CLIMATE BOX

Educational Programme

Extracurricular Activities on Climate Change

Guide for educators

2025

Content

1 Introduction

Climate change is one of the most serious challenges of our time, and the current generation of schoolchildren will have to live with its consequences and find ways to respond to them. Building climate literacy and a culture of environmentally responsible behavior is a key goal of education, and extracurricular activities offer a unique opportunity to achieve it.

Integrating climate topics into extracurricular activities helps deepen schoolchildren's understanding of the causes and consequences of climate change. It also allows them to explore how global processes affect their local environment and what each individual can do to help mitigate these effects. Such activities enable schoolchildren to apply the knowledge gained in class to real-life situations and foster a responsible attitude toward the environment.

To develop sustainable thinking and ecological awareness, knowledge alone is not enough. Schoolchildren must also be given opportunities to take action, conduct research, engage in discussions, and make informed decisions. The most effective way to support this is through a combination of different forms of education — formal, informal, extracurricular, and additional learning. Activities based on local nature observations and discussions of climate-related challenges in one's own region help make the topic of climate change more accessible, relatable, and meaningful for children.

The modern educational process should equip schoolchildren with the ability to explain natural phenomena, formulate and test hypotheses, analyze data, draw conclusions, and propose solutions. Using the "Climate Box" educational toolkit in extracurricular activities opens up wide opportunities to develop exactly these skills. Its materials help facilitate practical activities, observations, discussions, and school-based initiatives related to climate change.

There are many ways to include climate topics in extracurricular work — from clubs and field trips to role-playing games and expert talks. It is important to choose formats that interest schoolchildren and suit their age, experience, and local context.

This guide offers teachers ideas, examples, and recommendations for organizing such activities. Its purpose is to inspire educators to use after-school time as a resource for in-depth climate education and the development of active citizenship among schoolchildren.

2 Planning Extracurricular Activities on Climate Change

The success of extracurricular activities related to climate change largely depends on careful preparation. It is important not only to choose an engaging format, but also to clearly define educational objectives, expected outcomes, the age group of the schoolchildren, and to take into account the school's resources and the local community context.

The Climate Box toolkit provides teachers with ready-made **materials and resources** that significantly simplify the planning process.. The toolkit includes practical tasks, experiments, games, as well as quizzes that can be used either as stand-alone extracurricular activities or as additions to already planned events. These materials help make activities meaningful, well-structured, and age-appropriate.

Many sections of the **Climate Box** offer specific exercises and tasks to reinforce learning, which are ideal for extracurricular use. For example, after studying Topic 1.4 "Climate Change Today," you can organize a research-based activity involving the analysis of tree stumps and the study of tree rings (wide rings indicate warm years, narrow ones—cold years), followed by a discussion on how such observations help us understand past climate and its changes. After completing Topic 2.1 "How Climate Change Affects the Weather," a group discussion can be held on signs of climate change in the local region.

Defining Objectives

Each activity should have a clear and achievable goal. In the context of climate education, this could include:

- Raising awareness about climate change and its consequences;
- Developing sustainable lifestyle habits;
- Building research and analytical skills;
- Encouraging initiatives aimed at reducing the carbon footprint;
- Involving schoolchildren in identifying and solving environmental issues in their region.

It is important that schoolchildren themselves understand the goals and see their practical relevance — this increases motivation and encourages meaningful participation.

Engaging Participants

A successful activity is the result of collaborative efforts between teachers, schoolchildren, and, where possible, parents. Collaboration makes it possible to:

- Make the activity more meaningful and relevant to daily life;
- Strengthen ties between school, family, and community;
- Expand the number of participants and resources involved.

Considering the Local Context

To make the topic of climate change truly relevant to schoolchildren, it is important to draw on local experience and observations. This could involve:

- Discussing weather anomalies that schoolchildren are familiar with;
- Observing changes in water levels in nearby rivers or lakes;
- Monitoring changes in vegetation, insect populations, or bird species.

Using the Climate Box allows teachers to adapt topics and tasks to the specific climatic, environmental, and social characteristics of their region.

Choosing Formats and Resources

When planning activities, it is helpful to ask:

- What types of activities are best suited to the group — discussions, observations, creative tasks, hands-on activities?
- Which parts of the Climate Box toolkit can be used for this activity?
- What external resources can be engaged — experts, organizations, venues?

Flexibility and diversity of formats make it possible to create engaging and effective activities tailored to each group of schoolchildren.

3 Types of Extracurricular Activities

The choice of a particular format depends on the objective of the activity, the schoolchildren's age, available resources, and the characteristics of the local context. Some formats are suitable for regular activities (e.g., clubs), while others are better suited for one-time events, thematic weeks, or field trips.

This section presents various types of extracurricular activities that can be used by teachers either as part of a systematic program or for organizing individual thematic events or initiatives.

3.1 Environmental and Other Clubs

Environmental and other school-based clubs are among the most effective formats for extracurricular activities related to climate change. Regular meetings within these groups allow schoolchildren to explore the topic in greater depth, consistently build their knowledge, develop practical skills, and foster environmentally responsible behavior.

Climate-related topics can be integrated into existing clubs, such as ecology, biology, geography, or natural science groups. At the same time, new clubs can be created — focused specifically on climate change, sustainable development, and environmental protection — if there is interest among schoolchildren and teachers. These clubs do not require complex infrastructure and can easily be organized within the school.

The club's activities can vary depending on the interests of participants and local context. Special attention can be given to topics such as the causes and consequences of climate change, carbon footprints and ways to reduce them, climate adaptation, energy efficiency, renewable energy, biodiversity, and sustainable use of natural resources. The club can serve as a space both for discussion and for implementing small-scale research or practice-oriented projects.

Organizing a club offers schoolchildren the opportunity not only to learn about climate processes but also to engage in hands-on initiatives — conducting mini-research, observing weather and seasonal changes, analyzing the school's energy consumption, developing and proposing solutions to reduce the environmental footprint. Active involvement of the children themselves in planning and carrying out club activities is key to success. This might include preparing sessions, facilitating discussions, creating posters or displays, producing informational materials, or participating in school-wide or community-based environmental campaigns.

In addition to environmental topics, technical clubs — such as robotics, programming, or engineering/model-making groups — can also incorporate climate-related projects. Schoolchildren can design prototypes of devices that reduce environmental impact, such as solar panel models, energy-efficient buildings, environmental monitoring sensors, or robots that address ecological challenges. These activities help link engineering creativity with environmental responsibility and foster research and project-based learning skills.

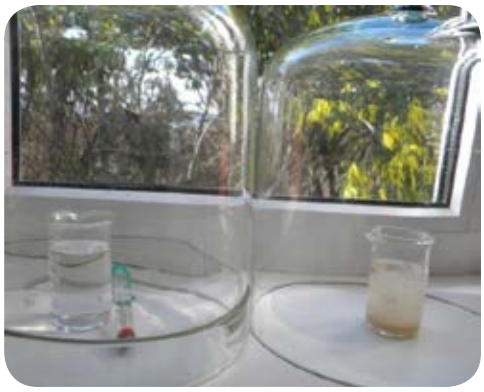
The Climate Box materials provide rich content and engaging tools to support club activities. In particular, teachers can use thematic cards, activities, games, diagrams, and visual materials offered in the toolkit to make the sessions more vivid, interactive, and engaging.

3.2 Practical Activities

Practical activities related to climate change can include both research-based tasks—such as observation, measurement, data collection and analysis—and hands-on steps aimed at improving the surrounding environment. Both approaches allow schoolchildren to better grasp the relevance of climate processes, understand how they affect daily life, and discover ways to take meaningful action in solving environmental challenges.

One of the key benefits of practical activities is the development of research skills and the ability to draw evidence-based conclusions. Instead of simply receiving ready-made answers, schoolchildren work with real data, record results, discuss their observations, and propose solutions. For example, analyzing electricity use in school can lead them to suggest ways to reduce energy waste, while tracking waste levels may prompt a school-wide initiative for separate waste collection.

Below are examples of practical activities that can help schoolchildren better understand climate processes and contribute to solving environmental issues:



Scientific experiments illustrating climate processes:

- the greenhouse effect (two jars — one covered with plastic film, one not — placed under a lamp),
- ice melt (floating ice in water vs. ice on land),
- evaporation and condensation (a mini-model of the water cycle),
- water filtration using natural materials;

Weather observations and climate diary: tracking temperature, precipitation, and cloud cover over a week or month; discussing anomalies and comparing with data from previous years.

Microclimate study: measuring air and soil temperature in different zones (e.g., asphalt, grass, under trees).

Energy patrol: examining school buildings for signs of energy loss (lights left on, drafty windows, outdated appliances); preparing a report with suggestions for improvement.

Insulation in action: checking windows and doors for drafts, discussing the role of insulation in reducing greenhouse gas emissions, and participating in practical steps to improve energy efficiency.

Waste collection for recycling: organizing school drives to collect paper, plastic, batteries, or other recyclables. Schoolchildren can track the quantities collected, study sorting rules, identify nearby recycling points, and suggest ways to improve the school's waste system. Discussing the environmental and climate benefits of recycling helps children understand the link between reducing waste and lowering greenhouse gas emissions.

Composting: setting up a compost bin on school grounds, observing the decomposition of organic waste, and using the finished compost in school gardens or flower beds.

Such activities encourage observation skills, critical thinking, and a systems-level understanding of climate processes. They help schoolchildren see how everyday actions are connected to global environmental changes.

It is important to follow up practical activities with discussions of the results, visual presentations, and support for student-led initiatives.

3.3 Contests and Quizzes

Contests and quizzes are an engaging way to involve schoolchildren in reflecting on the topic of climate change. They help reinforce knowledge, spark interest in environmental issues, and foster an active attitude through a playful and creative approach. These activities are easily adaptable to different levels and age groups, making them convenient for extracurricular work.

Quizzes can be conducted within a single class, organized as competitions between classes, or even between schools. This allows for a broader range of participants, encourages a spirit of competition, and promotes knowledge sharing. These formats are especially effective during environmental weeks, themed days, or school festivals.

For quizzes, you can use either your own materials or ready-made resources. The Climate Box contains a set of questions for a climate quiz that covers the guide's key topics. In addition, interactive online quizzes are available on the Climate Box website, which can be used for individual or group work.

Examples of quiz tasks:

- Identifying climate phenomena by description or image
- Matching everyday habits that help reduce the carbon footprint
- Questions on identifying causes and consequences of climate change
- Matching terms and definitions related to climate and sustainable development

In addition to intellectual games, creative contests allow schoolchildren to express their views on the topic through various formats — drawings, essays, photographs, videos. These contests are particularly effective in engaging children with diverse interests and abilities, fostering an emotional connection to the topic.

Possible topics for creative contests:

- "City of the Future in the Face of Climate Change"
- "How I Reduce My Carbon Footprint"
- "A Letter to the Planet"
- "Our Family's Climate Habits"
- "Eco-Day at My School"

The conclusion of contests can be accompanied by exhibitions, school publications, or presentations of the works at events. This reinforces a sense of importance and encourages further participation. Contests and quizzes combine well with other extracurricular formats, making climate education accessible, engaging, and memorable.

3.4 Excursions and Outdoor Learning

Outdoor activities help schoolchildren build a connection with the surrounding nature and gain a deeper understanding of how climate change affects ecosystems. By observing real objects and phenomena, learners begin to realize that global climate processes are reflected in specific local changes — in the condition of soil, bodies of water, vegetation, and seasonal rhythms. This kind of experience enhances interest in the topic and allows discussions about climate to happen not in abstract terms but in a tangible and relatable way.

Learning can take place on school grounds or beyond — in nearby parks, by rivers or lakes, or in natural areas. What matters most is the atmosphere of live observation and discussion, not the presence of professional equipment or an official guide.

Possible topics and directions:

- **Urban nature and climate.** Observing green spaces and determining their role in regulating temperature, humidity, and carbon retention.
- **Weather and seasonal observations.** Recording changes in temperature, cloud cover, and the behavior of animals and plants over a specific period.
- **Soil and vegetation conditions.** Comparing areas with different levels of greenery; discussing erosion, compaction, drought, and other signs of climate impact.
- **Climate impact on local water bodies.** Observing water levels, clarity, and the condition of the shoreline; discussing the role of precipitation, heat, and snowmelt.

Even simple walks with observation and discussion can help form important environmental connections and spark students' interest. These activities are especially valuable for younger and middle school grades. They can be accompanied by observation journals, illustrations, photo reports, or collective bulletin boards.

3.5 Study Visits

Study visits help schoolchildren see how climate and environmental approaches are implemented in real life. Meetings with experts provide an opportunity to ask questions, broaden their horizons, and connect school knowledge with professional practice. These activities are especially valuable for older schoolchildren, as they encourage reflection on personal responsibility and possible future careers related to environmental protection.

Visits can be organized to institutions, organizations, enterprises, and facilities where sustainable solutions are being implemented — from renewable energy sources to environmentally safe technologies in agriculture. To make the visit meaningful, it is important to define its topic in advance, prepare questions, and discuss with the schoolchildren what they should pay attention to.

Examples of directions for study visits:

Municipal and private enterprises working in the fields of water supply, energy saving, or waste management. Schoolchildren can see what solutions help reduce environmental impact and what ecological practices are used in real life.

Renewable energy facilities such as solar power plants, wind turbines, or bi ogas production complexes. These visits help students understand how “clean” energy works and how it contributes to reducing greenhouse gas emissions.

Farms that use modern, climate-resilient approaches such as drip irrigation, soil protection, and organic farming. Students can learn how weather conditions affect agriculture and what solutions help reduce climate risks.

Meteorological stations, where students can get acquainted with weather monitoring instruments, learn how climate data is collected and analyzed, and discuss how such observations help us understand long-term climate changes.

Eco-centers, universities, research institutions, biological stations, and young naturalists' centers offer schoolchildren unique opportunities for in-depth exploration of the environment and climate studies. These visits may include workshops, interactive lectures, laboratory or field observations. Students learn about methods of studying nature, see the scientific side of ecological and climate processes, gain hands-on experience, and are inspired to continue learning and engage in environmental initiatives.

Visits to natural history museums can be a vivid part of a study visit. In such museums, schoolchildren can see exhibits on ecosystems, rare plant and animal species, and methods of environmental protection. This helps connect theoretical knowledge with real-world examples and expands children's understanding of biodiversity and its vulnerability in the face of climate change.

After the visit or meeting, it is important to discuss the acquired knowledge, impressions, and conclusions. This can take the form of a final presentation or a social media post. Such reflection helps schoolchildren process what they have seen, connect it to their own experiences, and formulate ideas for further action.

3.6 Guest Speakers

Inviting guest speakers to extracurricular activities helps schoolchildren better understand how the topic of climate change is connected to real life and scientific practice. These meetings not only deepen knowledge but also support career orientation, broaden horizons, and create opportunities for meaningful dialogue.

Depending on the theme of the event, the age of the schoolchildren, and regional specifics, you can invite:

- **Climatologists and meteorologists** — they can talk about the meteorological monitoring system in the region, analysis of weather and climate changes over recent years, and the local impacts of global processes.
- **Specialists from protected natural areas** — they can share observations of ecosystem changes, the impact of climate factors on flora and fauna, and their experience in biodiversity conservation.
- **Experts from organizations implementing low-carbon technologies** — representatives of businesses or NGOs working in fields such as sustainable energy, waste recycling, and eco-friendly construction.
- **Community activists** — coordinators of environmental campaigns, urban greening initiatives, waste separation programs, or energy-saving efforts, who can show how simple actions can influence the climate.
- **Scientists and university lecturers** — researchers professionally engaged in climate change issues, including modeling future scenarios, assessing regional vulnerabilities, and developing adaptation strategies.

These meetings can take the form of open lessons, workshops, round tables, interviews, or even small joint projects. It is important that schoolchildren not only listen but also have the opportunity to ask questions, express their opinions, and discuss what matters to them personally.

3.7 Debates and Discussions

Debates and discussions help schoolchildren reflect on complex issues related to climate change, learn to express their own opinions, respect others' views, and analyze different perspectives. This format is especially important for developing critical thinking and the ability to engage in reasoned dialogue.

Unlike role plays, a debate involves participants speaking on their own behalf rather than acting out fictional roles. They discuss real-life issues and form their own positions based on knowledge, personal experience, and study materials.

Possible discussion topics:

- Should schools become more environmentally friendly?
- What role do ordinary people play in climate change?
- What is more important — economic development or the protection of the climate and nature?
- Are we ready for climate change in our region?
- Can one person influence climate processes?

Formats for discussions:

- Group discussion in a circle or small groups, followed by a presentation of shared conclusions
- Classic debate with division into "for" and "against" teams and a moderator
- Brainstorming session with all ideas and suggestions recorded on a flipchart or board
- Post-video or lecture discussion, where participants share their impressions and reflections

Debates are especially useful as a conclusion to a research or practical activity: they help summarize knowledge, express personal views, and listen to others. In this case, the teacher acts as a facilitator and observer, creating an atmosphere of open and safe communication.

3.8 Role Plays and Theatrical Performances

Role plays and theatrical formats are vivid and engaging ways to explore the topic of climate change. They help schoolchildren not only absorb information but also experience situations emotionally, look at problems from different perspectives, and develop skills in cooperation, argumentation, and public speaking.

These activities foster creative thinking, empathy, and communication skills, and they encourage schoolchildren to take initiative. They can be conducted in the classroom or as part of school events, club activities, or themed weeks.

Role Plays

In role plays, participants take on specific roles — representing different interests, professions, or viewpoints — and act on behalf of these characters. This helps them understand complex environmental situations through the lens of diverse perspectives and practice group decision-making.

Examples of role play scenarios:

- Debating an environmental conflict — such as building a waste incineration plant, installing solar panels, or constructing a new road. Schoolchildren play the roles of mayor, residents, environmentalists, business representatives, etc.
- Climate summit — a simulation of international negotiations where schoolchildren represent different countries and discuss emission reduction measures.

These games can be conducted using cards, role descriptions, and argument templates — or in a more flexible format.

Theatrical Performances

Theater is a way to express thoughts, feelings, and ideas in an artistic form. Short plays, sketches, scenes, or poetic compositions on climate-related topics can be part of school celebrations, contests, festivals, or classroom events.

Examples of performance topics:

- “A Letter to the Planet from the Future Generation”,
- “How I Became Friends with Nature”,
- “The Story of a Plastic Bag”.

One especially engaging format is puppet theater, where schoolchildren create puppets themselves from waste materials (cardboard, plastic, fabric) and perform short scenes. This not only develops creativity but also helps children understand the concept of reuse and waste reduction in practice.

It is important that schoolchildren are involved in all stages — from the initial idea to the final performance. This strengthens the educational impact and gives everyone a chance to contribute.

3.9 Game-Based Formats

Games are a powerful tool for engaging schoolchildren in climate education. In a playful format, complex environmental concepts become more accessible and understandable, while the learning process itself becomes active and emotionally rich. Games allow participants to experience situations, make decisions, and feel the consequences of their actions.

Teachers can use both ready-made games and create their own, based on the needs of the schoolchildren, the local context, and their pedagogical goals. Co-developing a game with the children enhances the impact — it becomes not only a learning tool but also a form of creative collaboration.

Game-based activities can be conducted in the classroom, during breaks, as part of extracurricular activities, club meetings, theme days, or school events.

The Climate Box offers ready-made game materials with detailed rules and guidelines. These games cover the key topics of the guide and can be easily adapted to various age groups and activity formats.

Examples of Game Formats

Board Games

- **Climate Bingo** — a game for reinforcing concepts and terms; can be used as a review or knowledge check.
- **Eco Monopoly** — players make decisions related to consumption, transport, and energy, trying to conserve resources and stay within their "carbon budget."
- **Eco-Challenge** — cards with tasks promoting conscious behavior (e.g., "spend one day without plastic," "track water use at home").
- Waste Sorting — a simple team-based speed game: who can sort household waste into the correct bins the fastest?

Team and Active Games

- Eco Quest — a series of stations with tasks related to waste, energy, water, and climate. Participants move between points, complete challenges, and earn points.
- Game Relay — combined challenges like "carry the 'carbon load,'" "transport solar energy," "save biodiversity."

Online Quizzes and Tests

These can be ready-made (e.g., on the Climate Box website) or created by teachers using platforms like Kahoot or Quizizz.

Creating Games with Schoolchildren

A great way to deepen understanding is to invite schoolchildren to design a game themselves. This could be:

- A board game about the carbon footprint,
- Scenario and solution cards,
- An environmental trivia board game,
- A “roll-and-move” style game with tasks on each step,
- An online quiz created by students for other classes.

Children can work in groups: some design the rules, others create the materials, and another group runs the game with younger children.

3.10 | Activities Dedicated to Environmental Dates

Organizing campaigns, contests, and creative events tied to international environmental and climate-related dates helps schoolchildren express their attitudes toward environmental issues, feel connected to the global climate movement, and better understand the human role in climate change.

Such events allow students to engage their creative and research potential, involve different age groups, classes, and even entire schools, helping to build a lasting culture of participation and environmental awareness.

Examples of environmentally and climate-significant dates:

- **February 2** — World Wetlands Day
- **March 3** — World Wildlife Day
- **March 5** — World Energy Efficiency Day
- **March 21** — International Day of Forests
- **March 22** — World Water Day
- **March 23** — World Meteorological Day
- **Last Saturday of March** — Earth Hour
- **April 7** — World Health Day
- **April 22** — Earth Day
- **June 5** — World Environment Day
- **June 8** — World Oceans Day
- **June 17** — World Day to Combat Desertification and Drought
- **September 22** — World Car-Free Day
- **October 24** — International Day of Climate Action
- **December 11** — International Mountain Day

Activity formats:

- Drawing, poster, and infographic contests on climate change and environmental protection,
- Theatrical performances, sketches, and puppet shows on environmental themes,
- Recitation contests, original poems and short stories,
- Photo exhibitions and presentations of student projects,
- Interactive displays and calendars with climate facts,
- School “green weeks” with flash mobs, quests, quizzes, and challenges,
- Campaigns aimed at behavior change (plastic-free day, energy-saving day, local food week, etc.).

The results of these events — drawings, photos, posters, videos, texts — can be used to decorate school displays, calendars, brochures, and exhibitions. This enhances the educational impact, increases motivation, and gives schoolchildren a sense of personal contribution to an important cause.

4 Conclusion

Climate change is one of the most serious challenges of the 21st century, and our shared future depends on how deeply the younger generation understands its causes, consequences, and possible solutions. However, knowledge of climate processes alone is not enough. It is essential to teach children how to apply this knowledge in practice, to form habits of environmentally responsible behavior, and to develop a personal sense of responsibility for the world around them.

Extracurricular activities offer unique opportunities to cultivate sustainable thinking in schoolchildren. Through formats such as clubs, games, projects, research activities, theatrical performances, or excursions, learners not only gain a deeper understanding of climate issues but also feel part of real change. These activities foster initiative, critical thinking, cooperation skills, and make learning dynamic and meaningful.

The Climate Box materials help enrich this work with content, structure, and visual tools. They enable educators to address a wide range of topics — from exploring the causes and effects of climate change to learning about mitigation and adaptation measures, and promoting a culture of energy and resource conservation.

Combining in-class and extracurricular activities, formal and non-formal education — especially when linked to local environmental conditions and issues — makes climate education more accessible, understandable, and relevant for children. These approaches not only deepen knowledge but also lay the foundation for active citizenship aimed at a sustainable and responsible future.

Extracurricular Activities on Climate Change

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This guide complements the United Nations Development Programme's (UNDP) educational and game-based toolkit titled Climate Box and is intended to support educators in organizing extracurricular activities on climate change.

The aim of the guide is to provide practical recommendations, examples of activities, and ideas for working with schoolchildren outside the classroom, focused on developing climate literacy and sustainable thinking. The guide is intended for schoolteachers, education specialists, non-formal educators, as well as representatives of youth and civil society organizations engaged in environmental education.

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