.
- To evaluate the reliability of the information obtained, identifying biases and errors.
- To synthesise content from different sources in order to support one's own ideas.

L2
- To understand oral and written texts about marine pollution and its effects.
- To give clear and well-structured oral presentations about environmental problems.
- To write texts in the L2 using the subjunctive and past tenses correctly when talking about sustainability.
- To produce a comic strip in the L2 integrating text and visual narrative coherently.
- To argue ideas and formulate hypotheses in the foreign language using appropriate structures.
- To identify problems related to fast fashion and propose written solutions in the L2.

Artistic and visual expression
- To design visual scenes that represent dystopian scenarios related to environmental degradation.
- To communicate complex messages through visual and graphic resources in the graphic novel.

- To use images as a narrative tool with aesthetic and communicative intent.

Digital competence
- To search for and filter information online using digital tools and artificial intelligence.
- To create digital content such as presentations or graphics using generative AI tools.
- To share digital content while respecting safety and privacy rules.
- To collaborate on digital platforms in a safe, effective and respectful way with classmates.

Cooperative learning
- To collaborate effectively in the organisation and production of the group comic.
- To communicate one's own ideas clearly and respectfully during group tasks.
- To take an active part in shared decision-making.
- To adapt one's own behaviour in order to foster a positive working environment.
- To use the foreign language functionally to solve collaborative tasks.

Cognition and metacognition
- To analyse dystopian scenarios critically, identifying fictional and realistic elements.
- To interpret visual metaphors and implicit messages present in graphic narratives.
- To evaluate the decisions made during the creative process, proposing well-founded improvements.
- To identify one's own strengths and difficulties during the unit and adjust learning strategies.

Culture, values and citizenship
- To adopt an active and committed attitude towards global environmental problems.
- To value cultural diversity and different perspectives on sustainability.
- To identify the social and ethical consequences of consumption and pollution.
- To promote values of ecological justice and collective responsibility through the final work.

Final product
- Creation of a comic based on Sunakay. As part of the creative process, students will develop their own main characters, who will embody superheroes with powers related to environmental protection.

3. SDGS

4. CROSSCUTTING CONCEPTS

Cause and effect: mechanism and explanation

Students analyse the direct relationship between human actions (such as the excessive use of plastics, polluting emissions, or political inaction) and their consequences for the environment and health. This idea is addressed through multiple activities, ranging from the analysis of real images of pollution to the design of concrete solutions to ecological problems. It is also reflected in the use of conditional structures (if we all work together...) and in the development of the comics, where the eco-heroes respond to specific human causes. In this way, students understand that every human intervention generates effects, many of which can be prevented, reversed or transformed if action is taken with knowledge and responsibility.

Scale, proportion and quantity

Through inquiry-based activities, students develop the ability to quantify the pollution present in their environment. They compare levels of gases such as nitrogen dioxide (NO_2) or carbon dioxide (CO_2) with local, national or European reference values. By using automated sensors and homemade methods, they also reflect on the reliability and accuracy of the data collected. This approach allows them to understand that environmental problems have different dimensions (from local to global), and that small changes in pollution levels can have major consequences for health and ecosystems. In addition, the design of their graphic stories forces them to represent situations in which the magnitude of the problem is a key element of the narrative.

Stability and change

The unit invites reflection on how the environment is constantly changing due to human factors. The story told in *Sunakay* shows a world transformed by the accumulation of waste, where the stability of the ecosystem has been replaced by structural chaos. From this premise, students observe how their own actions, and those of their communities, contribute to altering or restoring environmental balance. In the scientific investigations, this concept is reinforced by measuring pollution and proposing measures to reduce it, showing that change is not only possible, but necessary. The graphic stories also represent transitions between degraded scenarios and alternative futures, thus reinforcing the transformative power of collective action.

Structure and function

During the phase of designing the eco-heroes, students directly relate the structure of each character to the ecological function they fulfil. Each superhero has a symbol, powers and physical traits aligned with their environmental mission: absorbing CO_2, cleaning oceans, or transforming waste. This logic is also applied in the construction of sensors to measure air pollution, where the components of the device (boards, sensors, programmes) perform precise and necessary functions in order to obtain reliable data. This relationship between form and function reinforces an applied understanding of how objects, systems and organisms are designed to respond to specific needs within a given context.

Systems and system models

The project promotes a systemic understanding of environmental phenomena. Students investigate pollution in their school as if it were a complex system, with sources of emission, affected areas, dynamics of spread and observable consequences. They use models such as mind maps, scientific posters and visual narratives to represent the interactions between the different elements of the system. In addition, in the programming and analysis of sensors, they identify inputs (environmental data), processes (measurement and recording) and outputs (interpreted information). This approach allows them not only to better understand how the environment works, but also to intervene in it with well-founded and coherent proposals.

5. SKILLS

Throughout this unit, the development of key skills linked to applied science and the critical use of technology is promoted. Below, the STEAM and digital competences that are integrated transversally into the teaching and learning process are outlined.

5.2 STEAM SKILLS

This unit integrates STEAM competences (Science, Technology, Engineering, Arts and Mathematics), which are developed throughout the whole sequence:

- ***Asking questions and defining problems:*** students pose questions to investigate pollution in their school environment and define the environmental problem that their eco-hero must solve in the graphic narrative.
- ***Planning and executing research:*** students design and carry out a complete investigation into air quality, from formulating hypotheses to collecting data with sensors and presenting results in scientific posters.
- ***Analysing, predicting and interpreting data:*** they interpret the data collected, compare it with reference tables, and draw conclusions about pollution levels and their possible causes or consequences.
- ***Mathematical reasoning and algorithmic thinking:*** they programme sensors with micro:bit to automate the measurement of polluting gases, applying sequential logic and numerical analysis.
- ***Developing and using models:*** they create conceptual and visual models such as mind maps, comics and scientific posters that represent ecological processes, polluted systems or technological solutions.
- ***Argumentation based on data or evidence:*** they formulate justified conclusions based on the data collected and defend their environmental action proposals in debates and presentations.

- ***Building statements and designing solutions:*** they propose actions to reduce pollution and design superheroes with scientific or technological powers that represent viable solutions to the problems addressed.
- ***Collecting, evaluating and communicating information:*** they search for information in different sources, contrast it with the help of artificial intelligence, and communicate it through presentations, infographics, comics and collaborative platforms.

5.2 DIGITAL SKILLS

In the current context, technology plays an essential role in learning. Throughout this unit, students will develop the following skills:

- ***Information and data literacy:*** students search for information about different types of pollution, interpret scientific articles, and use tools such as AI to summarise and compare content from different sources.
- ***Digital communication and collaboration:*** students share ideas, results and proposals through collaborative digital tools such as Padlet, Mentimeter or Jamboard, working together in the construction of knowledge.
- ***Digital content creation:*** they produce outputs such as comics, scientific posters, presentations or digital murals in which they integrate text, images and narrative structure in order to communicate environmental messages creatively.
- ***Digital safety:*** the protection of personal data and the responsible management of information are promoted when working with AI, browsers and open platforms, fostering a critical and conscious attitude towards the use of technology.

6.1. CLIL FRAMEWORK

6.1. 4C'S OF CLIL

4C	DESCRIPTION
CONTENT	• To study the impact of pollution on the marine environment, focusing on the dystopian story of the comic *Sunakay*. • To understand key concepts of ecology: microplastics, waste, ecosystems, sustainability. • To apply knowledge from natural sciences, environmental studies, geography and technology. • To design an experiment on air pollution in the school using sensors or homemade methods. • To develop a comic strip with ecological characters.
COGNITION	• To formulate hypotheses about pollution and its effects. • To investigate, analyse data, synthesise information and communicate results. • To compare generational perspectives on the environment (Sunan vs. Kay). • To create an eco-superhero by applying critical and creative thinking. • To structure a narrative (beginning, development, ending) for the comic.
COMMUNICATION	• To use L2 (Spanish) to describe images, tell stories, explain scientific data, and present environmental proposals. • To use grammatical structures such as estar + gerund, subjunctive and conditional to express wishes, hypotheses and proposals. • To take part in debates and oral presentations. • To create communicative products: comics, podcasts, posters, digital presentations.
CULTURE	• To analyse the environmental crisis from a dystopian and cultural perspective. • To compare with comics from other cultures (Iran, Japan, Colombia). • To reflect on the role of generations in the transformation of the planet. • To connect with the SDGs, especially SDG 13 (Climate Action). • To design sustainable proposals with an ethical and cultural perspective.

6.2. THE LANGUAGE TRIPTYCH

Language of Learning (Vocabulary)
Students need to understand and use this vocabulary in order to access the content:

- **Pollution and the environment:** microplastics, landfills, rubbish, recycling, waste, plastics, ecosystem, biodiversity, sustainability, carbon dioxide, rainforest, marine pollution, atmosphere, ecological damage, environmental impact.
- **Geographical and scientific elements:** latitude, longitude, ocean, map, climate, sensor, experiment, measurement, data, hypothesis, cause and effect, prediction, variable, result.
- **Narrative and graphic (comic) vocabulary:** panel, speech bubble, visual metaphor, narrative rhythm, climax, ending, illustration, structure, hero, symbol, superpowers, villain.
- **Dystopian / ethical language:** collapse, shelter, survival, uncertain future, ethical decisions, submerged city, exclusion zone, climate change, catastrophe, post-apocalyptic world.

Language for Learning (Processes)
The language students need to use in order to collaborate, discuss and carry out classroom tasks:

- **Communicative functions:**
  - Expressing opinions (*In my opinion..., I think that...*)
  - Making hypotheses (*If we recycle more...*)
  - Proposing solutions (*I suggest that...*)
  - Expressing emotions (*I am glad that..., It makes me sad that...*)
  - Describing images (*I can see a floating island...*)
  - Summarising (*The article says that...*)
  - Arguing and justifying (*because, since, therefore...*)
- **Key structures:**
  - Present continuous → *We are destroying the planet.*
  - Hypothetical wish structure (past simple for unreal present) → *I wish the sea were cleaner.*
  - Second conditional → *If everyone collaborated, the planet would improve.*
- **Text genres used:** debates, reports, comic strips, scientific posters, collaborative murals, oral presentations, popular science articles, news reports.

Language through Learning (Incidental Language)
The language that is acquired in an unplanned way while students are working on the content:

- Emerging vocabulary when reading articles about pollution or watching videos of Jane Goodall.
- **Grammatical structures that arise in real tasks:** *We are generating waste without realising it.*

- Functional and spontaneous language in activities such as creating a comic, giving a presentation or programming a sensor.
- Terms discovered through the digital dictionary or collaboratively during project work.

7. UDL

Applying the principles of Universal Design for Learning to this unit guarantees access, participation and expression of learning for all students, addressing their different cognitive styles, language levels and working paces. Through the comic, scientific inquiry and dystopian narrative, a context rich in images, emotions and functional language is provided, which is ideal for applying the three UDL principles: multiple means of engagement, representation and expression.

Accordingly, the following are recommended:
- ***Varied options for engagement:*** include motivating videos, guided debates and creative activities such as designing eco-heroes, allowing each student to choose the level of difficulty and the type of task that motivates them most.
- ***Adapted and enriched representation:*** facilitate understanding through concept maps, diagrams, bilingual glossaries and structured language with sentence models that help to formulate hypotheses and express opinions, adapting materials to different linguistic and cognitive levels.
- ***Diversity in expression:*** allow students to communicate through comics, oral presentations, recordings, role plays or mind maps, using templates and digital tools that support the planning and production of their work.
- ***Heterogeneous collaboration:*** form groups with varied profiles in order to foster peer learning, combining visual, linguistic and technical strengths.
- ***Flexible and scaffolded tasks:*** adapt activities to individual needs, for example by allowing some students to focus only on key

parts of the comic or to use pre-designed panels if required.
- ***Specific support for students with SEN:*** use of pictograms, guided reading of texts, the option to record oral answers instead of writing, or the use of screen readers and subtitles in videos.

8. MAIN TEACHING METHODOLOGIES

It is based on the hybridisation of scientific inquiry and engineering design, allowing students to investigate real phenomena and design sustainable solutions by applying knowledge in a practical way.

9. ASSESSMENT

Assessment in this unit will be carried out in a continuous and flexible way, adapting to the needs and characteristics of each group. The aim is to assess both the learning process and the final outcomes, paying attention to content mastery, use of the target language, and the development of transversal competences.

The following strategies and instruments are proposed:
- ***Systematic observation.*** It is recommended that teachers observe students' performance throughout the whole unit, paying particular attention to task completion, work organisation, and participation in group activities using Spanish. This informal observation can provide valuable information about students' level of engagement, autonomy and collaboration.
- ***Assessment of final products using rubrics.*** It is advisable to use rubrics to assess students' final products, focusing on scientific accuracy, clarity of communication, feasibility of the proposed solutions, and effective use of the foreign language (including linguistic accuracy,

task-appropriate structures and subject-specific vocabulary). It is recommended to share the rubrics with students in advance (see Appendix B).

- **Self-assessment.** Self-reflection is an essential part of the process. Students should be invited to assess their own learning, identifying strengths and areas for improvement in relation to collaboration, language use and task completion. Tools such as reflection sheets or digital prompts can be used (see Appendix C).
- **Peer assessment.** It is recommended to organise structured peer-feedback sessions to help students evaluate their classmates' work using clear and simplified criteria. Each student can assess both their own contribution and that of their peers using a shared rubric. This strategy fosters responsibility, empathy and critical thinking (see Appendix D).

The following table presents the structure of the teaching sequence, organised into three main phases linked to the process of creating a graphic novel: before the creation of the comic, during the creation of the comic, and after the creation of the comic. These phases are visually distinguished by thick vertical lines to make them easier to follow.

Each activity includes an estimated duration and specifies the subjects involved. For greater visual clarity, a colour-coding system has been used:

Natural sciences (chemistry) activities are marked in **light blue.**

Art education activities are marked in **purple**.

Foreign language activities (Spanish as L2) are marked in **green**.

Activities	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	4
Duration (mins)	30-40	30-40	45-50	30-40	40-50	50-55	40-50	30-40	45-50
Natural Science							■		■
Art Education			■			■			
L2	■	■		■	■			■	

- Before starting the unit, it is essential that the teachers involved meet to coordinate the sequencing of activities, the distribution of responsibilities and the role each subject will play in the assessment process. Clarifying who will lead each task and agreeing on shared objectives helps to ensure coherence and smooth implementation. Whenever possible, applying a co-teaching approach (either through joint sessions or complementary lessons) will enhance pedagogical coherence, mutual support and richer interdisciplinary learning.

- These guidelines are fully flexible and should be adapted to the specific needs and pace of each group. Teachers may select and prioritise the activities that best suit their students, choosing as many as they consider necessary or appropriate.

- Throughout the sequence of activities, interdisciplinary proposals are included that integrate natural sciences, art education and or foreign language learning. These activities may be addressed from either subject area, or jointly, depending on the learning objectives and the curriculum. In such cases, the end of each activity explicitly indicates how it can be developed from each area, specifying the objectives, content or linguistic aspects that should be emphasised.

5.1	5.2	5.3	5.4	5.5	6	7	8	9	Final Project
40-50	45-50	45-50	45-50	45-50	4-55	45-50	50-60	30-40	4 SESSIONS
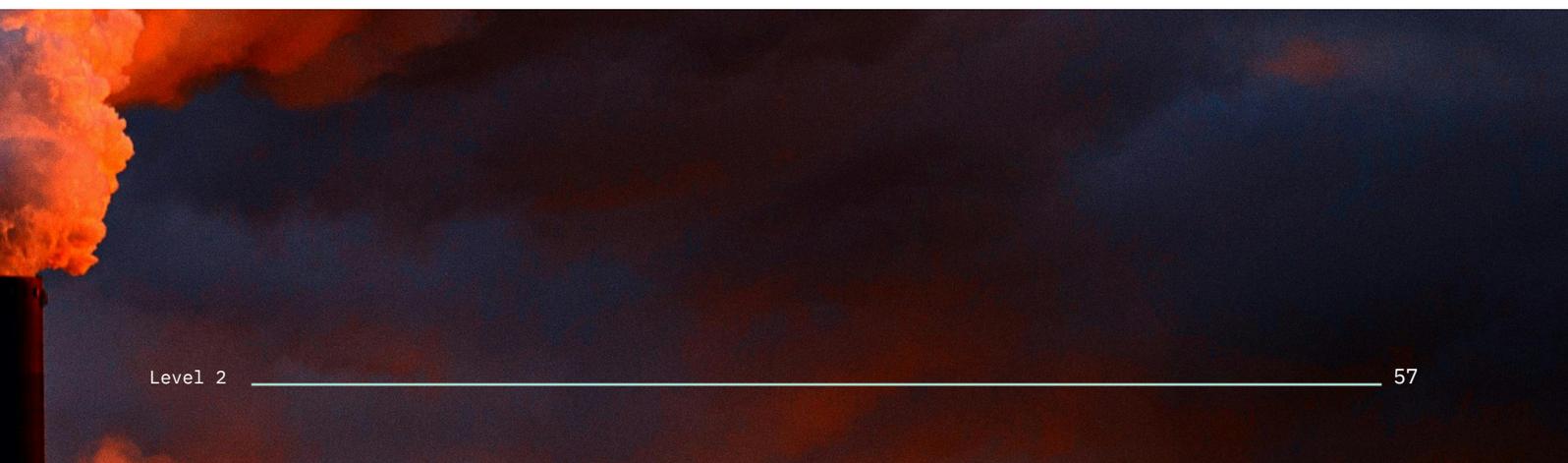
10.1. PRE-COMIC CREATION ACTIVITIES

ACITIVITY 1

ACITIVITY 1.1 ✳ (30-40')

MATERIALS

Device to play the book trailer

Notebook or template for notes

STEPS

Discovering the world of Sunakay

Students watch the book trailer attentively, answering a series of questions that guide them to observe key details. Through this activity, they develop active listening and visual interpretation skills, focusing on identifying the elements that make up the setting and the situation of the protagonists.

During the viewing, students analyse:
- Which objects are floating in the water and the type of waste present.
- How the waste is related to each other and whether any of it is unusual.
- The characteristics of the environment shown.
- The impact of pollution on the ocean and the presence of life.
- The description of the protagonists' home and whether they could live in a place like that.
- Their predictions about what might happen and which natural force is approaching.

ACITIVITY 1.2 ✳ (55-65')

MATERIALS

Story text or picture book

Notebook or template for notes

STEPS

The story behind the illustration: Sunan and Kay

After reading the story carefully, students reflect on the main characters, Sunan and Kay. They answer questions that invite them to explore the role and meaning of each character in the narrative and their connection with generational and ecological themes.

Students analyse Sunan by responding to the following points:
- How she deals with the situation in which they live.
- Moments that show her role as Kay's carer.
- What she represents in relation to present generations.
- The limitations of her perspective.

SUNAN	
PHYSICAL FEATURES	
SUPERPOWER	
OUTFIT	
VALUES	

With regard to Kay, they reflect on:
- The qualities that make her a heroine.
- The symbolism of her bond with the fish.
- How she represents future generations.
- The transformative power she possesses and that Sunan does not.

KAY	
PHYSICAL FEATURES	
SUPERPOWER	
OUTFIT	
VALUES	

Finally, students organise the information in a comparative chart that gathers the characteristics of Sunan and Kay, consolidating their understanding of the characters.

TIPS FOR TEACHERS

- Highlight the importance of Kay as an ecological heroine within the story and encourage students to visualise her in the style of well-known superheroes (Marvel, DC).
- Suggest that students search for information online and extract the main ideas about sustainability and caring for the planet, using collaborative digital tools such as Mentimeter, Padlet or Jamboard.
- Guide the activity so that students learn to synthesise information and express their ideas clearly and precisely, with the teacher's support.
- Incorporate the symbolism and symbols of comics as a resource to work on visual imagery and identification with characters.
- Before the next activity, carry out a short dynamic activity in which students recognise famous superhero symbols, reinforcing the importance of iconography in comics.

ACITIVITY 1.3 ✳ (40-50')

MATERIALS

> Drawing materials: paper, pencils, markers

STEPS

TIPS FOR TEACHERS

- Foster students' visual creativity by encouraging them to design a symbol or emblem for Kay, based on the characteristics and ecological values she represents.
- Provide visual examples of iconic symbols to facilitate inspiration and design.
- Promote collaborative work and shared decision-making in order to agree on the final design of the emblem.
- Remind them that the symbolism should reflect Kay's personality and her role as a superheroine in a world affected by pollution.
- Take advantage of this activity to work on descriptive vocabulary and expressions related to shape, colour and symbolism.

Metamorphosis and creativity

Building on the comparative chart from the previous activity, students identify the qualities of Kay that they want to represent in her role as an eco-heroine. The teacher briefly introduces the basic meaning of some colours (green = life, blue = water, black = threat, yellow = energy) and shapes (circle = unity, triangle = strength, spiral = change). Using these references, each student or group designs a symbol or emblem that reflects Kay's values and powers, paying attention to simplicity and visual clarity. Finally, they present their design in the L2, briefly explaining the choices they have made.

SKILLS DEVELOPED IN THE ACTIVITY 1.1, 1.2 Y 1.3

STE(A)M skills:
- Asking questions and defining problems
- Analysing, predicting and interpreting data
- Developing and using models
- Collecting, evaluating and communicating information

Sustainability skills:
- Systems thinking
- Futures thinking
- Values thinking
- Collaboration

Digital skills:
- Information and data literacy
- Digital content creation

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

ACITIVITY 2

ACITIVITY 2.1 ✳ (30-40')

MATERIALS

Device to play the video

Notebook or template

STEPS

What can you do for the planet?

Students watch the Jane Goodall video up to minute 2, focusing on the message about the value of small everyday actions in favour of the planet. Afterwards, they reflect on this message and show their understanding by answering:

- Have they understood Jane Goodall's message?
- Do they think that, collectively, we are acting well to take care of the planet?
- Based on this reflection, they draw up a list of actions that directly affect the health of the planet, using the linguistic structure be + -ing (for example, "We are destroying the rainforest").

ACITIVITY 2.2 ✳ (40-50')

MATERIALS

> Text or image of Jane Goodall's quote

> Notebook or template

> Poster or visual chart with examples of conditional sentences

STEPS

Slogan and advice to take care of the planet

Aware of the impact of their daily actions, students analyse Jane Goodall's quote:

Do not forget that every day of your life, your actions influence the health of the planet.

In groups, they reflect on key questions:
- What does this sentence mean to them?
- Do they think it could work as a slogan for a hero?
- What concrete actions can they carry out in their daily lives to take care of the planet?

Finally, they create a joint document with advice and proposals to act in favour of the planet, using conditional structures to express hypotheses and cause-and-effect relationships, such as:
- *If we all work together, we can heal part of the damage we have caused.*
- *If only you did it, it would not matter, but you are not alone.*

TIPS FOR TEACHERS

To help students write conditional sentences correctly and express cause-and-effect relationships, use a poster or visual chart showing examples and structures of conditional forms. This resource can serve as support while they are working on the advice document, helping to clarify both the form and the appropriate use of conditionals in real contexts.

SKILLS DEVELOPED IN THE ACTIVITY 2.1 Y 2.2

STE(A)M skills:
- Asking questions and defining problems
- Collecting, evaluating and communicating information
- Argumentation based on data or evidence (más marcada en la 2.2).
- Building statements and designing solutions (más marcada en la 2.2).

Sustainability skills:
- Values thinking
- Collaboration
- Resolución integrada de problemas (más clara en la 2.2).

Digital skills:
- Information and data literacy
- Digital communication and collaboration (si el documento final es colaborativo y digital).
- Creación de contenido digital (si usan formato digital en la 2.2).

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

ACITIVITY 2.3 ✳ (50-55')

MATERIALS

Cardboard or A3 paper

Pencils, markers, scissors or glue

Magazines and scissors for collage (optional)

Canva or Vistacreate (if done digitally)

STEPS

Designing a poster for the planet

Students turn the conditional sentences they wrote in the previous task into an artistic poster that communicates an ecological message in a clear and appealing way. Working in groups, they first select the sentences they consider the most powerful and representative. Then, the teacher briefly introduces some basic principles of visual design so that they can apply them in their work: the typography should be legible and help to prioritise the message, the composition should balance the space between text and image, and the colour palette should reinforce the idea of sustainability, with a predominance of greens, blues and earth tones. With these references, students create their poster by combining text, colour and visual elements (drawings, symbols, collages or digital resources), so that the artistic component becomes a direct reinforcement of the linguistic message.

At the end, each group presents their poster to the rest of the class in the L2, explaining why they chose those sentences, what graphic decisions they made, and how the chosen colours or symbols help to convey the idea of sustainability. In this way, the art subject plays a leading role by guiding the transformation of text into image and teaching students how to communicate their proposals visually.

TIPS FOR TEACHERS

- Show a couple of real environmental posters so that students can see how design reinforces the message.
- Provide a simple grid (division into quadrants) as a composition guide.
- Encourage the use of both manual and digital resources, depending on the materials available.

ACITIVITY 3

ACITIVITY 3.1 ✳ (40-50')

Images or photographs related to environmental pollution

Notebook or template for notes

STEPS

The substances that pollute the world: Is pollution only a sea problem?

Students work in groups to analyse different types of pollution that affect the planet. They observe several visual examples provided by the teacher and discuss the following questions with their classmates:

- *What problem does each image show?*
- *Why does this environmental problem occur?*
- *Can any similar type of pollution be observed in their immediate surroundings?*

After this initial reflection, students identify the solutions proposed in relation to each type of pollution (*air, water and soil*). Afterwards, each group suggests new ideas or measures that they believe could help to mitigate these problems.

Key terms related to pollution and environmental care are introduced and worked on, such as: *rubbish, waste, recycle, reuse, sustainable mobility, public transport, plant trees, pick up litter, protect, reduce, clean and take care of.*

- Ask open-ended questions while observing the images to activate reflection, such as:
  - *What environmental problem does this image show?*
  - *What are the most common causes of pollution in water, air and soil?*
  - *What consequences does plastic pollution have for ecosystems?*
  - *How do toxic substances affect the environment and health?*
  - *What human activities generate this pollution?*
- Facilitate a group discussion in which students share their ideas and experiences, promoting a connection with their environment and critical thinking.
- Reinforce specific vocabulary and structures to express opinions during the debate.
- Make sure that students contrast information from digital sources with other reliable resources, such as books or articles.

ACITIVITY 3.2 ✳ (30-40')

STEPS

Expressing wishes and proposals

Using the images and a set of cards containing expressions to express wishes, intentions and emotions, students work in pairs. Each pair randomly selects one image and one card with an expression that they must use to formulate a sentence related to the image.

Some examples of expressions include: Deseo (I wish), Propongo (I propose), Me alegra (I am glad), Me entristece (It makes me sad), among others.

- Introduce and practise subjunctive structures to express wishes, proposals and emotions, using clear models such as:
  - *Deseo que + present subjunctive*
  - *Propongo que + present subjunctive*
  - *Me alegra que + subjunctive*
  - *Me entristece que + present subjunctive*
- Provide cards with expressions that require the use of the present subjunctive so that students can use them in pairs when forming sentences related to the images.
- Encourage the collective creation of a "Green Wishes Mural", where each group draws a symbol linked to a type of pollution and writes a wish or piece of advice using the structure practised in class.
- Display the mural in the classroom to encourage reflection, commitment and environmental awareness.
- Remind students that the use of the subjunctive here is not only grammatical, but also helps to express emotions and motivations in real contexts.

SKILLS DEVELOPED IN THE ACTIVITY 3.1 Y 3.2

STE(A)M skills:
- Asking questions and defining problems
- Analysing, predicting and interpreting data
- Collecting, evaluating and communicating information

Sustainability skills:
- Systems thinking
- Values thinking
- Collaboration
- Integrated problem-solving

Digital skills:
- Information and data literacy (si la actividad incluye búsqueda digital o uso de recursos online).

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

ACITIVITY 4

✳ (45-50')

MATERIALS

Board or device with a collaborative tool (Padlet, Jamboard, etc.)

Selected article

STEPS

Look around you and analyse

Students begin by sharing in groups what they know about air pollution through a brainstorming activity guided by questions such as:

- *What types of pollution do you know?*
- *How do you think pollution affects our health?*
- *What activities near you generate the most pollution?*
- *Is the air we breathe clean?*

The answers are recorded on the board or on a collaborative digital tool such as Padlet, thus establishing a shared starting point for the activity.

Next, they read an article selected by the teacher about the relationship between air pollution and cognitive development in children (for example, the article available in *OK Diario*). To facilitate comprehension and summarising, they use a framework with guiding prompts:

- *The article is about…*
- *Air pollution can cause…*
- *One solution that is proposed is…*

Finally, in groups or individually, they create a mind map in which they visualise the problem of air pollution, its consequences and possible solutions.

ACITIVITY 5

ACITIVITY 5.1 ✳ (40-50')

MATERIALS

Poster about scientific inquiry

Notebook or template to write down hypotheses and experimental design

STEPS

The eco-hero's perspective

Students begin their environmental investigation inspired by Kay, who faces an ocean turned into a landfill. This scenario, although fictional, connects with a real and close problem: pollution in their own school.

As future eco-heroes, they diagnose and plan how to measure pollution in the spaces they usually use. To do so, they design a scientific poster in which they document the research process step by step.

Students:
- Define the problem: Is there pollution in the school? In which areas might it be more intense?
- Formulate well-grounded hypotheses about where and why there might be higher levels of pollution.
- Reflect on different methods for measuring pollution, discussing key questions:
  - *Are homemade methods reliable for collecting data?*
  - *How could data collection be automated using sensors?*
  - *What advantages do automated data offer compared to manual ones?*

On this basis, the methodology for measuring pollution using sensors and micro:bit boards is introduced. It is briefly explained how the device will be built, and students are guided to start planning the experimental design, including which variables to measure and which sensors they will use.

ACITIVITY 5.2 ✳ (45-55′)

MATERIALS

- micro:bit boards
- Pollution gas sensors
- Computers or tablets for programming
- Assembly materials (cables, batteries, etc.)

STEPS

Scientists for the planet

Students, organised in groups, begin building a device to measure pollution using the micro:bit board and gas sensors. During the session, they follow these steps:

a. **Sensor assembly:** they connect the sensor to the micro:bit following a simple diagram that is provided or shown to them.

b. **Basic programming:** each group accesses a visual programming environment (such as MakeCode) to create or adapt code that allows the sensor to record and display pollution data.

c. **Initial testing:** they check that the device works properly and that the data collected make sense, carrying out tests in different areas of the classroom or school.

d. **Comparison and improvement:** they share their programs with other groups to compare code and discuss possible improvements or adjustments.

e. **Consulting reference values:** they review official tables indicating pollutant gas levels in order to better understand the scale and meaning of the data they will collect.

ACITIVITY 5.3 ✳ (45-55′)

STEPS

Data collection and analysis on pollution

Students use the devices they have built and programmed to measure pollution in different areas of the school. Working in groups, they move around the selected spaces and record the values of polluting gases or environmental parameters detected by their device.

After collecting the data, each group organises the information obtained by creating tables or graphs that show the measured pollution levels. They compare these values with official reference tables or established standards in order to assess whether the detected levels are healthy or represent a risk.

As a group, they reflect on the possible causes of the variations in the data and discuss how human or environmental factors may be influencing the observed pollution.

This session strengthens scientific analysis skills, collaborative work and critical thinking, linking theory with practical experience.

TIPS FOR TEACHERS

- Make sure that students record the data in an organised way, noting the location, time and collected values.
- Provide tables or reference charts with limit values for polluting gases so that students can interpret whether the detected levels are safe or harmful.
- Facilitate the comparison of data from different groups in order to identify patterns or areas with higher levels of pollution.
- Encourage students to reflect critically on possible sources of pollution and to relate the data to observable human activities.
- Remember to reinforce the use of specific scientific vocabulary and structures for describing results.

ACITIVITY 5.4 ✳ (45-55')

MATERIALS

Materials for creating posters or digital presentations

Resources for revising and correcting texts

Access to additional theoretical information

STEPS

Preparación de la presentación y redacción de conclusiones

Students work in groups to organise and synthesise all the information collected during the research. They use their data and analyses to write clear, well-supported conclusions about the air quality in their school and the impact of pollution.

Before writing the conclusions and analysing the data in depth, the teacher may give a short theoretical explanation to clarify key concepts and to avoid misunderstandings or incorrect interpretations about pollution and its effects.

During this session, students produce visual materials such as posters, digital presentations or infographics to support the communication of their results. They are encouraged to structure their ideas in a logical way, highlighting the problem, the data obtained, the comparison with standards and the recommendations they propose.

In addition, they practise communication skills, both written and oral, by revising and improving their texts and preparing the final presentation for the following session

TIPS FOR TEACHERS

- Before students write their conclusions, give a short theoretical explanation to clarify concepts and avoid misinterpretations about pollution and environmental health.
- Guide students in the logical organisation of their conclusions, helping them to connect data, hypotheses and results.
- Encourage the creation of clear and attractive visual materials to support the presentation (posters, slides, infographics).
- Promote collaborative work and peer review in order to improve the quality of the final product.
- Reinforce communication skills and the appropriate use of technical language.

ACITIVITY 5.5 ✳ (45-55')

Visual materials prepared by the students (posters, slides, videos)

Presentation equipment (projector, computer, speakers)

TIPS FOR TEACHERS

- Organise a space that allows for clear presentations with audiovisual support.
- Encourage each group to present the whole process: design, programming, data collection, analysis and conclusions.
- Encourage active participation from the rest of the students through questions and constructive debates.
- Use this session to assess oral skills, critical thinking and teamwork.
- Foster an atmosphere of respect and support among students during the presentations.

STEPS

Presenting the results

Students, working in groups, prepare and present the results and conclusions of their research on pollution in the school. They use visual supports such as posters, digital presentations or videos to communicate in a clear and engaging way the process followed, the data collected and the conclusions reached. During the presentation, each group explains:

- The problem investigated and the initial hypothesis.
- The design and functioning of the device they built.
- The data obtained and their comparative analysis with standard values.
- The conclusions and recommendations to improve air quality in the school.

The rest of the students take an active role by listening, asking questions and providing constructive feedback to enrich the discussion.

SKILLS WORKED ON IN ACTIVITY: 5.1, 5.2, 5.3, 5.4 Y 5.5:

STE(A)M skills:
- Asking questions and defining problems
- Planning and executing research
- Analysing, predicting and interpreting data
- Mathematical reasoning and algorithmic thinking
- Developing and using models
- Argumentation based on data or evidence
- Building statements and designing solutions
- Collecting, evaluating and communicating information

Sustainability skills:
- Systems thinking
- Futures thinking
- Collaboration

- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation
- Problem-solving with digital tools

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

10.2. ACTIVITIES DURING THE CREATION OF THE COMIC

ACITIVITY 6

⚹ (45-55')

MATERIALS

Worksheet to complete with the characteristics of the ecohero

Drawing materials (paper, pencils, felt-tip pens, colours)

Visual examples of superheroes for inspiration (optional)

STEPS

Create your own Ecohero: defender of the ocean, land or air

Students become creators of a superhero dedicated to protecting the environment, especially focused on defending the ocean, the land or the air.

Each student designs their character by completing a worksheet with details that reflect their connection with nature and their ecological mission:

- *Name:* choose a name that identifies your ecohero.
- *Origin:* link them to an ecosystem or natural element (sea, forest, atmosphere, etc.).
- *Physical traits:* describe features related to their environmental specialisation.
- *Symbol:* create a symbol that represents their cause and values.
- *Powers:* define the abilities they have to solve ecological problems.
- *Weakness:* identify the limitations or challenges they face.
- *Outfit:* imagine a functional and symbolic costume suited to their mission.
- *Villain:* invent the antagonist who represents the environmental problem your ecohero fights.

NAME	
ORIGIN	
PHYSICAL FEATURES	
SYMBOL	
POWERS	
WEAKNESS	
OUTFIT	
VILLAIN	

TIPS FOR TEACHERS

- Explain that it is possible to measure levels of nitrogen dioxide (NO_2) and carbon dioxide (CO_2) using accessible hardware and software, such as the micro:bit board and the Kitronik Air Quality Board.
- Show demonstration videos about the construction and programming of these devices in order to provide context.
- Let students design and programme their own code in groups without giving them the code from the video. This encourages the development of programming skills and a deeper understanding of environmental values.
- Provide access to resources to learn how to programme with MakeCode or other suitable visual tools.
- Suggest that groups discuss and plan which areas of the school they will measure and how they will organise the use of the sensors.

STE(A)M skills:
- Asking questions and defining problems
- Developing and using models
- Building statements and designing solutions
- Collecting, evaluating and communicating information

Sustainability skills:
- Systems thinking
- Values thinking
- Collaboration

Digital skills:
- Digital content creation
- Information and data literacy

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

To find inspiration, they can think of examples such as a hero who absorbs CO_2 or a heroine who turns clothes into biodegradable materials.

Finally, each student produces a drawing that visually brings their eco-hero or superheroine to life, reflecting everything that has been defined in the worksheet.

Art-based approach: If the activity is carried out from the art subject, the comparative chart produced in the previous activity serves as a basis for translating traits and values into visual elements. The teacher guides students so that each characteristic of Kay is expressed through colour, shape or symbol: for example, her connection with water is reflected in blue tones and waves, her strength in triangular shapes, or her transformative role in spirals. The focus is on how to turn conceptual information into an artistic design that communicates identity and mission.

L2-based approach: If the activity is carried out from the foreign language subject, the chart is used to describe in the L2 the selected traits of Kay and to justify how they are represented in the emblem. Students practise structures such as *She is... because... or Her superpower represents...,* integrating vocabulary related to the environment and personal characteristics. The drawing becomes a visual support, while the priority is oral and written production that connects the character with her ecological mission.

ACITIVITY 7

45-50'

MATERIALS

Template or guide to structure the script (Beginning, Development, Ending)

Notebook or device to write the text

Language resources (lists of connectors, grammatical structures)

STEPS

Eco-heroes in action

Students become narrators of their own story, inventing a tale starring the eco-hero or eco-heroine they have previously created. This story will serve as the basis for the creation of the comic, which will tell the adventure through a sequence of panels.

To organise the story, students use the basic structure beginning – development – ending, supported by guiding phrases for each part:

BEGINNING	DEVELOPMENT	ENDING
This is the story of…	Then…	Finally…
Our story begins…	Suddenly…	This is how it happened…
In a place not very far away…	At that moment…	Since then…

Students are encouraged to use all the grammatical structures and Spanish vocabulary they have learned so far in order to enrich their narration and give it coherence and style.

TIPS FOR TEACHERS

Sustainability skills:
- Values thinking
- Collaboration

Digital skills:
- Digital content creation
- nformation and data literacy

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

ACITIVITY 8

- Encourage students to revise their script before they start drawing, making sure the story has a clear beginning, development and ending.
- Suggest organising the 20 panels in a balanced way, ensuring that each scene contributes to the progression of the story and reflects relevant emotions and actions.
- Promote artistic creativity, but also clarity in visual communication, so that the message is understandable for any reader.
- Encourage collaborative work if the comic is created in groups, assigning clear roles (scriptwriter, illustrator, colourist,

STE(A)M skills:
- Collecting, evaluating and communicating information

Sustainability skills:
- Values thinking
- Collaboration

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

MATERIALS

Paper, panel templates (optional), pens, erasers, coloured pencils, markers and a ruler.

Digital applications such as Pixton, Storyboard That or Canva can also be used.

STEPS

Create your own comic

First, students revise the key elements of comics through an infographic that explains aspects such as panels, speech bubbles, visual storytelling and character design.

Using the script written in the previous activity and the drawing of their eco-hero, each student or group develops a comic of around twenty panels. The task combines narrative organisation with artistic creation, so that the eco-hero's story comes to life in a coherent and visually engaging way.

Art-based approach: The teacher guides the visual part of the comic, explaining how to arrange the panels on the page, choose the type of shot (long shot, medium shot, close-up) and give rhythm to the graphic narrative. Students work on line expressiveness, the design of speech bubbles, inking and the use of colour as resources that reinforce the action and emotions of the story. The focus is on helping students understand how visual language conveys meaning beyond the

L2-based approach: The emphasis is placed on writing the comic texts in the foreign language. Students create the dialogues, narrations and onomatopoeia, paying attention to linguistic coherence and the variety of grammatical structures. The use of narrative connectors, appropriate verb tenses and vocabulary specific to environmental topics is encouraged. The drawings accompany and complement the text, but the main objective is to consolidate written production in the L2.

10.3. POST-COMIC CREATION ACTIVITIES

ACITIVITY 9

✴ (30-40')

MATERIALS

Access to a device with an internet connection

Story previously created by the student

Account or access to the Padlet platform set up by the teacher

STEPS

Review your story and share solutions on Padlet

Students carefully review the story they have created, identifying and writing down the solutions that their eco-heroes propose to fight pollution.

They use the Padlet digital platform set up by the teacher to publish their ideas, allowing all classmates to access, read and reflect on the different proposals to save the planet.

This activity encourages critical reflection, synthesis skills and collaborative learning in a digital environment, facilitating the exchange of ideas and collective enrichment.

TIPS FOR TEACHERS

Sustainability skills:
- Collaboration
- Integrated problem-solving
- Values thinking

Digital skills:
- Information and data literacy.
- Communication and collaboration.
- Digital content creation

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

✸✸✸ FINAL PROJECT

MATERIALS

- Visual examples and videos of superhero costumes and comics for inspiration
- Drawing and eco-hero profile created by the students
- Scripts or written summaries of the stories and presentations
- Basic craft tools (glue, scissors, adhesive tape, string, etc.)
- Devices to document the process (cameras or mobile phones for photos and videos)
- Visual supports for the presentations (comics, posters, display boards)
- Suitable space for construction, rehearsal and celebration
- Audiovisual equipment for digital presentations (projector, computer, speakers)
- Materials for voting or symbolic awards (cards, certificates, medals)

STEPS

We organise a Comic-Con: Dress up as your eco-hero

Session 1 – Introduction to the activity
The teacher introduces the idea of organising a Comic-Con, a themed event where students will be able to showcase their eco-heroes and, optionally, create costumes made by themselves. It is explained that the aim is to foster creativity, environmental commitment and artistic expression using recycled materials.

Session 2 – Inspiration and planning (optional)
Students review the designs and characteristics of the eco-heroes they have previously created. They reflect on how to represent these traits and powers in a costume. Examples of superhero costumes can be shown to inspire ideas.

Session 3 – Searching for and selecting materials (optional)
Each student or group collects recyclable and reusable materials available at home or at school (cardboard, fabric, plastic, paper, bottles, etc.). They think about how to transform these materials to create costume elements such as capes, masks, emblems or accessories.

TIPS FOR TEACHERS

- Present the Comic-Con as a final celebration and encourage students to proudly showcase their work.
- Show examples of comics and conventions to give them ideas about how to organise the presentation.
- Make sure the costumes are made using recycled materials and in a safe way.
- Assign roles so that everyone takes part in the exhibition: narrator, comic presenter, costume coordinator, etc.

Session 4 – Costume design and construction (optional)

Students design and build their costume, putting into practice manual skills, teamwork and creativity. It is recommended that they document the process with photos or notes in order to share it later.

Session 5 – Preparing for the Comic-Con: presentation and performance of the eco-heroes

Students prepare to present their eco-heroes based on the comics they have created. In groups or individually, they practise how to communicate their character's identity clearly and engagingly, including:

- The name of the eco-hero
- Their special powers and abilities
- The ecological mission or cause they defend
- The environmental message they want to convey

They are encouraged to prepare a short oral explanation or a creative performance to accompany the presentation, using visual or narrative elements to capture their classmates' attention.

This session strengthens communication skills, confidence in public speaking and creativity, ensuring that students are ready for the Comic-Con celebration.

Session 6 – Comic-Con celebration: exhibition and recognition

In this festive session, students present their comics and eco-heroes to the class or in a designated space. Each group or student shares their story, highlighting the narrative, visual and ecological aspects they have developed.

An atmosphere of respect and support is encouraged, valuing creativity, environmental commitment and the effort of each participant. The comics can be displayed in physical format (posters, booklets, sheets) or digital format (presentations, videos).

In addition, a symbolic vote or the awarding of recognitions can be organised in categories such as "best story", "most inspiring message", "best design" or "most original eco-hero", in order to motivate and celebrate the work done.

Finally, a collective reflection is encouraged on the experience and on the impact that these messages can have on the school community.

- Encourage oral presentations to be delivered in the L2, adapting the level of difficulty to each group.
- Create an attractive exhibition space with the comics, posters and costumes.
- Organise a symbolic vote or awards in different categories to boost motivation.
- End with a collective reflection on the experience and what has been learned during the unit.

STE(A)M skills:
- Developing and using models
- Collecting, evaluating and communicating information
- Building statements and designing solutions

Sustainability skills:
- Values thinking
- Collaboration
- Integrated problem-solving

Digital skills:
- Creación de contenido digital *(si presentan cómics o disfraces en formato digital, o documentan el proceso).*
- Digital communication and collaboration
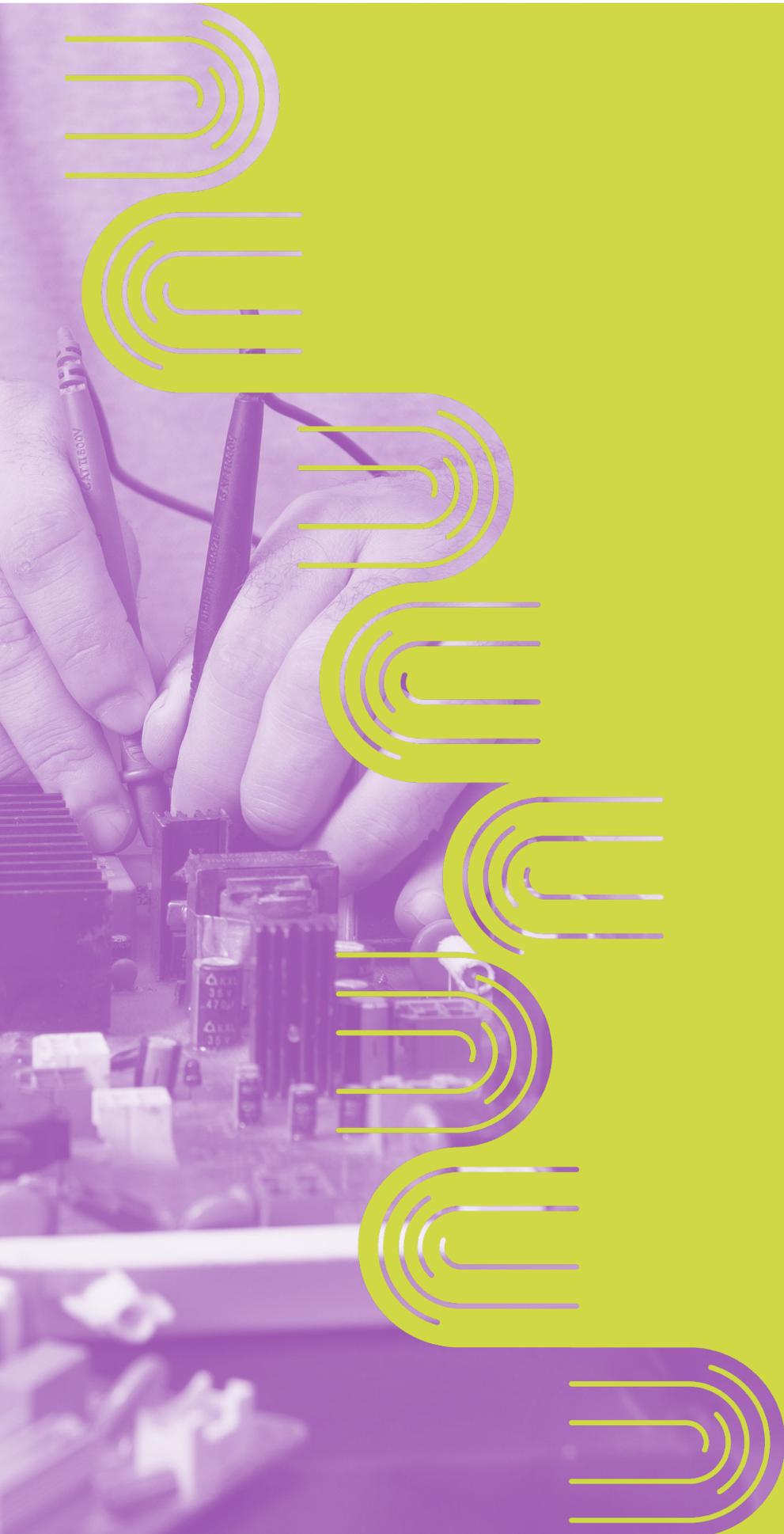- Information and data literacy

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

REVOLUTIONISING FASHION

LVL 3

1. SUBJECTS

Book: Sunakay, by *Meritx*ell Martí and Xabier Salomó.

Level 3 unit with full subject integration, based on the picture book Sunakay, a visually powerful dystopia that invites reflection on the environmental and social impact of excessive consumption, especially in relation to fast fashion.

This unit is recommended for students with a B2 level, as it requires a solid command of argumentative discourse, essay writing and the production of critical campaigns in Spanish. However, if the readings, data and research tasks are simplified and appropriate scaffolding is provided (such as adapted texts, visual supports, guided debates or flexible grouping), it can also be adapted for students with a B1 level. Likewise, the unit is equally suitable for students with a higher level of competence if the activities are extended or deepened to meet their academic needs.

2. PROJECT GOALS AND LEARNING

Scientific, environmental and social understanding

- To understand the causes and consequences of fast fashion consumption in relation to environmental pollution and human health.
- To analyse the impact of textile production on ecosystems, the use of natural resources and climate change.
- To explain how the fashion industry affects labour rights and living conditions in impoverished countries.
- To reflect on the role of major brands and consumers in perpetuating the fast fashion model.

Searching for, analysing and communicating information

- Formulate research questions and compare sources on textile consumption and its impacts.
- Interpret statistical data and graphs related to clothing production and consumption.
- Investigate key concepts such as greenwashing, water footprint or circular economy and explain their relevance.
- Communicate information through visual campaigns, oral presentations and digital formats.

L2

- Understand oral and written texts on sustainability, responsible consumption and labour rights.
- Expand thematic vocabulary related to fashion, the environment, social rights and activism.
- Formulate questions and answers in interviews and surveys about consumption habits.
- Develop and defend arguments in debates on the current textile production model.
- Write persuasive texts (opinion articles, short essays) with a clear structure and appropriate lexis.
- Present content in an organised and visually effective way, using structures typical of academic discourse in L2.

Artistic and visual expression

- Design posters, videos or visual materials that communicate awareness messages about responsible consumption.
- Use visual elements (colour, composition, typography) with communicative intention when creating final products.
- Visually represent dystopian concepts and realities that are obscured by marketing.

Digital competence

- To evaluate the truthfulness of advertising messages related to sustainability.

- To identify biases and contradictions in the discourse of major fashion brands.
- To formulate realistic proposals for changing personal and collective habits related to clothing consumption.
- To question unsustainable economic models and propose alternatives based on environmental and social justice.

Critical thinking and global citizenship
- To evaluate the truthfulness of advertising messages related to sustainability.
- To identify biases and contradictions in the discourse of major fashion brands.
- To formulate realistic proposals for changing personal and collective habits related to clothing consumption.
- To question unsustainable economic models and propose alternatives based on environmental and social justice.

Cooperative learning
- To take an active part in the design, development and evaluation of a collective campaign project.
- To collaborate with classmates while respecting turn-taking, others' ideas and shared responsibilities.
- To improve communication skills through interactive and collaborative tasks.
- To resolve conflicts and make joint decisions during the process of creating and disseminating the final product.

Final product
Students will design and develop an awareness-raising campaign (including a website, blogs, etc.) aimed at making their community aware of the effects of fast fashion use and proposing concrete actions, applying scientific knowledge, engineering principles and problem-solving skills.

3. SDGS
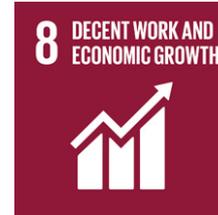
4. CROSSCUTTING CONCEPTS

Patterns
Students identify patterns in the way the textile industry produces, consumes and disposes of clothing, observing similarities between different problems: marine pollution, labour exploitation and green marketing strategies. They also recognise regularities in economic and environmental data (consumption statistics, carbon emissions, mass production), which reinforces their understanding of the global trends of the fast fashion model.

Scale, proportion and quantity

This concept is addressed by interpreting numerical data on litres of water used in garment production, tonnes of discarded clothing or percentages of carbon emissions. Students understand the magnitude of these impacts through visual comparisons, graphs and calculations that show how an individual action is multiplied on a large scale. They reflect on the imbalance between economic costs and environmental or social costs.

Systems and system models

Global fashion production and consumption systems are addressed as interdependent networks involving economic, social and environmental factors. Students represent these systems through diagrams, concept maps and critical campaigns, understanding how the fast fashion model affects different levels, from marine ecosystems to international supply chains.

Energy, matter and objects (flows, cycles and conservation)

Students explore the life cycle of a garment, from the extraction of natural resources and the energy expenditure involved in its manufacture to the generation of textile waste. They reflect on material flows (water, fibres, chemicals) and their conservation, making visible the impacts produced by the lack of circularity in the current fast fashion system.

Structure and function

Students analyse how the structure of the fast fashion economic model (mass production, low prices, immediate consumption) fulfils the function of maximising profits at the cost of generating inequality and pollution. They also study the structure of labels, advertising campaigns and greenwashing messages, understanding how their persuasive function can conceal the reality of production processes.

Stability and change

Students reflect on the apparent stability of the fast fashion system and the urgent changes demanded by sustainability. Past and present situations are compared in order to recognise how the industry has evolved, and alternatives are proposed towards social and environmental change (circular economy, responsible consumption, youth activism). The final campaign symbolises the group's ability to become agents of transformation.

5. SKILLS

Throughout this unit, the development of key skills related to applied science and the critical and responsible use of technology is actively promoted. The learning activities are designed not only to address curricular content, but also to foster critical thinking, problem-solving and informed decision-making in meaningful contexts. The following section outlines the STEAM and digital competences that are integrated transversally throughout the teaching and learning process.

5.2 STEAM SKILLS

This unit integrates STEAM competences (Science, Technology, Engineering, Arts and Mathematics) in order to foster critical thinking, problem-solving skills and creativity. The following skills are developed throughout the unit:

- *Asking questions and defining problems:* Students identify the social and environmental effects of the fast fashion model, raise questions about the responsibility of both consumers and brands, and generate critical questions in debates, readings and data analysis activities.
- *Planning and executing research:* Students design surveys, interviews or focus groups, organise the collection of information and apply basic social research methods in order to obtain data about consumption habits and the perceptions of the educational community.
- *Analysing, predicting and interpreting data:* Students examine statistics related to textile

production, water consumption or carbon emissions, interpret graphs and percentages, and connect these results with global trends of inequality and environmental degradation.

- **Mathematical reasoning and algorithmic thinking:** Students calculate water and resource consumption using simple formulas, transform data into graphs or comparative charts, and apply basic quantification procedures to explain environmental and social impacts in a clear and reasoned way.
- **Developing and using models:** Students create visual diagrams, concept maps and graphic representations that simplify the complexity of the fast fashion economic system and make its consequences more visible and understandable.
- **Argumentation based on data or evidence:** Students defend their positions in debates and written productions, justify the need for more responsible consumption using figures or real-life cases, and critically challenge misleading greenwashing messages.
- **Making claims and designing solutions:** Students propose alternatives to the current textile consumption model, design awareness-raising campaigns and suggest realistic measures based on circular economy principles and critical citizenship.
- **Collecting, evaluating and communicating information:** Students search for reliable sources, select relevant data and communicate information through creative and digital products such as posters, blogs,

5.2 DIGITAL SKILLS

In today's context, technology plays an essential role in learning, research and the production of knowledge. For this reason, this unit deliberately integrates the development of key digital competences that allow students not only to access information, but also to analyse it critically, collaborate effectively and communicate their ideas in meaningful and creative ways. Digital tools are used both as learning resources and as instruments for inquiry, expression and social engagement.

Through the different activities of the unit, students progressively strengthen the following competences:

- **Information and data literacy:** searching for, filtering and evaluating sources about the environmental and social impact of fast fashion, interpreting statistics and transforming figures into clear and understandable visual representations.
- **Digital communication and collaboration:** working as a team to design awareness-raising campaigns, sharing materials in digital repositories and coordinating the joint creation of surveys, posters and presentations.
- **Digital content creation:** producing blogs, vlogs, infographics, interactive posters or videos using tools such as Canva, Genially or Clipchamp, integrating real data and persuasive messages.
- **Cybersecurity and responsible digital use:** applying good practices in the management of data collected through surveys or interviews, respecting the confidentiality of information and protecting digital identity when disseminating the final products.
- **Problem-solving with digital tools:** overcoming technical difficulties in the editing of materials, adapting digital tools to students' linguistic level and finding creative

5.3 SUSTAINABILITY SKILLS

This unit fosters a critical understanding of sustainability by linking the impact of fast fashion to environmental, social and economic dimensions. Through ethical reflection, the anticipation of future scenarios and collaboration in collective projects, students learn to analyse the complexity of global systems and to propose responsible alternatives, thus developing the following skills:

- **Systems thinking:** understanding how textile production connects environmental, social and economic aspects, and analysing fast fashion as a global system with multiple interdependencies.

- ***Futures thinking:*** anticipating the consequences of the current consumption model in terms of resource depletion, environmental degradation and social inequality, and reflecting on more sustainable alternative scenarios.
- ***Foster values thinking:*** question the discourse of fashion brands from an ethical perspective, defend social and environmental justice, and propose changes that prioritise human dignity and care for the planet.
- ***Practise strategic thinking:*** design awareness campaigns with clear messages, select the most effective formats to reach the community and plan actions that promote changes in consumption habits.
- ***Collaborate:*** work in groups to research, debate and produce collective materials, respecting shared roles and valuing cooperation as a means of achieving greater impact.
- ***Solve problems in an integrated way:*** generate proposals that combine environmental, social and economic solutions, such as the circular economy or responsible consumption, in order to address the challenges of fast fashion holistically.

6.1. CLIL FRAMEWORK

6.1. 4C'S OF CLIL

4C	DESCRIPTION
CONTENT	• To understand the environmental, social and economic impact of fast fashion. • To analyse the textile industry in relation to sustainability, responsible consumption and greenwashing. • To investigate the life cycle of garments, the use of resources (water, energy, chemicals) and working conditions. • To read, analyse and connect the book Sunakay with present-day challenges. • To design an awareness-raising campaign (website, blogs, TikToks, videos) with proposals for action.
COGNITION	• To formulate research questions and surveys. • To analyse data, causes and consequences. • To establish connections between real-world problems and the narrative of *Sunakay*. • To think critically and creatively about possible solutions. • To evaluate commercial practices, challenge advertising discourses and propose sustainable alternatives.
COMMUNICATION	• To use L2 (Spanish) to debate, write essays, analyse articles and design campaigns. • To use structures such as debido a, esto provoca, en mi opinión, propongo que, me preocupa que... • To produce functional texts: surveys, headlines, infographics, short news items, presentations. • To express opinions, justify ideas and synthesise information. • To take part in group discussions and record awareness-raising videos.
CULTURE	• To reflect on the global effects of fast fashion in vulnerable communities. • To analyse economic inequality, labour exploitation and child labour from a gender perspective in the textile industry. • To question the role of consumers and the influence of advertising. • To connect with the SDGs, especially SDG 12 (Responsible production and consumption) and SDG 13 (Climate action). • To promote a critical attitude towards consumerism and throwaway culture.

TIPS FOR TEACHERS

CONTENT: Use the narrative of the picture book to contextualise the environmental problems that are central today. Ask students to identify in the story the consequences of the accumulation of waste, allowing fiction to act as a mirror through which to study the degradation of today's ocean ecosystems.

COGNITION: Guide your students to formulate hypotheses based on the observation of concrete data. It is essential to help them understand the link between human action and environmental consequences.

COMMUNICATION: You can encourage active participation in debates and oral presentations. The classroom should be a safe environment in which arguing about the causes of pollution and defending environmental proposals allows students to develop their strategic competence and discursive fluency.

CULTURE: Invite students to reflect on the global impact of fast fashion, especially on vulnerable communities. Encourage them to question the role of consumers and advertising, and to connect these issues with the SDGs (particularly SDG 12 and SDG 13) in order to develop a critical attitude towards consumerism.

- Create a visual word wall with key terms grouped by categories (environmental, social, economic).
- Design vocabulary cards with images and real examples (clothing labels, news headlines, infographics).
- Create a collaborative or personal digital glossary using tools such as Canva, Genially or Notion.

- Use posters with connectors and key structures for writing and debate.
- Practise with mini-debates or role plays on topics such as "second-hand clothes vs fast fashion"
- Provide models of essays and short news articles that students can adapt and use.

6.2. THE LANGUAGE TRIPTYCH

Language of Learning (Vocabulary)

Students need to understand and use the following vocabulary in order to access the content:

- ***Pollution and sustainability in the textile industry:*** microplastics, textile waste, textile pollution, landfills, synthetic fibres, polyester, conventional and organic cotton, toxic dyes, carbon footprint, water footprint, global emissions, climate change, planned obsolescence, textile recycling and sustainable production.
- ***Social and economic impact:*** labour exploitation, child labour, low wages, social inequality, precarious working conditions, poverty, disposable fashion, throwaway culture, globalisation, competitiveness, traceability, fair trade, ethical brands.
- ***Key concepts for analysis and research:*** circular economy, responsible consumption, greenwashing, misleading advertising, sustainable fashion, survey, interview, data, hypothesis, analysis, impact, environmental/social/ economic sustainability.

Language for Learning (Processes)

The language students need to use in order to debate, carry out research and create their awareness-raising campaign:

- ***Key communicative functions:***
  - Asking questions for surveys and interviews: *How often do you buy clothes?*
  - Arguing and debating: *I agree because… / However, I think that…*
  - Expressing causes and consequences: *This can cause… / This leads to…*
  - Presenting data: *According to the survey… / The results show that…*
  - Persuading: *We must change our habits because…*
- ***Useful structures:***
  - Connectors: *on the one hand… on the other hand… however… moreover… therefore…*
  - Cause–effect: *This happens due to… / As a consequence of…*
  - Opinion: *In my opinion… / I believe that…*

Language through Learning (Incidental Language)

Language that is acquired naturally while students research, create and present:

- ***Concrete examples:***
  - When looking at labels in shops: organic, recycled, eco-friendly, conscious collection.

- When reading headlines: child labour, hidden emissions, poverty wages.
- When using platforms such as TikTok, blogs or Canva: hashtag, visual impact, key message.
- **_Contextual learning:_**
  - Students discover new vocabulary through real news, articles, NGO campaigns, their classmates' presentations and awareness-raising videos.

7. UDL

Applying Universal Design for Learning (UDL) in this unit based on Sunakay means ensuring that all students can access the content, participate actively and express their learning in meaningful ways, regardless of their language level, cognitive styles or personal circumstances. Through the dystopian comic, the interdisciplinary approach and the campaign project, an inclusive learning environment is created that allows key competences to be developed through multiple pathways.

From the very beginning of the unit, the three principles of UDL are applied:
- **_Multiple means of engagement:_** motivation is fostered through tasks with a real purpose, such as designing awareness-raising campaigns, using TikTok or carrying out social research, adapted to different interests. A sense of belonging and self-regulation is encouraged through the use of a personal portfolio, self-assessment and group reflection.
- **_Multiple means of representation:_** visual resources, charts, videos, AI-adapted articles, infographics and diagrams are provided to facilitate the understanding of complex concepts (environmental impact, inequality, greenwashing, etc.). In addition, mind maps, graphic organisers and image-based activities are incorporated as continuous support for both linguistic and conceptual input.
- **_Multiple means of action and expression:_** students can demonstrate their learning in different ways, such as through surveys, vlogs, posters, short news items, role plays, short videos or infographics. Structured templates, language frames and sentence starters are also included in order to adjust the level of linguistic complexity to students' needs.

To ensure active inclusion, the following measures are recommended:
- **_Task differentiation:_** for example, when creating headlines or videos, models can be provided in advance or students can work in heterogeneous pairs. In written activities, students may choose between free writing, guided

- Ask students to record new expressions in their portfolios and explain how they used them.
- Encourage the use of tools such as WordReference, DeepL or ChatGPT to explore synonyms and natural expressions.
- Promote reflection after each activity: _What new words did you learn today? Did they help you express your message more effectively?_

templates or a news article with pre-written sentence frames.

- **Complementary cooperative work:** group heterogeneity becomes a strength when teams are organised with different profiles, where some students contribute digital skills, others visual skills or linguistic strengths.
- **Flexible and scaffolded tasks:** activities are adapted to individual needs, for example by allowing some students to focus only on key parts of the comic or to use pre-designed panels if required.
- **Specific support for students with special educational needs:** use of pictograms, guided reading of texts, the option to record oral answers instead of writing, or the use of screen readers and subtitles in videos.

8. MAIN TEACHING METHODOLOGIES

The present project is mainly based on three methodological approaches: scientific inquiry, engineering design methodology and design thinking, which are integrated in a complementary way (see the PROMISED theoretical framework).

9. ASSESSMENT

Assessment in this unit will be carried out in a continuous and flexible way, adapting to the needs and characteristics of each group. The aim is to assess both the learning process and the final outcomes, paying attention to content mastery, use of the target language and the development of transversal competences.

The following strategies and instruments are proposed:

- **Systematic observation.** It is recommended that teachers observe students' performance throughout the whole unit, paying particular attention to task completion, organisation of work and participation in group activities using Spanish. This informal observation can provide valuable information about students' level of engagement, autonomy and collaboration.
- **Assessment of final products** using rubrics. It is advisable to use rubrics to assess students' final products, focusing on scientific accuracy, clarity of

communication, feasibility of the proposed solutions and effective use of the foreign language (including linguistic accuracy, task-appropriate structures and subject-specific vocabulary). It is recommended to share the rubrics with students in advance (see Annex B).

- *Self-assessment.* Self-reflection is an essential part of the process. Students should be encouraged to assess their own learning, identifying strengths and areas for improvement in relation to collaboration, language use and task performance. Tools such as reflection sheets or digital prompts can be used (see Annex C).
- *Peer assessment.* It is recommended to organise structured peer-feedback sessions to help students evaluate their classmates' work using clear and simplified criteria. Each student can assess both their own contribution and that of their peers through a shared rubric. This strategy fosters responsibility, empathy and critical thinking (see Annex D).

10. DESCRIPTION OF THE SEQUENCE OF ACTIVITIES

Before starting the unit, it is essential for the teaching staff to meet in order to coordinate the sequencing of activities, the distribution of responsibilities and the role that each subject will play in the assessment process. Clarifying who will lead each task and agreeing on shared objectives helps to ensure coherence and smooth implementation. Whenever possible, adopting a co-teaching approach (either through joint sessions or complementary classes) will promote didactic coherence, mutual support and a richer interdisciplinary learning experience.

These guidelines are completely flexible and should be adapted to the specific needs and pace of each group. Teachers may select and prioritise those activities that best suit their students, choosing as many as they consider necessary or appropriate.

• Encourage students to reread the picture book Sunakay in order to discover new visual details and deepen their interpretation of the story.
• Invite them to connect the content of the book with the environmental impact of fast fashion: What objects appear floating in the ocean? What is their relationship with the current model of production and consumption.
• You can suggest that they identify waste or objects in the illustrations that could be associated with the textile industry, thus fostering critical reflection on responsible consumption.
• Encourage students to draw parallels between the characters' experience and real situations of marine pollution linked to the overuse of resources.

STE(A)M skills:
• Asking questions and defining problems
• Developing and using models
• Collecting, evaluating and communicating information

Sustainability skills:
• Systems thinking
• Values thinking
• Collaboration

Language & CLIL (4Cs) skills:
• Content
• Communication
• Cognition
• Culture

10.1. PRE-PROJECT ACTIVITIES

ACITIVITY 1   ⟨ 55 ⟩

MATERIALS

- Sunakay (digital or printed)
- Worksheets for each group
- Projector (optional)
- Board or digital board

STEPS

Discovering the world of *Sunakay*

Students immerse themselves in the visual universe of Sunakay, a wordless picture book that tells a powerful story about the relationship between humanity and the ocean.

a. Initial observation:
Students look at the cover, either projected or in printed form. As a whole class, they answer the following questions:
• *Which visual elements stand out?*
• *What do you think the sea symbolises in this image?*
• *Who might the protagonists be?*
• *What feelings does this illustration convey?*

b. Group work
Each group receives 4–5 pages of the book. Based on these illustrations, they must:
• Write what they think is happening in their part of the story.
• Give a title to their fragment.
• Suggest what the characters might be thinking or saying.
• Prepare a short oral presentation of their fragment.

c. Collective reconstruction
• In turns, each group shares their fragment with the rest of the class. Together, they reconstruct the sequence of events and discuss how the story develops.
• The teacher writes on the board the common elements that appear: pollution, animals, plastic islands, solutions, etc.

d. Individual final reflection
Individually, students complete one of the following sentences:
• *For me, this story is about...*
• *I think Sunakay wants to tell us that...*
• *What has impacted me the most is...*

ACITIVITY 2

ACITIVITY 2.1 (45-50')

MATERIALS

Copia impresa del texto informativo

Fichas o tarjetas con las preguntas y la actividad de causa-consecuencia

Dispositivos con acceso a internet o fragmentos impresos del artículo seleccionado

Papel para elaborar esquemas o gráficos

Rotuladores, lápices, etc.

STEPS

Understanding the economic model of fast fashion
Students read the proposed text on the economic model of fast fashion.

Then, individually or in pairs, they answer the following questions to check their comprehension:
a. *What is the main idea of the text?*
b. *What conclusion is the text leading us towards?*
c. *When did fast fashion emerge and become established?*
d. *What are the main characteristics of this business model?*
e. *What long-term consequences could this model have?*

After that, they complete a cause-and-effect activity. They must match each cause with its corresponding consequence, briefly justifying their choice orally within the group.

Finally, they share their answers with the class and reflect in cooperative groups on the following questions:
• *How does the economic model of fast fashion contribute to social inequality?*
• *What impact do low production costs have on sustainability and the social responsibility of the industry?*
• *What role does the consumer play in perpetuating this model, and how can we change it?*
• *What economic and consumption alternatives could mitigate the impact of fast fashion?*

• Formulate both lower-order thinking questions (literal comprehension of the text) and higher-order thinking questions (analysis and evaluation).
• Examples:
  • *What economic model is presented in the text?*
  • *What impact does it have on our consumption habits?*
  • *What responsibility do brands and consumers have?*
• Encourage students to provide complete and well-structured answers, using expressions such as:
  • *due to…, this may lead to…, which results in…*
• Remind them that they can refer to the poster or infographic with discourse markers.

STARTERS
"which leads to…"
"due to…"
"this may cause…"

CONTRAST CONNECTORS
"however"
"on the one hand… on the other hand"

• Reinforce the vocabulary worked on with visual support or a list of key terms on the board: mass production, wages, inequality, trends, consumption, brands.
• Include images related to fast fashion factories, low-cost shops or piles of discarded clothing at the beginning of the reading to activate prior knowledge.

ACITIVITY 2.2 (45-50')

MATERIALS

Printed copy of the informative text

Worksheets or cards with the questions and the cause–effect activity

Devices with internet access or printed excerpts from the selected article

Paper for creating outlines or graphs

Markers, pencils, etc.

STEPS

Transforming information to inform

Groups research the website provided or other resources selected by the teacher (a printed or digital excerpt with accessible reading may be provided), focusing on the economic aspects of fast fashion.

The aim is for them to identify relevant economic data (for example, company profits, impact on costs, etc.) and translate it into a format that is understandable for their classmates.

They can present this data through:
- Bar charts or pie charts
- Comparisons with everyday examples
- Creative analogies
- Concept maps or visual diagrams

Each group prepares a short presentation (oral or in poster form) that includes:
- Which piece of data they have chosen
- What that data means
- How they have transformed it to make it easier to understand

ACITIVITY 2.3 (45-50')

MATERIALS

> Printed copies (or digital access) of the informative text on fast fashion (Activity 1.1)

> Board or digital board / Padlet to record key ideas during the whole-class discussion

> Worksheets or students' notebooks to answer the comprehension and cause–effect questions

> Internet access or printed version of the Seampedia article for the research (Activity 1.3)

> Devices with internet connection (tablets, computers, mobile phones) to carry out the guided research (in groups)

> Optional: support materials for creating simple charts (paper, coloured paper, card, markers, Canva, etc.)

STEPS

Visualising inequality

Students work in groups to investigate some of the more complex economic aspects of the fast fashion model. They use the following article as their main source: "The unsustainable sustainability of fast fashion – Seampedia".

Each group selects one or two complex pieces of data or statements from the text, such as:
- *20% of companies account for 144% of the profits.*
- *The fashion industry represents more than 10% of global carbon emissions.*
- *87% of textile fibres end up being incinerated or in landfills.*

The aim is to explain this data in a clear and visual way, through: simple charts, everyday analogies, and visual comparisons (for example, the amount of clothing thrown away every second would fill a lorry).

Finally, each group presents their explanation to the rest of the class, encouraging a critical discussion about what these figures really mean and how they affect the global economic model.

TIPS FOR TEACHERS

- Start by showing a striking chart or piece of data from the Seampedia article. Example: *20% of companies generate 144% of the profits.*
- Use the guide for commenting on charts in social sciences as visual support (it can be projected or handed out as a worksheet).
- Divide the class into small groups and invite them to interpret data using strategies such as:
  - Analogies: It is as if 2 people earned everything and the other 8 worked without any reward.
  - Homemade charts: bar charts, infographics, pictograms on paper or using Canva.
- Encourage discussion between groups:
  - *What conclusion do you draw from this data?*
  - *How could we explain it to someone younger?*
- Reinforce the use of the economic vocabulary that has been worked on: *profit, exploitation, inequality, costs, trend…*

TIPS FOR TEACHERS

Planet under strain: when balance breaks down

ACITIVITY 3

ACITIVITY 3.1 (30')

MATERIALS

Worksheet with instructions and a model short news item

Worksheets, paper or laptops/tablets for writing

Dictionaries (printed or digital) for language support

Poster or board to display the news items (optional)

STEPS

Critical reading of the article
Students read the article "The Social Impact of Fashion".

In pairs or small groups, they underline and discuss the information referring to social issues associated with the textile industry, especially in relation to fast fashion.

Afterwards, they answer and debate the following questions in groups:
- *What are the main labour problems faced by workers in the textile industry?*
- *Why is it said that fast fashion helps to perpetuate poverty?*
- *What specific problems do women face in this industry?*
- *What does the sentence mean: "Who is paying for the price you are not paying?"*

Teacher support:
- Prepare a printed or digital copy of the article for each group.
- You can project and work through part of the text with the whole class in a guided way before letting them continue on their own.
- Introduce key vocabulary such as: job insecurity, feminisation of poverty, exploitation, subcontracting.
- Make sure that students use textual evidence to justify their answers.

ACITIVITY 3.2   (25')

Worksheet with instructions and a model short news item

Worksheets, paper or laptops/tablets for writing

Dictionaries (printed or digital) for language support

Poster or board to display the news items (optional)

STEPS

Urgent! Watching and analysing

Students watch the video:
"The social and environmental impact of fast fashion".

Antes de ver el vídeo, se activa el conocimiento previo con la pregunta:
- *What social inequalities can fast fashion produce?*

While watching, they take notes on the ideas that refer to social impact:
- Economic inequalities
- Gender inequality
- Working conditions
- Occupational diseases

Afterwards, they discuss in groups:
- *What specific examples appear in the video?*
- *Are you surprised by any of the data or testimonies? Why?*
- *What connection do you see between this video and the text you read before?*

TIPS FOR TEACHERS

- You may create a collective word cloud with terms related to textile pollution. Encourage students to explore the meaning of terms such as microplastics, toxic discharges, greenhouse gases or circular fashion.
- You may divide the class into groups and assign each one a key word so that they produce a brief contextualised definition and a visual example (illustration, clipping, diagram).

ACITIVITY 3.3 (25-30')

MATERIALS

Worksheet with instructions and a model short news item

Worksheets, paper or laptops/tablets for writing

Worksheets, paper or laptops/tablets for writing

Poster or board to display the news items (optional)

STEPS

Impact headlines

Students read and analyse real headlines (provided by the teacher or selected in class).

Then, in small groups, they create three **headlines** following this structure:

[CLOTHING BRAND / COUNTRY] + [VERB OF DENUNCIATION] +
[SOCIAL PROBLEM] + [SPECIFIC DATA]

Examples:
- Bangladesh exploits thousands of women to produce T-shirts for €2
- Brand X accused of working with illegal child labour workshops in India

Teacher tip:
- You can show visual examples of newspaper front pages or striking headlines.
- Work on verbs of denunciation and impact-related terms such as: to exploit, to report, to violate, to force, to cover up...

TIPS FOR TEACHERS

- Provide a table or board where students can carry out group calculations using the formula:
  number of students × 3 T-shirts × 2,700 litres = litres of drinking water used per year.
- Guide a short debate with questions such as:
  - *Do you think this is a responsible use of water?*
  - *What could we do to reduce this impact?*
- Provide opinion and cause–effect connectors such as: in my opinion, this generates, therefore we should…

ACITIVITY 3.4 (25-30')

MATERIALS

Worksheet with instructions and a model short news item

Worksheets, paper or laptops/tablets for writing

Dictionaries (printed or digital) for language support

Poster or board to display the news items (optional)

STEPS

Impact headlines

Each group chooses one of the headlines they have created and turns it into a short news item (50–70 words).

They must structure it like a journalistic paragraph, including:
- The fact being reported or denounced
- The people affected
- The context (country, company, conditions)
- The message they want to convey to the reader

At the end, the texts can be read aloud or displayed on a digital wall.

SKILLS DEVELOPED IN THE ACTIVITIES 3.1, 3.2, 3.3 Y 3.4:

STE(A)M skills:
- Asking questions and defining problems
- Collecting, evaluating and communicating information
- Argumentation based on data or evidence

Sustainability skills:
- Systems thinking
- Values thinking
- Collaboration

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

TIPS FOR TEACHERS

- Organise a guided debate or a written reflection based on a key question, for example:
  - *Would it be possible to dress without polluting?*
  - *What responsibility do we have as consumers?*
- Insist on the importance of producing complete, well-structured answers with examples. You can use simple rubrics or a model outline to help students organise their reflection.
- Provide structures for expressing opinions, contrasting ideas and proposing solutions:
  - *In my opinion…*
  - *However…*
  - *One possible alternative would be…*

ACITIVITY 4

ACITIVITY 4.1 (45-55')

MATERIALS

Mobile devices with a camera or screen capture

Internet access (to explore online shops)

Digital or paper notebook for notes

Shared repository (Padlet, Jamboard, Drive)

STEPS

Label hunters

Each pair or small group takes on the role of environmental investigators. The challenge is to find and collect real examples of "green" labels, slogans or messages on clothing from major brands.

They can do this by:
- Visiting physical shops (if the context allows it), or
- Exploring their websites using classroom devices.

Students take photos or notes of expressions such as:
- *Sustainable clothing*
- *100% eco-friendly*
- *Recycled organic cotton*
- *Committed to the planet*

Once the material has been collected, they share it in class or in a collaborative document. At the end of the session, the concept of greenwashing is introduced through a brief explanation by the teacher or a guided viewing/reading of the article they will work on in the next lesson.

TIPS FOR TEACHERS

- Encourage students to look carefully at both the language and the images used in labels and product descriptions. Questions such as *What words or images are used to convey an ecological idea? can guide them towards a more critical analysis.*
- Prepare a short introduction to the concept of greenwashing, with visual examples of misleading advertising campaigns, if they are not familiar with the term.
- If access to physical shops is not possible, make sure you have screenshots from well-known brands' websites ready to use as an alternative.
- Encourage a variety of examples: sportswear, urban fashion, luxury brands, etc.
- Keep in mind that this first session may be a bit chaotic: organise the groups with a clear script and a precise objective to avoid wasting time browsing without focus.

ACITIVITY 4.2 (25-30')

- Before starting the reading, briefly explain what type of language green marketing uses and why it can be misleading.
- If the article is too complex for the students' L2 level, you may adapt it using AI tools or divide it into paragraphs to work on it in small groups.
- Propose the following questions as guidance during the analysis:
  - *Which brands use more "green" messages?*
  - *What type of language do they use to appear sustainable?*
  - *Do they provide verifiable information? Do they have official certifications?*
- Introduce the idea of classifying the collected labels into different categories according to their level of sustainability (genuine, partial, questionable, non-existent). This will help them deepen their evaluation.
- Encourage students to express complete ideas, using appropriate connectors and clear argumentation. You may provide a list of structures to show agreement or disagreement if these have been previously worked on (such as the classroom wall poster or an infographic).

MATERIALS

Printed or digital article

Projector or board for brainstorming

Notes from the previous session

Glossary of useful expressions and discourse markers (if applicable)

STEPS

Green Marketing Researchers

Groups read the selected article to understand how many brands use environmental marketing strategies to improve their image without genuinely changing their practices:
"The marketing allows fast fashion to get away with it…"

After reading, they reflect in groups on the following questions, guided by the teacher to foster critical thinking:

- *Which brands use more "green" messages?*
- *What type of language do they use to appear sustainable?*
- *Do their actions match their messages? Why or why not?*
- *How can we detect greenwashing as consumers?*

Students then compare the information from the article with the examples they collected in the previous session. The teacher may project some of those examples to discuss them with the whole class. They may also consult verified websites or real environmental reports.

ACITIVITY 4.3 (25-30')

MATERIALS

> Computers or tablets with internet access

> Access to examples from Session 1

> Card, felt-tip pens and art materials (if working physically)

> Digital tools: Canva, Genially, PowerPoint

STEPS

Designers Against Greenwashing

In this final session, each group designs an informative poster presenting their findings. The aim is to raise awareness among other students about the use of greenwashing in the fashion industry.

The poster must include:
- Real examples found (photos, slogans, labels).
- A clear and visual explanation of what greenwashing is.
- A critical analysis of at least one brand.
- Recommendations for being responsible consumers.

It may be produced in a physical format (card, paper, cuttings) or digitally (Canva, PowerPoint, Genially). At the end, groups briefly present their work to the class or display it in the classroom.

- Before starting, show examples of well-designed posters (visual, clear and critical). This will provide a reference model to help them organise their work.
- Encourage students to include all key elements: real images, a clear definition of the concept, analysis of at least one brand and proposals for more conscious consumption.
- Help them plan the design: where will each section be placed? How will they make the link between image and critique visible? How will they highlight the final recommendation?
- Promote the use of simple and collaborative digital tools (Canva, Google Slides), especially if students are already familiar with them.
- Remind students that a good presentation also requires a clear explanation: encourage them to practise presenting and defending their poster orally.

HBILDIADES TRABAJADAS EN LAS ACTIVIDADES 4.1, 4.2 Y 4.3

STE(A)M skills:
- Asking questions and defining problems
- Collecting, evaluating and communicating information
- Argumentation based on data or evidence
- Building statements and designing solutions

Sustainability skills:
- Values thinking
- Strategic thinking
- Collaboration
- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

ACITIVITY 5

ACITIVITY 5.1 (30-50')

MATERIALS

> Devices with internet access

STEPS

We research before acting

Students design an awareness-raising campaign over the next four sessions about the environmental, economic and/or social problems of fast fashion.

Students reflect on the importance of doing research before launching any campaign. In small groups, they explore different social research methods (survey, interview, focus group or document analysis) and assess their advantages and disadvantages. Each group chooses one option and justifies their decision to the rest of the class.

Key task:
- Analyse real examples of social research on consumption and sustainability.
- Discuss which is the best method to find out the opinions of classmates or the school community.
- Create a comparative table with the pros and cons of each methodology.

ACITIVITY 5.2 ⟨ 50 ⟩

MATERIALS

- Devices with internet access
- Access to Google Forms, Microsoft Forms, etc. (to create digital surveys)
- Printer (if you want to print the questionnaires)

STEPS

We design our research

Once the students have decided which research method they are going to use, they must plan how they will carry out that research. To do so, they work in their groups to build a tool suited to their method (survey, interview, focus group or document analysis). During this session:

- They write the questions or guidelines needed to obtain useful, clear and ethical information.
- They choose the target audience to whom they will apply their tool: people from the school, family members, friends or the local community.
- They plan when, where and how they will apply it, taking into account the available time and the context.
- They assess whether their questions are clearly and respectfully worded, and whether they will really allow them to understand general perceptions about fast fashion.

Briefly, at the end of the session, each group shares its plan and receives quick feedback from another group or from the teacher.

TIPS FOR TEACHERS

- Remind students that the aim is not "to ask many questions", but "to ask questions that help us better understand what people know or think."
- Check with them whether their questions are worded in an open, neutral and audience-appropriate way.
- Constantly reinforce the connection with the goal: "What exactly do we want to find out about people's perceptions of fast fashion?"
- Encourage students to use clear and frequent structures in Spanish when writing their questions, such as:
  - *What do you know about…?*
  - *Do you think that…?*
  - *In your opinion,…*
  - *Why do you think that…?*
  - *How often…?*
  - *Do you agree with…? Why?*
- Encourage the use of artificial intelligence to translate, simplify or revise questions if the L2 level requires it (for example, asking it to reformulate a long question into a simpler one).

ACITIVITY 5.3 (20-30')

STEPS

Go and do the research

Students organise the data collection. To do so, each group:

- Reviews the final logistical details of their data collection tool.
- Plans who they will approach, when and how they will apply their instrument.
- Distributes tasks among group members (who interviews, who transcribes, who manages the online responses, etc.).
- Receives guidance from the teacher on how to act in real situations (ethics, politeness, confidentiality).

From that point on, they have several days to complete the data collection according to their method, outside class time.

TIPS FOR TEACHERS

- Make sure each group is clear about the following: target audience, method, minimum number of responses and deadline.
- If they use face-to-face interviews or surveys, practise key structures such as:
  - *Can I ask you a few questions about…?*
  - *What do you think about…?*
  - *Do you think that…?*
- Remind them of the importance of consent and confidentiality.
- Help them use digital tools (Forms, recorder, etc.) if they need them.

ACITIVITY 5.4 ⟨ 50 ⟩

MATERIALS

- Devices with internet access
- Access to Google Sheets, Excel or tools to create charts
- Word, Canva or similar for writing the conclusions

STEPS

What have we discovered?

Once they have applied their research instruments, the students return to the classroom with the data collected. In this session, each group works collaboratively to organise the results and turn them into useful information. They start by reviewing all the responses obtained (whether from digital surveys, interviews or focus groups) and grouping them into thematic categories such as: general knowledge about fast fashion, perceptions of its social or environmental impact, consumption habits, or gaps in knowledge detected.

With the teacher's support, they decide which type of visual representation best fits their results: they can create simple charts, diagrams, tables or word clouds. If they have used online surveys, they can automatically generate charts from the digital platforms. If they have carried out interviews or collected open-ended responses, they select key quotes that clearly represent the main ideas.

Then, they write at least three clear and understandable conclusions about what they have discovered. These conclusions should focus on what other people think, know or do not know about fast fashion. Finally, each group briefly shares its findings with the rest of the class, so that everyone can see the differences or similarities between the results obtained.

This session closes the research cycle: the students now have real and relevant data that they can use to design an awareness-raising campaign adapted to their own context.

TIPS FOR TEACHERS

- Remember that between the previous session and this one, enough time should be left for students to collect the necessary information.
- Encourage groups to look for patterns or surprises in their data.
- Remind them that this is not a complex statistical analysis: it is enough to group the data and draw clear ideas from it.
- Suggest that they use useful phrases to express results, such as:
  - *Most respondents think that…*
  - *A high percentage are unaware of…*
  - *Few people mentioned…*

SKILLS DEVELOPED IN ACTIVITIES 5.1, 5.2, 5.3 Y 5.4:

STE(A)M skills:
- Asking questions and defining problems
- Planning and executing research
- Collecting, evaluating and communicating information
- Argumentation based on data or evidence
- Building statements and designing solutions

Sustainability skills:
- Values thinking
- Strategic thinking
- Collaboration
- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation

Language & CLIL (4Cs) skills:
- Content
- Communication

TIPS FOR TEACHERS

FINAL PROJECT

2-3 SESIONES

MATERIALS

Devices with internet access

Headphones and microphone (if working with audio or video)

Editing tools (Canva, Blogger, Weebly, Clipchamp, etc.)

STEPS

Watch what you wear!

Based on the analysis carried out in previous sessions, students will create an awareness-raising campaign about the environmental, social and/or economic problems of fast fashion. They must therefore design a campaign that informs, raises awareness and encourages small changes in habits in their immediate environment (school, family, social media, etc.).

They can freely choose one or more formats, depending on their idea and the available resources: videos or vlogs, blogs or websites, physical or digital posters, a social media challenge, an exhibition or information action at school, a podcast, a comic, or any other creative format.

However, all products must share some common features:
- They must have a clear and well-justified message.
- They must include real data or perceptions collected during the previous research.
- They must be adapted to the target audience (classmates, families, community).
- They must propose concrete actions or feasible changes.
- They must be visually appealing or communicatively effective.

TIPS FOR TEACHERS

STE(A)M skills:
- Asking questions and defining problems
- Collecting, evaluating and communicating information
- Argumentation based on data or evidence
- Formulate statements and design solutions.

Sustainability skills:
- Values thinking
- Strategic thinking
- Collaboration
- Integrated problem-solving

Digital skills:
- Information and data literacy
- Digital communication and collaboration
- Digital content creation

Language & CLIL (4Cs) skills:
- Content
- Communication
- Cognition
- Culture

- Remember that the goal is not only to create a visually attractive product, but to promote critical reflection and action on fast fashion.
- It is not necessary to devote specific sessions to the final project: each teacher can manage it according to their availability and context.
- All products must include a clear message, real data and action proposals. You can remind students of these criteria with a simple checklist.
- Encourage students to reuse information, ideas

and materials worked on in previous sessions (surveys, analyses, texts, slogans, etc.).
- Foster creativity and the choice of formats according to the group's interests (posters, videos, challenges, exhibitions, etc.).
- If possible, display or share the products to give value to the students' work.
- Remember that they can use digital tools or artificial intelligence to create, edit or present their campaigns, always with supervision and a pedagogical purpose.

APPENDICES

APPENDIX A
SUGGESTED READINGS
BY CEFR LEVEL

In order to support each student's development and adapt the reading materials to different levels of linguistic competence, the following list of recommended books is organised according to the CEFR scale:

- **Level A2:** *BOT 9* by Derek Laufman (2022), Nuevo Nueve. At the top of a tower lives a lonely engineer. One day, he catches a small fish and decides to give it a new life: he places it inside a fishbowl that will become the head of a robot. Together they begin a surprising journey through a world full of challenges and beauty. The fish discovers unknown places, the dangers of the sea and signs of pollution. Without words, the images tell a story about freedom, friendship and caring for the planet.
- **Level B1:** *Superheroes Against Plastic by Martin Dorey* (2020), Destino Infantil & Juvenil. Be the superhero the planet needs: act against plastic and help change the world. This book encourages us to take action against plastic and proposes 50 simple missions to reduce plastic at home, at school and in our surroundings. With practical ideas, it helps to change habits and take care of the planet.
- **Level B2:** Let's Stop the Invasion. Don't Let Plastic Take Over by Raül Hurtado (2019), Andana Editorial. Every year, millions of tonnes of plastic reach the oceans, harm wildlife and enter our food chain. Attention, emergency is an informative book that warns about this silent invasion and its consequences. Through Greta and Aldo, it invites young people to take action and change their habits. It also explains how plastic came into our lives and how its excessive use has become a threat to the planet.

- **Level C1:** A Sea of Plastics by Kirsti Blom and Geir Wing Grabielsen (2018), Takatuka. Every year, tonnes of plastic reach the sea and form huge islands of rubbish, such as the Great Pacific Garbage Patch. A Sea of Plastics explains how this pollution affects the oceans and animals, through the story of a northern fulmar. The book shows the impact of plastic on nature and proposes simple solutions to reduce its use. With striking photographs, it invites reflection.

APPENDIX B
CONNECTION WITH
OTHER SUBJECTS

Throughout the different levels of the project, a range of subject areas have already been addressed explicitly. The following proposal outlines additional potential links with other curriculum subjects that may be relevant to this unit. These are not prescribed or compulsory activities, but rather suggestions intended to inspire broader interdisciplinary integration where appropriate or necessary. Teachers may adapt or incorporate these ideas according to their specific context, institutional priorities and students' level. Their inclusion is entirely optional and aims to support a flexible and scalable implementation of the project.

1. Mathematics
Possible connections:
- Analysing and interpreting real data on marine pollution, plastic consumption, emissions or ecological footprint through tables, graphs and diagrams.
- Working with proportions, percentages and scales based on authentic statistics (for example, growth in plastic waste, distribution of consumption by country, or impact by sector).
- Estimating quantities, volumes or masses of waste present in different scenarios and

comparing them with real-world benchmarks.

- Modelling, in simplified form, the evolution of an environmental issue over time through graphical representations.
- Developing critical thinking when interpreting graphs and data visualisations found in media reports or environmental campaigns.
- Linking concepts such as scale, magnitude and order of magnitude to the understanding of global problems in relation to local actions.
-

2. Technology and Digitalisation
Possible connections:

- Applying the engineering design process to devise and build a prototype capable of filtering or collecting waste or microplastics, using recycled or low-cost materials.
- Investigating how material properties (flexibility, strength, density, impermeability) influence the design and function of plastic products and their sustainable alternatives.
- Designing and simulating sustainable packaging or transport systems to replace single-use plastics, using scale models or digital tools.
- Analysing current technological innovations in environmental protection (biodegradable materials, ocean clean-up systems, sensors, intelligent waste management systems) and proposing improvements or adaptations.
- Integrating sketching, technical drawing and 3D digital modelling (for example, with Tinkercad or similar platforms) to communicate design ideas clearly.
- Exploring the life cycle of industrial products and their environmental impact, linking this to principles of circular economy and responsible consumption.

3. Physical Education
Possible connections:

- Organising cooperative physical activities linked to the symbolic or simulated collection and classification of waste,

combining movement, teamwork and environmental awareness.

- Addressing emotional wellbeing and the management of eco-anxiety through bodily dynamics, cooperative games or expressive activities.
- Designing choreographies or movement sequences inspired by ocean currents, marine life or environmental transformation.
- Using the body as a tool for the symbolic representation of natural processes (waste flow, accumulation, clean-up, regeneration).
- Connecting traditional games from coastal or island regions with reflections on the relationship between human activity, environment and sustainability.
- Promoting active lifestyles associated with environmental care and responsible use of natural spaces.

4. Design and Technology
Possible connections:

- Analysing soundscapes related to the sea, industry or pollution and reflecting on the emotions they evoke.
- Creating musical pieces, soundtracks or compositions to accompany the comic, videos or awareness campaigns developed within the project.
- Exploring rhythm, intensity and silence as expressive resources to represent processes such as degradation, collapse or environmental recovery.
- Developing short sound performances or body percussion sequences inspired by the project's narrative elements.
- Investigating traditional music from coastal or island cultures and examining its historical connection to the sea and nature.
- Using music as a medium for emotional expression and social awareness in relation to environmental issues.

APPENDIX C
ASSESSMENT RUBRIC OF FINAL PRODUCTS

The following rubric is provided as a flexible and optional tool to support the evaluation of student projects. It is designed to guide assessment through clear, observable criteria while allowing teachers to adapt it to their specific context or needs.

Scan here to download the interactive rubric. You can enter scores directly into the file, and the total will be calculated automatically out of 10.

This resource is intended to simplify assessment, enhance transparency, and encourage consistency. However, its use is not mandatory: teachers are free to adjust the criteria, scoring scale, or final weighting, or to use a different tool altogether, depending on the goals of the project and the characteristics of their classroom.

a.	CRITERIA	EXCELLENT (4)
STESM skills	**1. Problem identification and model-based thinking**	The product is based on a clearly formulated and relevant real-world problem or question. It includes one or more models (visual, conceptual, physical or symbolic) that effectively represent core concepts or systems and help explain the problem or solution.
	2. Reasoning, planning and structured problem-solving	The product shows a clearly structured approach to problem-solving. Reasoning is logical and well-sequenced, and the proposed solution addresses the problem effectively with justified steps, mechanisms or principles.
	3. Evidence-based argumentation and data interpretation	The product integrates specific data, factual information, or observed evidence to support decisions or claims. Interpretation is accurate and shows clear understanding of relationships, causes or consequences.
	4. Information management and scientific communication	Information is relevant, accurate and well organised. Scientific content is communicated clearly, using appropriate formats (labels, captions, diagrams, visual hierarchies, etc.) and adapted to the intended audience and goal.
	5. Creative and artistic expression	Artistic or design elements are used purposefully to enhance meaning, engagement and communication. Composition, colour, symbolism or other visual resources reflect clear creative intention and coherence.
L2	**6. Accuracy and range of language**	The product demonstrates consistent accuracy in grammar, spelling, punctuation and word choice. A wide range of vocabulary and structures is used appropriately to express meaning with precision and fluency.
	7. Clarity and coherence of message	The message is logically organised and easy to follow. Ideas are clearly connected through effective transitions and the overall structure supports comprehension.

GOOD (3)	SATISFACTORY (2)	NEEDS IMPROVEMENT (1)
The product presents a mostly relevant problem or question, with a model or visual representation that contributes to understanding but may lack precision or completeness.	The problem is present but is poorly defined, generic or only loosely linked to real-world issues. The model is simplistic, underdeveloped or not clearly linked to the problem.	The product lacks a defined problem or guiding question. No meaningful model is used, or the representation is disconnected, unclear or decorative only.
The product includes a mostly logical sequence, with a solution that is appropriate and functional, though not deeply justified or partially disconnected from the problem.	The reasoning or planning is partially evident, but the steps taken are disorganised, oversimplified or contain inconsistencies. The solution is incomplete or vague.	The product lacks visible reasoning or planning. The solution is missing, irrelevant or incoherent in relation to the problem.
The product includes data or information, with basic explanation or justification of its relevance. Interpretation is present but lacks depth or detail.	Limited or superficial use of evidence. Connections between information and conclusions are unclear or weakly reasoned.	No use of data or observable evidence. The product relies on opinions or assumptions without justification.
Information is generally relevant and understandable, though some ideas may lack clarity or structure. Formatting and visual organisation support the message adequately.	Content includes inaccuracies, vague phrasing or lacks coherence. The message is partly understandable, but the structure or design hinders comprehension.	The product is disorganised or contains significant errors. Scientific content is poorly presented, confusing or inappropriate for the audience.
The product includes appropriate and mostly effective artistic or creative elements. Visuals or design contribute to the message, though they may be conventional or uneven.	Some aesthetic elements are present but are poorly developed, unbalanced or lack integration with the message. Creative intent is limited.	Visual or artistic resources are absent, minimal or irrelevant. The product shows little creative effort or visual coherence.
Language is mostly accurate with only occasional minor errors that do not affect understacabulary and structures show some variety and are appropriate to the topic.	Frequent grammatical or lexical errors that occasionally interfere with meaning. Limited range of structures or repetitive vocabulary.	Persistent errors in grammar or vocabulary that significantly hinder comprehension. Very limited or inappropriate use of English.
The message is generally clear and coherent. Some minor lapses in organisation or flow, but the main ideas are still understandable.	The message is unevenly structured or contains unclear sections. Transitions may be missing or poorly used, affecting comprehension.	The message is difficult to follow due to poor organisation, unclear sentence structure or lack of logical progression.

	8. Adequacy to format and audience	The language used is fully appropriate to the type of product (e.g., comic, campaign, report, script) and adapted to its intended audience in tone, register and purpose.
	9. Oral and/or written fluency	Written texts are fluent and natural-sounding, with good rhythm and readability. Oral performance (if present) is confident, intelligible and expressive, with accurate pronunciation and appropriate intonation.
Digital Skills	**10. Purposeful use of digital tools**	Digital tools are used appropriately and effectively to enhance the creation, organisation and/or communication of the product. Tool selection shows autonomy, accuracy and relevance to the task.
	11. Quality of the digital product	The product is technically well-executed: sound, image, layout, transitions and design elements (e.g., fonts, colours, spacing) are coherent, attractive and professional. No technical flaws are present.
Sustainability/ ODS	**12. Understanding of the sustainability issue**	The product demonstrates a deep and accurate understanding of the environmental or social issue addressed. Causes, consequences and connections to the selected SDG are clearly explained or represented.
	13. Propuesta de acción, solución o estrategia de sensibilización	The product includes a realistic, well-argued and contextually relevant proposal to address the issue. The action or message is creative, feasible and shows strong commitment to sustainability.
Other	**14. Critical thinking and transfer**	The product demonstrates the ability to apply concepts, methods or content from different areas in a new or real-world context. The ideas show thoughtful reflection, analysis and clear relevance.
	15. Adequacy to product format and purpose	The product fully respects the structural, visual and communicative conventions of the chosen format (e.g., comic, campaign, presentation). It is well adapted to the intended audience and purpose.

The product presents a mostly relevant problem or question, with a model or visual representation that contributes to understanding but may lack precision or completeness.	The problem is present but is poorly defined, generic or only loosely linked to real-world issues. The model is simplistic, underdeveloped or not clearly linked to the problem.	The product lacks a defined problem or guiding question. No meaningful model is used, or the representation is disconnected, unclear or decorative only.
The product includes a mostly logical sequence, with a solution that is appropriate and functional, though not deeply justified or partially disconnected from the problem.	The reasoning or planning is partially evident, but the steps taken are disorganised, oversimplified or contain inconsistencies. The solution is incomplete or vague.	The product lacks visible reasoning or planning. The solution is missing, irrelevant or incoherent in relation to the problem.
The product includes data or information, with basic explanation or justification of its relevance. Interpretation is present but lacks depth or detail.	Limited or superficial use of evidence. Connections between information and conclusions are unclear or weakly reasoned.	No use of data or observable evidence. The product relies on opinions or assumptions without justification.
Information is generally relevant and understandable, though some ideas may lack clarity or structure. Formatting and visual organisation support the message adequately.	Content includes inaccuracies, vague phrasing or lacks coherence. The message is partly understandable, but the structure or design hinders comprehension.	The product is disorganised or contains significant errors. Scientific content is poorly presented, confusing or inappropriate for the audience.
The product includes appropriate and mostly effective artistic or creative elements. Visuals or design contribute to the message, though they may be conventional or uneven.	Some aesthetic elements are present but are poorly developed, unbalanced or lack integration with the message. Creative intent is limited.	Visual or artistic resources are absent, minimal or irrelevant. The product shows little creative effort or visual coherence.
Language is mostly accurate, with only occasional minor errors that do not affect understanding. Vocabulary and structures show some variety and are appropriate to the topic.	Frequent grammatical or lexical errors that occasionally interfere with meaning. Limited range of structures or repetitive vocabulary.	Persistent errors in grammar or vocabulary that significantly hinder comprehension. Very limited or inappropriate use of English.
The language fits the format and audience in general terms, though some inconsistencies in tone or formality may appear.	The use of English only partially matches the conventions of the format or the expectations of the audience. Inconsistent tone or awkward phrasing.	Language is inappropriate for the format or audience. The tone, formality or structure do not match the task.
Written or spoken English is mostly fluent and understandable. Some hesitation, mispronunciation or unnatural phrasing, but communication is not seriously affected.	Limited fluency with noticeable pauses, mispronunciations or awkward phrasing. Some sections are difficult to follow.	Lack of fluency. Written text is fragmented or confusing. Oral delivery (if applicable) is unclear, monotonous or hard to understand.

APPENDIX D
SELF-ASSESSMENT

BLOCK	I CAN...
1. Science content	I can explain concepts and ideas related to science, technology, engineering, arts, or maths when relevant I can apply the concepts and ideas worked in the unit to design, test, or improve a product or solution I can connect what I have learned to real-world challenges and reflect on the results
2. English (L2)	I can use English to express my ideas clearly when writing or speaking I can use vocabulary and structures appropriate for the topic and task I can communicate effectively in English during group work and presentations
3. Critical thinking & creativity	I can suggest original or useful ideas to solve a problem or improve a product I can analyse a situation and make thoughtful decisions I can use creative strategies to share what I have learned
4. Teamwork & attitude	I can collaborate with others, listening and contributing respectfully I can stay organised and meet deadlines during the project I can show commitment and a positive attitude throughout the process
5. Digital skills	I can use digital tools to explore, create, or present content I can produce digital materials that are clear, well-designed and adapted to the purpose I can combine different media (text, image, sound...) to improve communication.
6. Sustainability	I can recognise the impact of human actions on the environment and society I can reflect on my role and make choices that promote sustainability I can take part in actions or solutions that contribute to a better future

Score	Description
1 – Strongly disagree	I don't know how to do this yet or I had a lot of trouble
2 – Disagree	I can do it a bit, but I still need help or get confused
3 – Neutral	I can do it sometimes, but I'm not very sure or confident
4 – Agree	I can usually do it well and I feel quite confident
5 – Strongly agree	I can do it very well and feel confident in different situations

APPENDIX E
PEER-ASSESSMENT

I think my teammate(s)/I..	A1	A2	A3	A4	(Myself)
worked well with others and helped the group.					
shared ideas clearly and listened to the group.					
completed their part of the work on time.					
gave original and useful ideas to improve the project.					
had a positive attitude and encouraged others.					
respected other opinions and worked with everyone.					

*Write the name of each group member (including yourself) above A1–A5. Give a score from *1 (Strongly disagree)* to **5** *(Strongly agree)* for each item.

APPENDIX F IMPLEMENTATION ASSESSMENT

Nº	INDICATOR	1	2	3	4	5
1	The project implementation is consistent combining CLIL, STEAM and storytelling in a coherent and integrated way.					
2	Activities foster active student participation and engagement throughout the learning process.					
3	Classroom management is effective, maintaining a positive and inclusive learning environment.					
4	Time is managed efficiently, allowing the planned activities to be completed within the available sessions.					
5	Unexpected challenges are addressed with flexible, reflective, and goal-aligned decisions.					
6	All students participate actively and their individual needs are recognised and addressed.					
7	The project encourages interdisciplinary connections and integrates different subjects in a meaningful and functional way.					
8	Co-teaching or interdisciplinary coordination (if applicable) is well-organised and contributes to the success of the project.					
9	Ongoing assessment is integrated into the project using varied tools and includes student self-reflection.					
10	The use of the L2 (if applicable) is consistent and functional across the project, supporting both communication and content learning.					
11	The use of the L2 (if applicable) is consistent and functional across the project, supporting both communication and content learning.					
TOTAL IMPLEMENTATION SCORE: ………………… /55						

Note:

Use the following scale to evaluate each indicator:

1 – Strongly disagree   2 – Disagree   3 – Neither agree nor disagree   4 – Agree   5 – Strongly agree

RAISING ENVIRONMENTAL AWARENESS: THE STORY OF SUNA AND KAY'S PLASTIC ISLAND

Sunakay by Meritxell Martí takes the reader into a future shaped by waste, through the story of two sisters who survive on a plastic island. This graphic novel guides students on an interdisciplinary journey to understand the impact of pollution and the fragility of marine ecosystems.

Inspired by this story of survival and regeneration, this teaching material combines reading, discussion and hands-on activities to help students explore key issues related to plastic pollution, marine life and the search for sustainability.

Through individual and collaborative tasks, as well as creative projects, students investigate the causes and consequences of plastic waste, analyse its effects on marine life and communities, and propose innovative solutions. Step by step, they develop essential skills in critical literacy, scientific inquiry, creativity and social awareness, while also strengthening their communication skills in different languages.

This handbook, which includes three units and is designed according to the PROMISED model, provides teachers with a flexible, ready-to-use framework that connects literature, STEAM education and global citizenship. The material can be adapted to different teaching contexts, making it a versatile resource that fosters innovation in bilingual and multilingual classrooms. It includes practical activities, digital resources and assessment tools, all aligned with the challenges of global sustainability and marine conservation.

ABOUT THE PROJECT

PROMISED is an Erasmus+ project led by the University of Burgos in collaboration with Howest University, Matej Bel University, the University of Granada, the CFIE of Burgos, and Kveloce. Its goal is to design and implement an innovative didactic model that integrates STEAM education, bilingual learning (CLIL), sustainability, and digital skills in secondary schools, promoting both the green and digital transitions in education across Europe, to address the needs of 21st-century learners and support schools in facing today's educational challenges.