Climate Wise Schools and Students
(2024-1-ES01-KA220-SCH-000251082)

Topic: New Threads on Climate Change(Complied by Portuguese partn

Level: Middle school

Time: 50+50 minutes

Objectives: Students will be able to;

- ✔ **Identify** emerging climate trends (New Threads) such as agricultural resilience, green finance, and urban adaptation.
- ✔ **Analyze** local impacts in Portugal, Spain, Greece, Croatia and North Macedonia.
- ✔ **Collaborate** on practical solutions using real-world data and digital tools.
- ✔ **Discuss** the emotional impact of climate change through positive action

Disciplines: Natural Science, Technology, social sciences

Materials:

- Smart Board/Tablet PCs.
- Digital Wheel for group selection.
- Online maps and climate data portals (AEMET, MITECO, AdaptiveGreece)

Activities and Practices: Using gamification to engage students in problem-solving related to microplastic pollution

Session 1: Mapping the "New Threads" (45 min)

Warm-up: The Climate Pulse (10 min)

- **Activity: "The 10-Year Weather Check."**
- **Prompt: Ask students if they have noticed changes in weather in Portugal over the last decade (e.g., shorter winters, more intense summer heat).**

- **Task: Use a "Word Cloud" tool to list these changes on the board.**

Mini-Lecture: Four Threads of Action (15 min)

Introduce the four key themes identified by the project:

1. Agriculture Adaptation: Improving seed systems and agricultural resilience (Case: North Macedonia's climate-tolerant seeds).https://www.google.com/search?q=https://hub.climate-governance.org/Primer/Geography/gr
2. Forest & Land Management: Integrated fire management and carbon sinks (Case: Greece's national adaptation strategy). https://www.adaptivegreece.gr/en-us/adaptation-to-climate-change
3. Green Transition: Greening the financial system and renewable energy expansion (Case: Spain's biogas innovation and EIB green lending). https://elpais.com/economia/2025-11-03/la-empresa-espanola-que-revoluciona-la-produccion-de-biogas.html
4. National Planning: Integrating climate adaptation into transport and water resources (Case: Portugal's disaster forensic analysis). https://www.undrr.org/resource/portugal-heatwave-2022-forensic-analysis

Group Task I: Regional Threads Investigation (20 min)

Students are divided into 4 groups using a "Country Wheel":

- Group 1 (Portugal/Spain - Iberia): Focus on "Patios X El Clima" (greening schoolyards) and "Eco-Schools" networks in Spain and Portugal. https://thegreenballoon.org/patisxclima/patios-x-clima-en-accio/

  https://ecoescolas.abaae.pt/

  https://ecoescolas.abaae.pt/wp-content/uploads/sites/3/2026/01/1.ABAAE-Eco-Schools-Conf-230126-final.pdf

- Group 2 (Greece - Mediterranean): Focus on the 2022 Climate Law and the goal of "Carbon-Neutral Schools" in Lesvos and Athens.

  https://www.adaptivegreece.gr/en-us/adaptation-to-climate-change

  https://www.wwf.gr/en/news/?uNewsID=6718391

- Group 3 (North Macedonia - Balkans): Focus on the FAO seed resilience project in Kochani and Skopje.https://northmacedonia.un.org/sq/node/146638

  https://www.fao.org/north-macedonia/our-office/fao-in-north-macedonia/en

- Group 4 (Cross-Border): Identify one common thread between Iberia and the Balkans (e.g., increasing forest fire risks).https://wwf.panda.org/es/?14205816/Fire-and-resilience-on-the-Iberian-Peninsula

  https://www.google.com/search?q=https://www.eea.europa.eu/en/topics/in-depth/climate-change-adaptation

Session 2: Solutions & Engagement (45 min)

Activity: The "Policy Pitch" Workshop (20 min)

- Task: In their country groups, students must design a "New Thread" project for their school or city.
- Example Ideas: * Iberia: "Safe School Routes" to reduce car travel.
  - Balkans: "Youth-led Forest Fire Education".
  - Greece: "Schoolyard Solar Audit".
- Requirement: Each group must present a 1-minute "Elevator Pitch".

Help to this activity:

🇵🇹 🇪🇸 Group 1: Iberia (The Urban Coolers)

Focus: Safe School Routes & Greening.

- **The Problem:** In Portugal and Spain, "Urban Heat Islands" make walking to school difficult. Asphalt can reach temperatures 20°C higher than shaded grass.
- **Key Data for your Pitch:** Replacing asphalt with "permeable pavements" or trees can reduce local air temperature by up to **5°C**.
- **Project Booster:** * *Idea:* "The Walking Bus" with portable misting fans or "Green Canopies" (natural shade).
  - *Check:* Use Patios X El Clima to see how to replace concrete with "Living Lab" gardens.

🇬🇷 Group 2: Mediterranean (The Energy Guardians)

Focus: Schoolyard Solar Audit & Carbon Neutrality.

- **The Problem:** Schools are major energy consumers. Under the **Greek Climate Law 2022**, public buildings must lead the way in reducing CO2 emissions.
- **Key Data for your Pitch:** A typical school roof can often host enough solar panels to provide **60-80%** of its own electricity.
- **Project Booster:** * *Idea:* "Energy Detectives" – A student task force that monitors the school's energy meter and proposes a "Solar Roof" crowdfunding campaign.
    - *Check:* Look at Adaptive Greece for ideas on "Smart Infrastructure."

🇲🇰 Group 3: Balkans (The Seed Saviours)

Focus: Agricultural Resilience & Food Security.

- **The Problem:** Drought in the Balkans is making it harder to grow traditional crops. If we don't adapt our seeds, food prices will rise.
- **Key Data for your Pitch:** Climate-tolerant seeds (like those tested by the FAO in Kochani) require **30% less water** to produce the same yield.
- **Project Booster:**
    - *Idea:* "The Ancestral Seed Bank" – Collecting and growing native, drought-resistant seeds in a school greenhouse.
    - *Check:* Watch the FAO North Macedonia stories to see which seeds are "winners."

🌍 Group 4: Cross-Border (The Fire Fighters)

Focus: Forest Fire Prevention & Heatwave Readiness.

- **The Problem:** Forest fires don't respect borders. 2022 was one of the worst years for both Portugal and the Balkans. Most fires are caused by human error or lack of awareness.
- **Key Data for your Pitch:** Early detection and community education can reduce fire spread by **40%**.
- **Project Booster:**
    - *Idea:* "Shadow & Alert" – A dual project: creating "Cooling Centers" in schools for elderly people during heatwaves and a "Forest Sentinel" drone club.
    - *Check:* Use the UNDRR Forensic Analysis to explain *why* heatwaves are the "silent killer."

🎤 How to Win the "Elevator Pitch" (Tips for Success)

1. **Hook them in 5 seconds:** Start with a question. *"Did you know that our school playground is 10 degrees hotter than the park next door?"*
2. **Use the "Erasmus Spirit":** Mention how your project could be copied by students in Greece or Macedonia.
3. **Be a "Hope Builder":** Don't just talk about the disaster. Talk about the **fix**.
4. **Body Language:** Stand tall, look at your audience, and speak with passion!

Coordinator's Reminder: You have the links, you have the data. Now, weave your "New Thread" into a project that makes your community more resilient! 🌟

Game: Climate Challenge (20/30 min)

- Task: Students play the "Mission: Climate Future" developed by project partners.
- Goal: Make strategic decisions for a virtual city to build resilience before temperature indicators rise.

Example of this Game:

🎮 Activity: "The Resilient City Challenge"

Time: 20-30 Minutes

Format: Small Groups (3-4 students)

Platform: Board Game / Simulator

1. The Scenario (The Setup)

Each group is the "City Council" of a new virtual Mediterranean city. You have a limited budget (Climate Credits) and a **Temperature Gauge** that is rising every turn.

- **The Mission:** Implement at least 3 "New Threads" (Adaptation Actions) before the temperature hits the "Red Zone".

2. The Gameplay: Step-by-Step

Step A: Analysis (5 min)

Before playing, groups must look at their city's map.

- Is there a river? (Risk: Flooding)
- Is it mostly concrete? (Risk: Heat Island)
- Is it near a forest? (Risk: Wildfires)

Step B: The Decision Rounds (15 min)

Students play the game. For every decision made in the virtual city, they must fill in their **"Resilience Log"**:

1. **Action Taken:** (e.g., "Planted 500 Urban Trees")
2. **Thread Category:** (e.g., "Forest & Land Management")
3. **Impact:** (e.g., "Reduced temperature by 1°C and increased citizen happiness").

Step C: The "Random Event" (The Twist)

Halfway through, the teacher announces a "Climate Alert" (e.g., *"A heatwave is hitting the Iberian Peninsula!"*).

- Groups that invested in **Thread 1 (Agriculture)** or **Thread 4 (National Planning)** save their resources.
- Groups that didn't invest lose 10 "Climate Credits".

3. Winning Criteria

It's not just about the lowest temperature! The winning group is the one that achieves the **"Triple Balance"**:

1. **Low Temperature** (Environmental)
2. **High Citizen Budget** (Economic)
3. **High Happiness/Health** (Social - addressing Eco-Anxiety)

📝 Student Worksheet: "Mission: Climate Future" Log

	Decision	Why did you choose this?	Result (Temp +/-)

	Example: Solar Audit	*To reduce fossil fuel use.*	*- 0.5°C*

🗣️ Reflection Questions (Post-Game)

- **Critical Thinking:** "What was the hardest resource to manage: Money or Time?"
- **Eco behaviour Flip:** "How did it feel to see the temperature go down when you took action? Did you feel more in control?"
- **Real-World Link:** "Which action from the game could we actually start in our school in Portugal tomorrow?"

🏆 Rewards

The winning team receives the **"Master of Resilience"** digital badge and gets to choose the "Green Song" to play at the end of the class! 🎵🌱

Reflection & Action (10 min)

- Exit Ticket: "One new insight + one personal pledge".
- Pledge Examples: "I will walk to school twice a week" or "I will check the energy efficiency of my devices".
- Rewards: Students receive digital labels: "Hope Builder", "Eco Problem Solver", or "Green Thinker".

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5. Assessment & Assignment

- Classwork: Participation in the "Policy Pitch" and data lab.
- Homework: Create a "Climate Story Map" or a "TikTok Climate Challenge" video showing a local adaptation practice in their community.


Eco-Warrior
Congratulations to
Thank you for all your help.
Date
Signed