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The EcoMystery Project:

Interactive Escape Rooms for Climate Crisis

Awareness and Civic Engagement in School Education

WP3

'Escape the Climate Crisis' Coursework

Module 7

'Escape the Climate Crisis' Case Studies

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Module 7 – 'Escape the Climate Crisis' Case Studies

The EcoMystery Project: Interactive Escape Rooms for Climate Crisis Awareness and Civic Engagement in School Education

(2024-1-IT02-KA220-SCH-000248873)

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Module 7 – ‘Escape the Climate Crisis’ Case Studies

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Module 7 - Escape the Climate Crisis' Case Studies

Introduction

This module introduces pupils to climate case studies as a way of understanding how responses to climate change are designed and discussed in real life. Whereas earlier modules focus more strongly on causes, mechanisms, and impacts, this module turns attention toward action: it teaches students that climate change is not a theoretical problem but a real one, made up of multiple decisions, trade-offs, public planning, local participation, and practical innovation.

Case studies are especially useful in school settings because they bring climate education into the students' daily reality. A case study asks pupils to look at a concrete example and consider a set of focused questions: What problem is being addressed? What kind of response is being used? Who made decisions? Who benefits first? What difficulties remain? Could a similar idea work in our own community? Pupils learn to compare, classify, and judge responses in a reasoned way.

Teachers are encouraged to present case studies as open learning tools. Few climate responses solve everything. A strong case may still involve costs, limits, unequal access, or difficult implementation. This is one of the educational strengths of the module: pupils begin to see that adaptation and mitigation often work together, that policy needs public support, that community action can improve formal plans, and that innovation is most useful when it is accessible and tied to real needs. The activities in the module are therefore designed to identify types of climate action, but also to help pupils weigh realism, fairness, and local applicability.

Teachers may use the case studies provided in the module as the main classroom material, then direct interested pupils toward additional visual summaries, adaptation portals, student-friendly climate examples, or local planning documents if further exploration is appropriate.



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Teaching Tip!

Try to end each discussion with a local or action-oriented question.

Because this module focuses on responses, it helps to finish each discussion by asking what might be transferable to a local setting. The goal is to help students think realistically about what could work in their own local context, who would need to be involved, and what difficulties might appear.

Teaching Tip!

Connect each case back to ordinary school or community life.

This module becomes more meaningful when pupils can see how climate responses relate to familiar spaces. After discussing a case, invite them to think about shaded schoolyards, hot classrooms, local drainage, safe walking routes, public transport, green spaces, or how information is shared during difficult weather.

Possible Discussion Questions:

- What problem is this climate response trying to solve first?
- Who seems to benefit most from this response, and who might still need more support?



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Learning Objectives

By the end of this module, pupils will be able to:

- explain the difference between mitigation and adaptation using simple real-world examples
- identify how climate responses may involve policy, community action, innovation, or a combination of these
- analyse case studies by asking key questions such as: What problem is being addressed? Who benefits? What are the limitations? Could this work locally?
- recognise that climate responses often involve trade-offs, implementation challenges, and questions of fairness
- compare climate-response examples and classify them using evidence from the text or task materials
- transfer ideas from real-world cases to their own school, neighbourhood, or municipality in a realistic way
- propose short, evidence-based local response packages that combine adaptation, mitigation, and practical support actions
- discuss climate action not only as an environmental issue, but also as a civic, social, and community issue.

This module also supports the development of 21st century skills, especially:

- critical thinking, through classification, comparison, and evaluation of case studies
- collaboration, through shared planning, discussion, and decision-making
- communication, through short pitches, mini-briefs, and group explanation
- creativity, through local transfer tasks and response-package design



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- digital literacy, where teachers or pupils use digital maps, slides, case-study portals, or planning tools
- civic literacy, through considering institutions, public participation, local actors, and fairness in climate responses.

Possible Sustainable Development Goals addressed in this module include:

- SDG 4 – Quality Education
- SDG 11 – Sustainable Cities and Communities
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action
- SDG 17 – Partnerships for the Goals

Time required

This module is designed to be manageable as a short teaching unit, while still allowing room for discussion, comparison, and local application. The theoretical section can be introduced in approximately 1-2 teaching hours, depending on the depth of discussion and whether the teacher chooses to work closely through the case-study examples and visual materials. The practical part may then be delivered through one or more activities, about 1 hour each.



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Teaching Tip!

Begin with the purpose of a case study before introducing the example itself.

Pupils are more likely to engage if they are looking at a real example—but they are even likelier to engage if they understand why we need to study real examples of climate challenges. It helps to frame the case study as a tool for thinking rather than as a model answer. A useful starting approach is to explain that the class is examining how people respond to climate challenges in real places, what makes a response effective, and what limitations or trade-offs may still remain.



Theory

Unit 1 - Overview of real-world adaptation & mitigation strategies (policy, community, innovation).

This module uses real-world case studies to show you how responses to the climate crisis are already being designed, debated, tested, and improved in many places. The aim is to help you understand climate action as something practical, collective, and open to critical discussion. You should come away understanding that climate responses can happen through policy, community action, and innovation, and that the most effective examples often combine all three.

When you hear about climate change, you often hear first about causes or consequences. Case studies add a different perspective: they show what people are doing in response. In this module, real-world examples are used as learning tools. A good case study does more than describe a project. It helps you ask important questions: What problem is being addressed? Who decided what to do? Who benefits? What are the limits? Could something similar work in our own community? In this way, case studies can turn climate learning into civic learning as well.

A useful starting point is the difference between mitigation and adaptation. Mitigation tries to reduce further climate change by cutting greenhouse gas emissions or by increasing carbon storage. Adaptation tries to reduce harm from changes that are already happening or are becoming more difficult to avoid. In everyday language, mitigation acts on the cause of the problem, while adaptation deals with the effects. Both are necessary. A city can install solar panels and improve public transport to reduce emissions, but it may also need shade, water access, and emergency planning to protect people during heatwaves. Real climate action usually works as a combination rather than a single measure (IPCC, 2022). Still, the categorising into mitigation or adaptation helps us better understand climate actions.

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Teaching Tip!

Introduce adaptation and mitigation through function; avoid unexplained terminology.

If pupils find the ideas of adaptation and mitigation too abstract, avoid beginning with definitions alone. Instead, ask what the response is trying to do: reduce the causes of climate change? protect people from impacts that are already happening? do both at once? Once pupils grasp the underlying function, the formal terms become much easier to retain and use correctly.

Policy is one of the strongest ways societies respond to climate risk. Policies include laws, standards, budgets, public plans, and long-term strategies. They shape what can be built, how land is used, how energy is produced, and how public services prepare for emergencies. A strong policy response is not only about writing rules on paper. It also needs institutions, funding, and follow-up. In many countries, adaptation policy has grown quickly in recent years, but progress is uneven and implementation still differs greatly from one place to another (Lesnikowski et al., 2016).

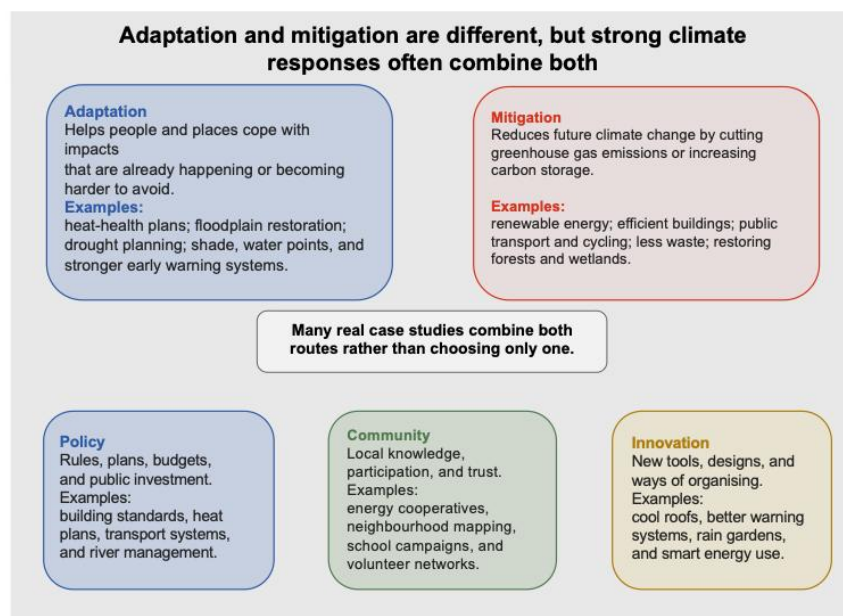


Figure 1a. A classroom overview of adaptation, mitigation, and the roles of policy, community action, and innovation.

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A clear example of adaptation through policy is the Ahmedabad Heat Action Plan ;in India. The plan was developed after severe heat events and brought together public health officials, weather services, city authorities, hospitals, researchers, and community outreach efforts. It linked heat forecasts to warnings, prepared health services, shared safety information with vulnerable groups, and treated heat as a public-risk issue rather than an individual’s problem. This shows that adaptation is not just about technology; it is also about communication, planning, and protecting people before harm becomes more severe (Knowlton et al., 2014).

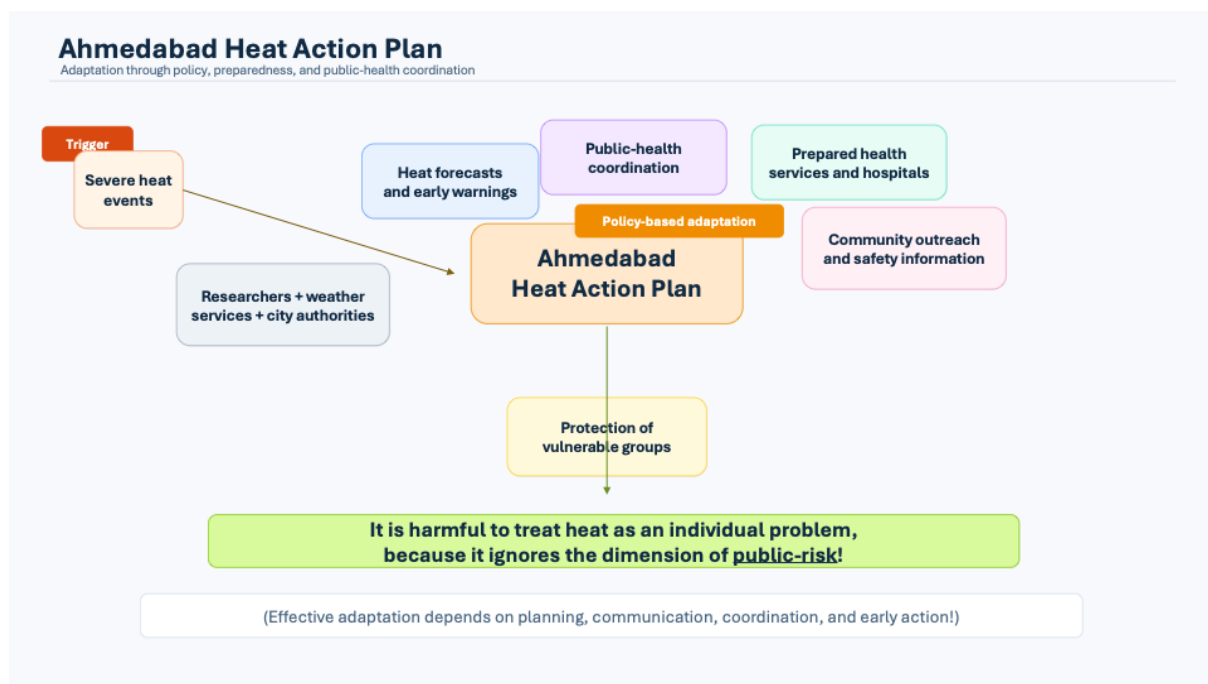


Figure 1b. Schematic representation of Ahmedabad Heat Action Plan.

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Teaching Tip!

Treat each case as a decision-making situation, not as information to be memorised, since the latter is less engaging.

Asking students to memorise information will probably not suffice to engage them. A practical way to sustain discussion is to keep returning to a small set of analytical questions: What problem is being addressed? Who is involved? What kind of response is used? What seems to work? What remains difficult? This keeps the lesson active and cultivates in students the skills of interpretation and judgement—which are generally much needed, and specifically so in climate education.

Another well-known case is the Dutch transition toward giving rivers more space instead of relying only on higher flood defences. In the Netherlands, the Room for the River approach combined flood safety with changes in land use, river widening, and attention to landscape quality. This is an important lesson: adaptation does not always mean 'holding the line' against nature. In some cases, it means redesigning places so that water, heat, or drought can be managed more safely and more realistically. This kind of response usually requires public planning, technical expertise, and long-term cooperation between different actors (van Herk et al., 2015).

Possible Discussion Questions:

- Is this example mainly trying to prevent future harm, respond to current harm, or do both at the same time?
- What makes this response realistic in its own setting?

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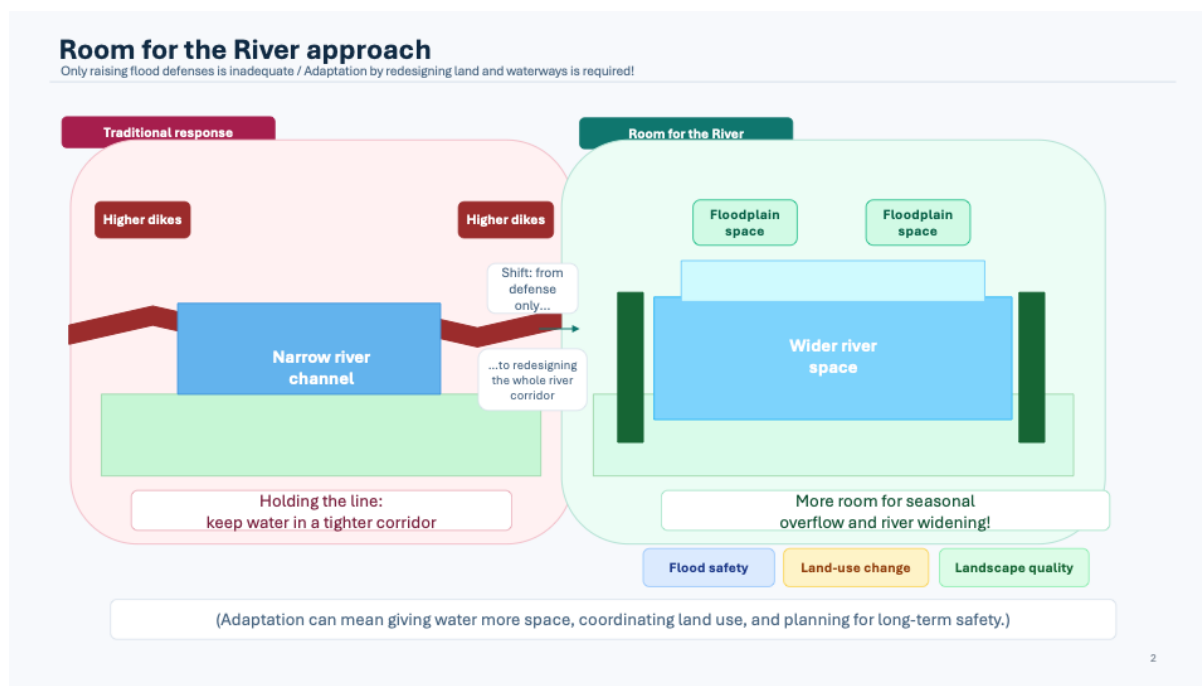


Figure 1c. Schematic representation of Ahmedabad Heat Action Plan.

Community action is another major part of climate responses. Communities often notice local risks first, and they can respond in ways that are practical, trusted, and closely connected to daily life. This can include neighbourhood cooling spaces, volunteer flood-preparedness networks, school biodiversity projects, local repair initiatives, or citizen-led energy projects. Community action can make policies more effective because it brings local knowledge, trust, and participation into the response.

Innovation is another important route highlighted in this module. We often imagine innovation as a new machine or digital tool, but climate innovation is broader than that. It can include better insulation, early warning systems, cool roofs, more efficient public transport, rain gardens, new school routines for hot days, low-carbon materials, or new ways of organising local services. Some innovations are highly technical; others are social or institutional. Many of the most useful climate responses combine both. A new tool matters most when people know how to use it, trust it, and can access it easily.



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Nature-based solutions are especially helpful examples because they often connect policy, community action, and innovation in one place. Trees, wetlands, restored riverbanks, permeable surfaces, and green schoolyards can reduce heat, slow runoff, support biodiversity, and improve public space. These responses are attractive, but at the same time they should not be presented as magic answers: these responses need maintenance, space, local ecological knowledge, and fair planning. A tree-planting project, for example, is not successful if it ignores water needs, chooses unsuitable species, or improves one neighbourhood while leaving another without protection (Frantzeskaki, 2019; Seddon et al., 2020).

Teaching Tip!

Make space for trade-offs; avoid thinking in terms of just benefits or just costs.

Pupils tend to assume that a climate response is either good or bad in a binary way. Teachers can deepen the discussion by showing that a response may bring real benefits while still creating difficulties, costs, maintenance needs, or fairness issues. This is especially useful in this module, where pupils are asked to think critically and

Mitigation strategies also deserve to be discussed in terms that everybody can connect them to their daily life. Climate mitigation includes changes in buildings, mobility, food systems, materials, and waste. Research shows that many everyday strategies, such as better public transport, efficient homes, less wasted energy, and more thoughtful patterns of consumption, can make a difference in reducing emissions.

A good case study rarely presents a perfect solution. It usually shows a package of measures, some co-benefits, and some trade-offs. A floodplain restoration project may reduce flood risk and support biodiversity, but it may also require land-use change

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or difficult negotiations. A cooling strategy may protect public health, but it may fail if it does not reach people who work outdoors, live in poorly insulated housing, or have limited access to water. A renewable-energy project may reduce emissions, but questions of cost, landscape impact, or public acceptance still need to be discussed. This is why fairness and vulnerability should stay visible in every classroom conversation about climate responses (IPCC, 2022; Seddon et al., 2020).

A simple way to read a real-world climate case study		
1	What problem is being addressed?	Heat, flooding, drought, emissions, biodiversity loss, energy use, or another risk.
2	What response is being used?	Is it adaptation, mitigation, or both? Is it mainly policy, community action, innovation, or a mix?
3	Who is involved?	Local government, schools, residents, scientists, businesses, NGOs, health services, or others.
4	What benefits does it bring?	Does it reduce risk, cut emissions, protect health, save money, improve public spaces, or support nature?
5	What trade-offs or limits remain?	Does it cost money, need maintenance, take land, depend on political support, or leave some groups out?
6	Could this work here too?	Which parts could be adapted to the students' own school, town, or region? What would need to change?

Many strong case studies combine:
evidence, communication, funding, public support, and attention to fairness.

Figure 2. A simple question pathway you can use when reading real-world climate case studies.



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Possible Discussion Questions:

- What kinds of knowledge or cooperation would be needed to make this response work well?
- What co-benefits can you see here beyond the main climate goal?

Teaching Tip!

When discussing fairness or vulnerability, keep the focus on access, protection, and inclusion.

Teachers may hesitate here because the topic can feel socially sensitive. A helpful approach is to keep the discussion concrete by asking questions like: who gets the information first, who has access to help, who has fewer resources, and who may still be left out of a plan even when it looks successful on paper. This makes the issue manageable and avoids turning the discussion into something overly abstract or moralistic.

Possible Discussion Questions:

- Does this example seem easy to transfer to another place, or would it need to change? Why?
- What trade-offs, costs, or limitations should still be discussed?



Classrooms Activities

Activity 1 - Case Study Decoder: How Do Climate Responses Work?	
Subject or subjects	Science, Geography, Citizenship Education, ICT (Possible extension: Language learning, Economics, Design and Technology)
Age/Level	This activity is suited for students aged 11–15.
Time required	60 minutes / one classroom period.
Learning goals	At the end of the activity students will be able to: • distinguish adaptation from mitigation in real examples; • identify whether a case relies mainly on policy, community action, innovation, or a mixture; • spot co-benefits and possible trade-offs in a climate response; • transfer one realistic idea from a case study to their own school or neighbourhood; justify their classification using evidence from a short case text rather than guesswork.
Prior knowledge & skills	Students should already grasp the basic concept of climate change, adaptation, and mitigation. No research skills are required because all reading material and answers are included in this activity.
Materials, resources & settings	Classroom or online setting.

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	Everything needed is included in this table, so no extra teacher preparation is required beyond printing or projecting the activity. Use the ready-made materials below: • Warm-up example list • Four short case cards • One comparison grid • One mini-brief prompt • Teacher answer key / model answers Teachers will also need: projector or printed copies, markers/highlighters, and one sheet per group.
Community/Stakeholder Involvement (optional)	Optional: municipal climate officer, local NGO, school energy manager, or community volunteer. Their role would simply be to listen to final student mini-briefs or comment on which ideas seem realistic locally.
Activity description	
Step 1: Sorting warm-up (5–8 minutes). Read the six examples below aloud one by one. Students hold up one finger for adaptation, two fingers for mitigation, and three fingers for both. Warm-up examples: 1. The city paints school roofs a lighter colour so classrooms stay cooler in summer. 2. Families join a walking bus so fewer cars bring children to school. 3. A town creates more shaded bus stops and sends heat alerts during heatwaves. 4. A library roof gets solar panels that produce electricity. 5. A riverbank is restored so floodwater can spread safely in heavy rain. 6. A public programme helps low-income homes with insulation.	



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Warm-up answer key:

1 = adaptation; 2 = mitigation; 3 = adaptation; 4 = mitigation; 5 = adaptation; 6 = both.

Step 2: Case study decoding in groups (15–20 minutes).

Put students in groups of 3 or 4. Give each group two case cards and the comparison grid below. Groups read the cards and complete all seven boxes on the grid.

Comparison grid for students:

1. What is the climate-related problem?
2. What is the main response?
3. Is it mainly adaptation, mitigation, or both?
4. Does it rely mainly on policy, community action, innovation, or a mix?
5. Who benefits first?
6. What is one possible limitation or difficulty?
7. What is one co-benefit?

Case Card A; Heat Plan in a Very Hot City

After several deadly heatwaves, a city government launches a heat plan. Schools receive early-warning messages, health workers check on older people, and some buildings are painted with reflective coatings. Outdoor work and sports are moved away from the hottest hours.

Case Card B; Citizen Solar Cooperative

Residents in a medium-sized town create a cooperative to place solar panels on the school, sports hall, and library. Families buy small shares, and part of the income is used to support energy advice for households with high electricity bills.

Case Card C; Making Room for the River

Instead of only building higher flood walls, a river town moves some dikes farther back and restores floodplain land. This gives water more space during intense rainfall and reduces pressure on the most exposed areas.



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Case Card D; School Food Waste to Compost

A school separates food scraps from the canteen, composts them, and uses the compost in a small garden. Students also run a campaign to reduce wasted lunches. The municipality supports collection and training.

Step 3: Comparison round (10–12 minutes).

Ask each group to present one case in one minute using the sentence frame: "This case is mainly ... because ... It also has the co-benefit of ... but a challenge could be ...". Record answers on the board under four headings: Problem / Response / Co-benefit / Limitation.

Step 4: Local transfer (10 minutes).

Each group now writes a mini-brief of exactly three sentences:

Sentence 1: "A useful idea for our school or town is ..."

Sentence 2: "It would mainly count as ... because ..."

Sentence 3: "The first people or organisations we would need are ..."

Step 5: Ending task (8–10 minutes).

Groups hand in the mini-brief and circle the single case they believe is easiest to transfer locally. The teacher chooses two mini-briefs to read aloud and the class votes: most realistic or most useful.

Teacher answer key / model answers:

Case A: mainly adaptation; mainly policy-led public-health response; first beneficiaries are children, older people, and outdoor workers; likely limitation = sustained funding and communication; co-benefit = fewer heat-related illnesses and better school scheduling.

Case B: mainly mitigation; mainly community action plus innovation; first beneficiaries are participating households and public buildings; likely limitation = upfront cost, roof suitability, or unequal ability to buy shares; co-benefit = lower bills and stronger community participation.



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Case C: mainly adaptation; mainly policy plus engineering and nature-based design; first beneficiaries are riverside residents and infrastructure users; likely limitation = land-use conflict or relocation debate; co-benefit = biodiversity and recreation.

Case D: mainly mitigation; mainly community action with municipal support; first beneficiaries are the school and local waste system; likely limitation = contamination of compost bins or weak student follow-through; co-benefit = soil improvement, food education, and less waste.

Adaptation for younger students: use only Cases A and B and shorten the grid to four questions.

Adaptation for older students: ask groups to compare which case is fastest to implement and which case is most just or inclusive.

Horizontal adaptation: the answer key for all cases is jargon-heavy; students are not expected to speak the jargon, rather the teacher will translate between jargon and everyday speech where needed.

Accessibility & Inclusion

Provide key words on cards or on the board: adaptation, mitigation, co-benefit, limitation, policy, community, innovation. Offer oral response as an alternative to writing. Case cards can be read aloud, enlarged, or simplified. Mixed-ability grouping works well because the task combines reading, classification, discussion, and short writing.

References / Bibliography

Teacher-created case cards, comparison grid, and answer key for EcoMystery Module 7. Teachers who want a later extension may compare the class answers with short summaries from the IPCC, European Environment Agency, or a local municipal climate plan, but this is not needed to run the lesson.

Assessment

Formative Assessment

Monitor whether students classify carefully, use evidence from the case text, and avoid treating every climate response as the same kind of action.

Summative Assessment (if applicable)

Each group submits one completed comparison grid and one three-sentence mini-brief.



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Student Self-Assessment	Students finish two prompts: "One thing that makes adaptation different from mitigation is ..." and "One case I understood best was ... because ...".
Peer Feedback	After each student team's case is read, students raise hands in response to the questions: "Was it realistic?" and "Was it helpful?"; some students are asked the follow-up question: "Why?"
Documentation, Evidence & Follow-Up	
Evidence to Collect	Completed comparison grids, mini-briefs, and one board photo or screenshot of the class comparison chart.
Impact Tracking	Useful indicators: students begin to use the terms adaptation, mitigation, policy, community action, and innovation more precisely; they can name co-benefits; and they see how one climate response cannot solve every problem at once.
Dissemination	Strong mini-briefs can be displayed on a classroom board, in a school climate corner, or during a project exhibition.
Next Steps	Use the most realistic mini-brief as a bridge into Activity 2, where students design their own local response package.
Teacher Reflection	
The following questions can help with teacher self-reflection: Which case produced the clearest discussion? Did students use evidence from the text or rely on impressions? Which local-transfer ideas seemed genuinely realistic for this age group?	



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Activity 2 - Local Climate Response Studio

Subject or subjects	Science, Geography, Citizenship Education, Art, ICT (Possible extension: Mathematics, Language learning, Biology, Design and Technology)
Age/Level	This activity is suited for students aged 10–15 and can be simplified or expanded depending on the age group.
Time required	60–80 minutes, or two shorter lessons.
Learning goals	At the end of the activity students will be able to: • identify a local climate-related problem in a school or neighbourhood setting; • propose one adaptation measure and one mitigation measure that work together; • consider who needs to be involved for an idea to happen in real life; • justify choices in terms of benefits, trade-offs, and fairness; present a short, realistic climate-response proposal.
Prior knowledge & skills	Students should know the difference between adaptation and mitigation (see Activity 1 of this module) and should have some familiarity with places in or around the school. No map-making experience is required because the site pack and solution menu are included here.
Materials, resources & settings	Classroom, school grounds, or hybrid setting. Everything needed is included in this table: • Fictional school-site pack with six zones • Problem prompts • Solution menu with costs/tokens



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	• One planning sheet structure • Model teacher answers Teachers will also need: one printed copy per group or one projected copy, pens, and eight counters or paper tokens per group.
Community/Stakeholder Involvement (optional)	Optional: school caretaker, municipal planner, environmental NGO, architect, or parent council member. They may listen to the final pitches and comment briefly on feasibility.
Activity description	
Step 1: Introduce the fictional site (8–10 minutes). Tell students they are working for EcoMystery School. Project or print the site pack below. EcoMystery School Site Pack: Zone A; Front Gate: heavy car drop-off, little shade, crowded pavement. Zone B; Main Playground: large dark asphalt surface; students say it becomes too hot in late spring and early autumn. Zone C; South Classrooms: rooms become very warm in the afternoon; blinds are old and windows are often opened at the wrong time. Zone D; Low Corner by the Fence: puddles form after intense rain and grass becomes muddy. Zone E; Bike Area: there are only a few racks and no cover. Zone F; Bare Fence Line: little habitat for insects or birds. (If possible, adjust zones according to your school.) Step 2: Choose one focus zone and one problem (5 minutes). Each group chooses one zone and completes the sentence: "Our main problem is ... because the evidence in the site pack shows ...".	



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Step 3: Build a response package (20–25 minutes).

Give each group 8 tokens. They must buy exactly:

- one adaptation measure,
- one mitigation measure,
- one support action.

They may not spend more than 8 tokens.

Solution menu:

Adaptation measures

A1. Plant six shade trees near the hottest play area (3 tokens).

A2. Create a rain garden and permeable path in the muddy corner (3 tokens).

A3. Add reflective blinds and a cool-roof coating to the hottest classrooms (2 tokens).

Mitigation measures

M1. Install a small solar canopy over the bike area (4 tokens).

M2. Launch a walking-bus / safer cycling campaign to replace short car trips (2 tokens).

M3. Swap corridor and toilet lighting for LEDs with student energy monitors (2 tokens).

Support actions

S1. Introduce a hot-day timetable rule: more water breaks and PE moved away from the hottest hour (1 token).

S2. Create a student eco-team to maintain planting and check puddles or shade conditions (1 token).

S3. Hold a planning meeting with school leaders, parents, and the municipality before changes begin (1 token).

Step 4: Planning sheet (10–12 minutes).

Each group fills in the following planning sheet:



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1. Zone chosen:
2. Main problem:
3. Adaptation chosen and why:
4. Mitigation chosen and why:
5. Support action chosen and why:
6. Who must be involved first?
7. Who benefits most?
8. One trade-off or difficulty:

Step 5: Studio pitch with direction (12–15 minutes).

Each group gives a 60-second pitch beginning with: "We chose Zone ... Our package is ... The people we need first are ...". After each pitch, the teachers asks the class one question: "What makes this realistic?" or "Who might be left out?".

Step 6: Strongest package review (5–8 minutes).

The teacher chooses one "most balanced" package and one "most creative but still realistic" package.

Teacher model answers / acceptable strong combinations:

For Zone B (hot playground): strong package = A1 shade trees + M2 walking-bus / cycling campaign + S1 hot-day timetable. Why it works: it cools the hottest space, reduces car-related emissions, and immediately protects students on very warm days.

For Zone C (hot classrooms): strong package = A3 reflective blinds / cool-roof coating + M3 LED swap + S3 planning meeting. Why it works: it reduces heat stress, lowers energy use, and brings decision-makers in early.

For Zone D (muddy flood corner): strong package = A2 rain garden / permeable path + M3 LED swap + S2 student eco-team. Why it works: it addresses water pooling directly, still includes a mitigation action, and creates a clear maintenance role.

For Zone A or E (traffic and low shade at gate / bike area): strong package = A1 shade trees + M1 solar canopy over the bike area + S3 planning meeting. Why it works: it

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improves comfort, encourages lower-carbon travel, and requires coordination with the school and municipality.

For Zone F (bare habitat edge): acceptable package = A1 shade trees + M2 walking-bus / cycling campaign + S2 eco-team, but groups must explain clearly how the tree planting improves habitat and comfort.

Adaptation for younger students: reduce the menu to two adaptation options, two mitigation options, and two support actions.

Adaptation for older students: ask groups to compare cost-effectiveness and fairness, rather than just feasibility.

Accessibility & Inclusion

Offer multiple ways to contribute: speaking, drawing arrows on the site pack, arranging option cards, or completing the planning sheet. Teachers can pre-highlight the three most relevant zones for students who need a narrower choice. The token system supports learners who benefit from a concrete structure.

References / Bibliography

Teacher-created school-site pack, token menu, planning sheet, and model answer guide for EcoMystery Module 7. This activity is deliberately classroom-ready and does not require the teacher to create a real school map first.

Assessment

Formative Assessment

Monitor whether groups choose measures that actually match the problem, respect the token limit, and justify why a support action matters instead of treating it as an extra.

Summative Assessment (if applicable)

Each group submits one completed planning sheet and gives one 60-second pitch.

Student Self-Assessment

Students complete the sentence: “The most realistic part of our package is ...” and “One thing we would still need help with is ...”.

Peer Feedback

Use a gallery walk or quick oral feedback with one strength and one suggestion from another group.



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Documentation, Evidence & Follow-Up	
Evidence to Collect	Planning sheets, group pitches, teacher notes on which packages were balanced, and one photo or screenshot of the strongest final plan.
Impact Tracking	Useful indicators: students begin to combine climate responses instead of naming one isolated actions; to think in terms of implementation rather than only ideas; they become more alert to who benefits first and who must help.
Dissemination	Selected planning sheets can be displayed in a corridor, shared with student council, or used as input for a real school sustainability discussion.
Next Steps	Invite students to redesign one real place in the school or neighbourhood using the same token system.
Teacher Reflection	
The following questions can guide teacher self-reflection: Which zones helped students think concretely? Did groups understand why one adaptation action and one mitigation action were both required? Which support actions were treated seriously, and which were ignored?	

Possible Discussion Questions:

- Which parts of this example feel relevant to our school or local area?
- If we adapted one idea from this case locally, what would need to happen first?

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Activity 3 - Escape the Climate Choices: Fair Solutions Under Pressure	
Subject or subjects	Science, Geography, Citizenship Education, Language learning, ICT (Possible extension: Drama, Mathematics, Economics)
Age/Level	This activity is suited for students aged 11–16.
Time required	60 minutes / one classroom period.
Learning goals	At the end of the activity students will be able to: • compare policy, community, and innovation responses in pressured situations; • choose climate actions using evidence, fairness, and practicality; • work collaboratively under time pressure with clear group roles; • recognise that the strongest climate packages usually combine adaptation, mitigation, and social fairness; explain why some responses are more effective than others in a local decision context.
Prior knowledge & skills	Students should know the difference between adaptation and mitigation (see Activity 1). They do not need outside knowledge because all scenarios, options, and answers are provided in the activity.
Materials, resources & settings	Classroom or online setting. Everything needed is included in this table: • Four station cards with three options each • One team answer sheet structure • One answer key for the teacher • One final package challenge with a budget limit



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	• Code letters for progression Teachers will also need: timer, envelopes or folded paper cards (optional), and one answer sheet per team.
Community/Stakeholder Involvement (optional)	Optional: municipal councillor, NGO representative, civil-protection volunteer, or school leadership member. Their role could be to listen to final town-package proposals and comment on realism or fairness.
Activity description	
Step 1: Set the mission (5 minutes). Tell students: “You are the emergency climate team for the fictional town of Rivertown. You must solve four quick decision cards. Each correct answer gives you one letter. If you collect all four letters, you unlock the final council challenge.” Assign roles: reader, recorder, timekeeper, and spokesperson. Team answer sheet: Station 1 answer: Station 2 answer: Station 3 answer: Station 4 answer: What evidence helped us most? Final package chosen: Why is it fair? Step 2: Station round (20 minutes). Teams work through the four cards below. Station 1; Heatwave at the Bus Stops Problem: Older people and students wait in direct sun. Several hot days above 35°C are expected.	



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Choose the best response:

- A. Print a poster saying "Drink water" and do nothing else.
- B. Create shaded bus stops, send heat alerts, and open one cool public building nearby during the hottest hours.
- C. Build extra car parking next to the bus stop area.

Best answer: B. Code letter = F.

Station 2; High Energy Bills and Rising Emissions

Problem: The school and nearby homes use a lot of energy, and some families struggle with bills.

Choose the best response:

- A. Keep the same system and ask everyone to "be careful".
- B. Run a retrofit package with insulation, LED lighting, and energy advice, prioritising the school and low-income households first.
- C. Cancel after-school clubs to save a little electricity.

Best answer: B. Code letter = A.

Station 3; Flooding After Heavy Rain

Problem: One riverside road floods repeatedly and water reaches basements.

Choose the best response:

- A. Restore floodplain space, improve warning systems, and protect the most exposed homes first.
- B. Wait and see whether next year is drier.
- C. Put a temporary wall only around the town hall.

Best answer: A. Code letter = I.

Station 4; Too Many Short Car Trips

Problem: Traffic, emissions, and unsafe crossings are increasing around the school.

Choose the best response:

- A. Add another car drop-off lane.



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B. Create safer walking and cycling routes, improve crossings, and trial discounted clean public transport for students.

C. Ban all school trips.

Best answer: B. Code letter = R.

Step 3: Teacher check and code (5–8 minutes).

The teacher checks answers. If teams have the correct sequence, the code spells FAIR. Only then may they continue to the final challenge.

Step 4: Final council challenge (12–15 minutes).

Teams must build a town package using no more than 8 budget points and meeting all three rules:

- include at least one adaptation action,
- include at least one mitigation action,
- include at least one fairness action that clearly helps a more exposed or lower-income group.

Final package menu:

1. Shade and cooling points at bus stops (adaptation, 3 points).
2. School-and-home retrofit support for low-income households (mitigation + fairness, 4 points).
3. Floodplain restoration and warning system (adaptation, 4 points).
4. Safer cycling / walking routes (mitigation + health, 3 points).
5. Youth climate information campaign only (awareness, 1 point).
6. Community solar on public roofs with reduced bills for vulnerable homes (mitigation + fairness, 4 points).
7. Hot-day school timetable and water-break policy (adaptation + fairness, 1 point).

Teams write one package and justify it in three sentences:

"Our package is ..."



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"It is fair because ..."

"The first people we need to involve are ..."

Step 5: Clear ending and debrief (8 minutes).

The teacher checks whether the package meets all three rules. Two strong model packages are given below.

Teacher answer key / model packages:

Correct station answers: 1B, 2B, 3A, 4B. Code = FAIR.

Why these are strongest: each one combines practical action with protection for people and avoids symbolic or ineffective responses.

Model final package 1: Option 2 + Option 1 + Option 7 = 8 points. Why strong: it cuts energy demand, protects people in heat, and clearly supports more vulnerable groups.

Model final package 2: Option 6 + Option 7 + Option 5 = 8 points. Why strong: it includes mitigation, a fairness measure, and a low-cost public-information layer, though teachers can discuss whether it is weaker on flood risk.

Also acceptable: Option 4 + Option 1 + Option 7 = 7 points, but students must explain why transport and heat were the most urgent local problems.

Accessibility & Inclusion

Keep teams small and assign roles clearly so quieter students can contribute. Read station cards aloud if needed. The answer sheet can be shortened for learners who need less writing.

References / Bibliography

Teacher-created station cards, answer sheet, code system, and final package challenge for EcoMystery Module 7. The activity uses escape-room and gamification logic but runs fully as a paper classroom activity without additional preparation.

Assessment

Formative Assessment

Monitor whether teams justify answers with the scenario details, share roles, and recognise that fairness is a vital part of climate response.



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Summative Assessment (if applicable)	A completed team answer sheet plus the final 3-sentence council package can be used as the assessed product.
Student Self-Assessment	Students tick three statements: “I contributed one reason or piece of evidence”; “I can now name one fair adaptation action”; “I can now name one fair mitigation action”.
Peer Feedback	Tell-Ask-Give Feedback Protocol. (Link: https://letstalkscience.ca/educational-resources/teaching-stem/tag-feedback)
Documentation, Evidence & Follow-Up	
Evidence to Collect	Team answer sheets, final package justifications, and brief teacher notes on whether groups met the three final rules without prompting.
Impact Tracking	Useful indicators: students move from vague words such as “do something green” to specific policy, community, or innovation actions; they mention vulnerable groups more often; and they begin to weigh fairness against speed and cost.
Dissemination	The best student-made station cards or final packages can be shared during a school climate week, student council session, or EcoMystery dissemination event.
Next Steps	Ask students to design a new final package for their own municipality or school using the same three-rule structure.
Teacher Reflection	
Did the code-and-package structure create focus? Which wrong options attracted students most often, and why? Did fairness become a real part of decision-making or stay only as a last-minute extra?	



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Assessment and evaluation

Assessment in this module should be continuous and formative. The main goal is not to reward the memorisation of case-study details, but to support pupils in learning how to classify, compare and justify climate responses. Because the module is based on real or realistic examples, assessment should focus on reasoning and interpretation as much as on factual recall. Pupils should be encouraged to explain why they classify a case as adaptation, mitigation, policy-led, community-based, innovative, or mixed, and to support their judgement with evidence from the case.

A range of assessment methods should be used. Teacher observation is important during group discussion, classification tasks, short pitches, and planning exercises. Completed comparison grids, mini-briefs, planning sheets, short written reflections, oral explanations, and photographed group outputs can all provide evidence of progress.

Evaluation should address both cognitive outcomes and 21st century skills. In cognitive terms, pupils should show that they can distinguish adaptation from mitigation, identify the role of policy, community action, or innovation within a case, and recognise co-benefits, trade-offs, and implementation challenges. In terms of broader skills, the module should foster critical thinking, collaboration, creativity in local transfer tasks, clear communication, and basic digital literacy where digital maps, slides, or planning tools are used.

Because case studies deal with practical responses, the module helps pupils develop a sense of agency and constructive engagement. Teachers may look for signs that pupils are beginning to speak about climate action in more realistic and balanced ways, that they can notice issues of fairness and vulnerability, and that they are willing to consider how local actors (e.g. schools, municipalities, families, or community groups) might be involved in real responses.

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Pupils should be allowed different ways to demonstrate learning. One pupil may show understanding best through a careful oral explanation, another through a completed comparison grid, another through a planning sheet or a short group pitch. Discussion, presentation, written mini-briefs, annotated planning documents, and simple digital artifacts should all be treated as valid demonstrations of progress.

Suitable assessment criteria for this module include: accuracy of classification; use of evidence from the case text; clarity of explanation; attention to co-benefits, limitations, and fairness; realism of local adaptation or transfer; and contribution to group work. These criteria should be shared in simple language so that pupils understand what counts as strong work: work that is well justified, realistic, and evidenced.

Suggested assessment focus	What progress looks like
Conceptual understanding	Pupil explains key ideas accurately and distinguishes important pairs such as weather/climate or adaptation/mitigation.
Use of evidence	Pupil refers to graphs, case text, data, or planning information; no relying on guesswork or unsupported claims.
21st century skills	Pupil collaborates, communicates clearly, listens to others, and contributes to shared problem-solving.
Affective development	Pupil shows engagement, caution about overclaiming, and a constructive sense that climate learning can connect to action.
Transfer to real life	Pupil can suggest a realistic school or community response and explain why it fits the local problem.



Student material

The starting point of student material is a short presentation for pupils that collects and organises the main ideas of the module. A short slide presentation introduces the purpose of case studies, the difference between adaptation and mitigation, the roles of policy, community action, and innovation, and the key questions pupils should use when reading a climate example. Also, the ready-to-use classroom materials already present in the practical part should be explicitly treated as student materials.

Accessible learning materials should be made available for pupils who need more support with reading or abstraction. Enlarged case cards, simplified wording, key terms on display cards, oral alternatives to written responses, and visual versions of the comparison grid all count as student materials within the meaning of the template. Where teachers want to extend the module, short videos, illustrated examples, and links to student-friendly climate action portals can also be shared, provided they are used selectively and in a way that supports rather than replaces the structured case-study tasks.

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Extra resources / further learning materials

Resource	What it offers	Language note	Why it fits this module
Climate-ADAPT Case Study Explorer	European adaptation case-study portal with examples from local to EU level.	English interface plus several localized EU-language interfaces	Highly relevant for follow-up work when pupils or teachers want further real-world adaptation examples.
Climate-ADAPT Case Study Explorer (Greek interface example)	Localized interface showing that the portal can also be accessed beyond English.	Greek available; other EU-language interfaces are also used on the portal	Useful for project partners working in Greek and for highlighting multilingual access.
EU Learning Corner: climate materials	Short videos, games, and explainers on climate action and adaptation-related themes for school use.	English on many pages; several items available in EU languages	Useful as a lighter extension after the more analytical case-study work in class.
Ahmedabad Heat Action Plan (NRDC)	Public-facing plan and supporting documentation for a widely used heat-risk example discussed in the module.	English	Useful for teachers who want to see the real case behind the simplified classroom example.
Rijkswaterstaat: Room for the River	Official overview of the Dutch ‘Room for the River’ approach used as a flood-adaptation example.	English	Useful for extension, teacher preparation, or showing that adaptation can involve redesign rather than only stronger defences.
GreenDeal-NET (Erasmus+/Jean)	European higher-education network on	English	Useful mainly for teachers seeking



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Monnet network story)	climate transition and the European Green Deal, included as an Erasmus-linked example for further exploration.		Erasmus-related pathways and wider climate-governance material.
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