

SCHOOL CAMPAIGN
AGAINST CLIMATE CHANGE

Mission:
Take climate action



Complete Teacher's Guide

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INTRODUCTION

The School Campaign Against Climate Change 2019-2020 has been developed with the aim of providing municipalities with tools to raise awareness among their populations. It is particularly aimed at explaining, in a simple and fun way, to primary school students what they and their families can do to avoid contributing towards climate change.



The messengers for this educational Campaign are two Superheroes and an interplanetary climate change surveillance unit called Klimatea, who will try to raise awareness about the need to protect the environment in general and about the serious problem posed by climate change in particular. Its main purpose is to show participating students that they too can help to take care of the environment by implementing the simple actions set out in the Campaign's eco-tips.

This year, the focus is on the concept of energy efficiency, linking it not only to the performance of electrical appliances, but more specifically to our use of these, and our daily activities. By following the eco-tips, which cover a variety of topics, the students will learn about concepts relating to recycling, saving energy and water, reuse, etc. As such, the students will also positively relate taking care of the environment with fun activities.

This Guide has been produced to support teachers who use the Campaign's resources. It includes a brief theoretical introduction to climate change, explains what materials are available and how to use each of them, and suggests activities for teachers to carry out with their students.

OBJECTIVES

- To contribute towards raising the awareness of primary school students about the importance of taking part in the fight against Climate Change.
- To teach students about concepts and behaviours relating to taking care of the environment through fun activities and suitable materials.
- To educate students on respecting, caring for and responsibly using our natural environment.
- To promote values and attitudes relating to sustainability, including respect, commitment, independence, care, love for nature, participation, etc.

TARGET AUDIENCE

Primary school children.

DOWNLOAD MATERIALS

www.redciudadesclima.com/campaign/

THEORETICAL FRAMEWORK

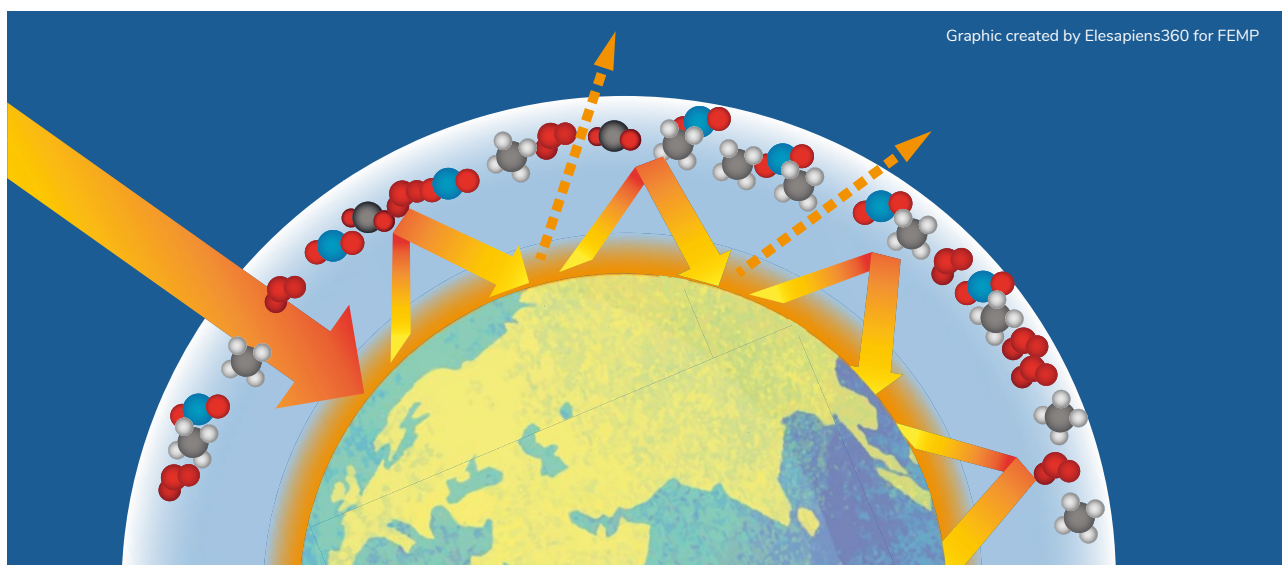
The following is a brief theoretical framework on Climate Change that can help teachers to focus the activities they carry out with the students.

The Greenhouse Effect

The Earth's atmosphere acts as a protective layer around our planet. It lets sunlight through, and retains the Sun's heat. Without this layer, the Sun's heat would immediately bounce off the Earth's surface and be lost in space (this is what happens on the Moon, which has no atmosphere). Without its atmosphere, the Earth's temperature would be much lower and life on Earth as we know it could not exist.

This means the atmosphere acts like the roof of a greenhouse. The retention of the Sun's heat by the layer of gases that form the atmosphere is therefore called the **greenhouse effect**. The greenhouse effect, which occurs naturally in the atmosphere, causes the temperature on Earth to be about 35°C higher than the temperature would otherwise be, based on the Earth's distance from the Sun.

However, since the Industrial Revolution, human activity has caused a very rapid increase in the concentration of gases that cause the greenhouse effect. This increase intensifies the greenhouse effect, causing an increase in global temperatures and a general imbalance in the planet's climate, known as Climate Change.



Climate change

The climate is changing and this is largely due to human activity. This global change in the climate is known as Climate Change.

The United Nations Framework Convention on Climate Change (UNFCCC), describes climate change as a **change of climate that is attributed directly or indirectly to human activity** that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods.

This change in climate, mainly caused by the increase in the concentration of Greenhouse Gases (GHG) in the atmosphere, affects the entire planet and its consequences can lead to substantial changes in all ecosystems.

The main greenhouse gases

The main greenhouse gases are:

- **Carbon dioxide (CO₂)**. This is the main gas responsible for climate change. It is most often emitted due to fossil fuels being burned (oil, coal, gas), forest fires and deforestation.
- **Methane (CH₄)**. This gas is released when organic matter decomposes in the absence of oxygen (such as in landfills). Livestock is also a significant source of methane, when manure decomposes and due to the fermentation that occurs in the stomach of ruminants.
- **Nitrous oxide (N₂O)**. This is released during industrial production and due to the use of nitrogen fertilisers in agricultural activities.
- **Hydrofluorocarbons (HFC), Perfluorocarbons (PFC), Sulphur hexafluoride (SF₆)**. These are artificial fluorinated gases created by industry for specific uses (refrigerants, aerosols, electrical insulators, the conduction of high-voltage equipment, etc.)

The consequences of climate change

Climate change causes a huge variety of consequences that affect the entire population of Earth in many ways.

Spain is particularly vulnerable to the effects of climate change due to the country's particular characteristics, such as its geographical location, the existence of different climates in its various regions, its long coastline, the fact it has islands, and the risk of desertification across a significant part of its land.

Two of the main risks that Spain faces in terms of the climate are **increased temperature and reduced precipitation, as well as changes in the seasonal distribution of rainfall**, since the both of these combined will cause a considerable decrease in the availability of water, which will increase supply problems.

Currently, it is estimated that by 2060 there will have been a temperature increase of 2.5°C and an 8% reduction in rainfall, which will cause a 17% average decrease in the availability of water resources.

Another important consequence of climate change is the **rise in sea level**, which may vary between 10 centimetres and one metre, which will particularly affect the most vulnerable areas, such as river deltas and low coastal areas.

Regarding the agricultural sector, the latest studies show that climate change will affect the ecosystems in the Atlantic and Mediterranean regions differently, because in the Atlantic region the temperature increase may be accompanied by increased agricultural productivity, while in the Mediterranean region the lower availability of water will make their agricultural sector less competitive.

Other risks associated with climate change that may affect Spain include:

- Changes in tourist patterns.
- A reduction of marine fish stocks.
- Imbalances in the food chain.
- Changes in the behaviour of certain species (especially regarding migration and reproduction).
- A loss of biodiversity and the spread of invasive species.
- An increased risk of forest fires.
- The disappearance of ecosystems, especially inland aquatic ecosystems, with the subsequent loss of inland fisheries.
- An increase in natural disasters such as river floods, avalanches and landslides, etc.
- An increase in the number of certain parasites and significant human health problems.

You can find lots of information on this subject online, for example at: <https://www.miteco.gob.es/en/ceneam/recursos/>

CLASS MATERIALS

The following summarises the materials students can work on in class to learn about concepts relating to the Campaign. These resources will be useful tools to instil in them the values embodied by the different characters, in an entertaining and empathetic way. These materials will support the teacher in taking classes dedicated to teaching everything relating to the School Campaign Against Climate Change.

A visual list using the following legend has been created to aid teachers in selecting resources:



Videos



Explanatory
material



Games and
activities



Supporting
material



Online



Interactive and
online



Downloadable



Available in
English



Individual use



Group use



Teacher's use

Recommended level of
education:

1 2 3 4 5 6

(Primary school,
grades 1 to 6)



Videos

“Klimatea and Climate Change”



An animated educational video in which Klimatea, a friendly interplanetary climate change surveillance unit, explains to students what the greenhouse effect is and what causes global warming, which in turn causes climate change, while encouraging the children to consider how they can change things. It is an excellent way to bring the students closer to the problems that motivate this school campaign.

“Klimatea and Energy Efficiency”



Klimatea will help to explain the concept of energy efficiency and how our daily activities can contribute towards using energy and resources efficiently in order to take care of the planet and stop climate change.

Introduction to the 2018 Campaign



[Available at the 2018-2019 School Campaign](#)

As well as increasing the awareness of the general public about this project, this educational video aims to explain the Campaign in a visual way, while presenting the superheroes and bringing them closer to the students. This is a very personal and compelling way for the students to connect with the characters and feel engaged by their message. With a fun and entertaining tone, the video goes through the 12 eco-tips that feature in the Campaign's calendar. It will introduce the key concepts and the basic recommendations for taking care of the environment that the students will have to study in depth.

Eco-tips



[Available at the 2018-2019 School Campaign](#)

This video reinforces the messages conveyed in the previous educational video, highlighting the benefits of adopting sustainable habits.



Explanatory material

“Global Warming”: Interactive digital infographic



An interactive digital resource which provides information on the human activities that affect global warming and their consequences. Students can access this using their tablets or computers, in class or at home, meaning they can interact with the content in an engaging and personal way.

Comics



[Available at the 2018-2019 School Campaign](#)

With the aim of offering students an engaging tool through which to present the Campaign's educational content, two comics are presented in which the two superheroes will animatedly explain what climate change is and what we can do to contribute as little as possible towards it.

2020-2021 School Planner



Anyone who takes part in the Campaign will be able to download the school calendar from the website, which includes a message aimed towards providing information and raising awareness about climate change.

2020 Calendar



A calendar starring Klimatea, who explains 7 eco-tips. It is designed to be placed in a visible place in the classroom, so that students always keep the Campaign in mind. The teaching staff should workshop the meaning of each new eco-tip, explaining what it means and how it helps to take care of the environment. To aid this awareness-raising effort, each tip will be accompanied by a link (using a QR code that teachers can scan using their mobile devices) to an online video, presentation or game resource that supports the understanding of this eco-tip. This way, learning about the concepts of the Campaign, in a fun and motivating way, will become a monthly or bi-monthly habit.

Games and activities

“The Time Machine”



An interactive digital game for students to test themselves and concentrate on concepts relating to efficiency and energy saving in a fun and engaging way, in the form of a mission. They will be able to play the game in class or at home on their tablets or computers, answering a series of questions that will let them complete the aim of the game: to travel back in time to solve climate change.

The Scavenger Hunt of the Environment



A fun and educational activity that aims to teach the students the concept of efficiency and energy saving as measures to fight against climate change. The game consists of 5 stations or posts - one for each concept to be worked on - where the students must pass a test relating to the aims of the Campaign.

The tests are both physical and intellectual, designed for teams of between 3 and 6 primary school students, year 3 and up. Each station will need to be manned by a game leader (this can be the same person - the teacher - if the challenge is carried out sequentially).

Deck of cards



The project also includes special material in the form of a deck of cards that participating classrooms can play with to revise the concepts studied using other materials.

“The Climate Race”



The participating students will be able to reinforce the concepts they have studied by playing a board game which deals with themes relating to the fight against climate change. On the Campaign website teachers can download a template to build a dice using cardboard or a reused material such as a carton or box.

"Climate in a Row"



On the other side of the “Climate Race” board, the students can play this game based on the classic “3-in-a-row”, but with the extra challenge that the students must correctly answer a question relating to a Campaign topic before they can place their token.

What is happening to the Climate and the Planet?



The participating students will be able to reinforce the concepts they have studied by playing a board game which covers topics relating to climate change and its consequences on Earth. These topics include: how our daily activities and behaviours can affect the climate; the consequences our actions can have; and how climate change can affect planet Earth in general as well as particular biomes (ecosystems) in the world. In order to show how all these factors are represented in the world's 8 main biomes, the players must travel through each one by moving over the squares and trying to find out the behaviours or causes (Action cards) that can change the climate (Effects cards) and, therefore, affect the Planet's ecosystems (Biome cards).

"Sustainable Dominoes" ↓

Available at the 2018-2019 School Campaign



A game based on classic dominoes with themes relating to the fight against climate change. In this game, the campaign superheroes have replaced the numbers on the dominoes (from 0 to 6) with positive attitudes about the fight against climate change and the corresponding behaviours shown on the stickers for the students. This will allow the students to match various positive attitudes that contribute towards slowing climate change.

Sustainable alphabet soup ↓

Available at the 2017-2018 School Campaign



This activity is designed to allow students to complete the template for a traditional "alphabet soup" in class. In the soup, there will be words relating to sustainability and the environment, which will help to reinforce these concepts by carrying out this fun task. To make the class more dynamic during this activity teachers should allow students 15 to 30 minutes to solve the alphabet soup, depending on the age of the students, rewarding the first superheroes to solve it. This activity can therefore be considered as a race to motivate the students.

The recycling maze ↓

Available at the 2017-2018 School Campaign



To complete this handout in class, the students will have to find the exits of the maze by taking three paths to lead three recyclable materials to their corresponding container: paper/cardboard, glass and packaging. By trying to find the right path for each material, the students will learn to differentiate each waste material in a fun and enjoyable way, as well as to find the right container in order to properly dispose of these materials. To make the session more fun during this activity teachers should allow students 10 to 20 minutes to solve the recycling maze, depending on the age of the students, rewarding the first students to solve it.

Knowledge Quiz 🖱️

Available at the 2018-2019 School Campaign



Teachers should have the students play a quiz based on the contents of the comics and the videos. Each multiple-choice question is assigned a point value depending on its difficulty.

Webquest 🌐

Available at the 2018-2019 School Campaign



A Webquest is a group activity that the students should carry out independently, guided by the teaching staff. Through the Campaign Webquest, students are asked to investigate the causes and consequences of climate change and to prepare materials to share the information they learn with their classmates.

★ Supporting material

Lesson Plan

Teaching material



An interactive and educational digital task that helps students to study the Campaign's resources, with links to all downloadable content and summaries of the Campaign's physical materials. A very useful quick reference tool to help teachers plan activities.

"Climate Agents" Badge



For schools that have (or decide to create) the position of "Climate Agent". Each week, two new students per classroom or year can be in charge of overseeing the general environmental activities to be carried out at the school, such as:

- Checking that waste is being disposed of in the corresponding containers.
- Checking there is no litter in the playground or hallways.
- Checking that common room lights are switched off when not in use.
- Watering and tidying the school garden.
- Check that the heating is set at a suitable temperature.
- Helping and guiding younger students in this process.



The aim is to ensure that the entire school gets involved and can feel proud of being committed to the fight against climate change.

To facilitate this activity and motivate the students to carry out this role, a "Climate Agent" badge has been created, to be worn by the students in charge of overseeing the environmental activities during their turn.

Superhero Mask

Available at the 2016-2017 School Campaign



To help the students feel like a real superhero and guardian of the environment, they should create a mask using the template provided. This is a fun element that helps to raise awareness and involve the students in the concept of the Campaign. Helping the students to become promoters of sustainability will allow them to identify with the superheroes and share their values.

Waste paper bin sticker



With the aim of reinforcing the concept of recycling relating to the School Campaign Against Climate Change, this sticker will be placed on the waste paper bin in the classroom. The students will therefore have a fixed, visual example of the proper use of recycling containers. The correct use of the waste paper bin in the classroom should be encouraged, by emphasising its function, that is, by recycling the paper used in the classroom.

School bathroom sticker



A sticker conveying a message relating to saving water should be placed in the school bathrooms. This gesture reinforces the general aim of the Campaign for all students, serving as a direct reminder when using public taps and intending to raise awareness of the benefit of not wasting natural resources (in this case water).

Student stickers



The participating students will receive a sheet of stickers with images relating to the fight against climate change that they can stick on their notebooks or stationery in order to reinforce the Campaign's messages.

Light switch stickers [↓](#)



A sticker should be placed next to light switches to remind students of the importance of turning off the light when it is not needed.

Eco tips colouring worksheets [↓](#)

Available at the [2016-2017 School Campaign](#)



To reinforce each eco-tip, teachers should encourage the students to colour in an introductory worksheet on an eco-tip in class to familiarise themselves with the topic at the beginning of each month. This activity is a fun way to bring the students closer to concepts relating to the environment and at the same time to develop their motor skills, as well as highlighting their creativity. The students' work should be displayed in the classroom so that the message is on show throughout the month.

Colouring-in door hanger template [↓](#)

Available at the [2015-2016 School Campaign](#)



As well as communicating the message of the importance of taking care of the environment in schools, the door hanger for the students to colour in aims to widen involvement to the family environment, to motivate students to inform the rest of their family and encourage them to join in the Campaign. To do this, students should work on this template in the classroom so that they can learn about the environment by colouring-in, cutting out and hanging the door hanger on their bedroom doors. It will certainly serve as a reminder for the students who will take the environmental message home with them, helping to spread the word of the Campaign.





This section shows examples of activities relating to the Campaign that can be carried out in the classroom.

Model session using Campaign materials

A short guide is offered below to help guide teachers use the Campaign materials in the classroom, and to help to inspire teachers to prepare new activities based on the Campaign that achieve the aim of raising awareness of climate change. All materials are made available, allowing teachers to choose the ones they consider most appropriate for each part of the session, or for other sessions.

Session proposal



Duration: an hour and a half

Objectives:

- To place value on nature as a source of resources.
- To develop respect and care for the environment.
- To instil concepts relating to sustainability.
- To encourage proactive behaviour towards taking care of the environment.

SECTION 1: MOTIVATION

To introduce students to the topic, the class will begin with the teacher showing a Campaign video, which will pose questions. The idea is to find out what the students already know about the subject and to start to encourage their curiosity, inviting the students to learn new concepts.

Activity 1: “Klimatea and climate change”

Description: This activity involves watching the video and talking about the concepts it presents. The teacher will explain that the students will learn different messages throughout the course that will help them to take care of the environment. The students should be asked about what they already know about climate change.

Materials: “Klimatea and climate change” educational Campaign video.

Activity 2: Hang up the Campaign calendar

Description: To encourage teamwork and participation, the students will vote on where to hang up the campaign calendar in the classroom.

Materials: classroom calendar.

Activity 3: Putting a sticker on the waste paper bin

Description: to involve the students, the sticker should be placed in the classroom waste paper basket, inviting everyone to start recycling from that moment if they have any waste paper in their desks. It is important to emphasize that they should ONLY dispose of the paper if it is not reusable.

Materials: Waste paper bin sticker.

Activity 4: Putting a sticker in the bathroom

Description: To involve all the students in the school, a sticker should be placed on the bathroom doors, to remind them of the importance of saving water.

Materials: Bathroom sticker.

Activity 5: Putting a sticker by light switches

Description: stickers will be placed by the light switches next to the door to remind the students to turn off the lights before leaving the room.

Materials: Light switch sticker

Activity 6: Distributing stickers for students

Description: Stickers displaying Campaign tips will be distributed to the students as a form of motivation.

Materials: stickers for students.

SECTION 2: TEACHING THE SESSION-TASK

The following activities can be carried out to help the students achieve the stated objectives.

Activity 7: Colouring in the superhero mask

Description: The activities begin by turning the participating students into superheroes, using the template for them to colour in.

Students will be given a photocopy of the three parts of the mask to colour in and stick onto cardboard they bring into class (from cereal, biscuit or shoe boxes, etc.). Once it is coloured in and glued onto cardboard, the students will cut out the mask to put it on.

Materials: superhero mask template.

Activity 8: Colouring in the eco-tips worksheet

Description: while working on the month's message, the students will colour in the eco-tips worksheet which will explain values relating to the environment.

Materials: eco-tips worksheet.

Activity 9: Carrying out the alphabet soup activity.

Description: This activity can be considered as a race to motivate the students. During the activity, the words that the children find in the alphabet soup should be discussed as a class.

Materials: sustainable alphabet soup.

Activity 10: Carrying out the recycling maze activity

Description: the students will have to find the exits of the maze by taking three paths to lead three recyclable materials to their corresponding container, while they learn and reinforce what each container is for.

Materials: Recycling maze workshop.

SECTION 3: END OF THE SESSION

In this part of the session, teachers should carry out activities that review the knowledge studied, encouraging the students to explain what they have learned to their family and to the rest of the school.

Activity 11: Hand out the door hanger

Description: To end the class, the door hanger template should be handed out to the students, encouraging them to complete it at home with their parents and hang it up, to carry the Campaign's message home.

Materials: door hanger template.

Activity 12: Games

Description: to enjoy their learning, the students should play with the game materials included in the Campaign.

Materials: Games: "The Climate Race", "Climate in a Row", Deck of Cards, Sustainable Dominoes, and What is happening to the Climate and the Planet?

Duration: an hour and a half

Objectives:

- To learn about the causes and consequences of climate change.
- To develop respect and care for the environment.

SECTION 1: MOTIVATING AND ACTIVATING PREVIOUS KNOWLEDGE

To start with, the problem of climate change will be presented to the students. The idea is to find out what they know about the subject and to start to encourage curiosity, inviting the students to learn new concepts.

Activity 1: Comic 1

Description: view comic 1 with the students and take the opportunity to ask the students what environmental problems appear and why they think they occur.

Materials: comic 1.

Activity 2: Interactive infographic

Description: after the students have accessed the infographic using their tablets or computers, the teacher should reflect on the resource with the students in class, focusing on the impact of individual actions on world issues such as global warming.

Materials: Interactive infographic “Global warming”

Activity 3: Hang up the Campaign calendar

Description: To encourage teamwork and participation, the students will vote on where to hang up the campaign calendar in the classroom.

Materials: classroom calendar.

Activity 4: Putting a sticker on the waste paper bin

Description: to involve the students, the sticker should be placed on the classroom waste paper basket, inviting everyone to start recycling from that moment if they have any waste paper in their desks. It is important to emphasize that they should ONLY dispose of the paper if it is not reusable.

Materials: Waste paper bin sticker.

Activity 5: Putting a sticker in the bathroom

Description: To involve all the students in the school, a sticker should be placed on the bathroom doors, to remind them of the importance of saving water.

Materials: Bathroom sticker.

Activity 6: Putting a sticker by light switches

Description: stickers will be placed by the light switches next to the door to remind the students to turn off the lights before leaving the room.

Materials: Light switch stickers

Activity 7: Distributing stickers for students

Description: Stickers displaying Campaign images will be handed out to the students as a form of motivation.

Materials: stickers for students.

SECTION 2: TEACHING THE SESSION-TASK

The following activities can be carried out to help the students achieve the stated objectives.

Activity 8: Videos Klimatea and energy efficiency and Video list

Description: In order to understand the importance of energy efficiency and how we use energy, the teacher should show the video "Klimatea and energy efficiency" followed by the video list, after which the class should discuss how everyday actions relate to the efficient use of energy and impact the care of the environment.

Materials: Videos "Klimatea and energy efficiency and video list."

Activity 9. "The Time Machine"

Description: once this game has been completed, the students should be tested on the topics covered in activity 8.

Materials: Interactive breakout: "The Time Machine".

Activity 10: Comic 2

Description: viewing this Comic will help the students to reinforce their knowledge.

Materials: comic 2.

Activity 11. "The Scavenger Hunt of the Environment"

Description: This is a team challenge consisting of 5 tests to work on mobility, temperature, electricity, air quality and energy efficiency. The challenges can be carried out independently and in different sessions.

Materials: Document and index cards for "The Scavenger Hunt of the Environment", stopwatch, whistle, paper balls, rubbers, ropes, cones, rings, a ball and pens.

Activity 12: Webquest

Description: The students should carry out the task proposed in the Campaign Webquest independently in groups, with the help of the teaching staff.

Materials: Webquest.

SECTION 3: END OF THE SESSION

In this part of the session, teachers should carry out activities that review the knowledge studied, encouraging the students to explain what they have learned to their family and to the rest of the school.

Activity 12: Games

Description: to enjoy their learning, the students should play with the game materials included in the Campaign.

Materials: Games: "The Climate Race", "Climate in a Row", Deck of Cards, and What is happening to the Climate and the Planet".

Activity 13: Carrying out an awareness campaign

Description: To complete the activities, the students should present the results of their work carried out on the Webquest and the group should carry out a climate change awareness campaign for the whole school.

Materials: materials created by the students, materials for school campaigns, Climate Agents badge.

Activity 14: Assessment

Description: to assess the student's knowledge, the quiz proposed in the Campaign materials should be carried out to find out if the students have understood the concepts taught.

Materials: knowledge quiz.



Other activities

In addition to the activities carried out using the Campaign materials, the following activities can be carried out in and out of the classroom to continue promoting the Campaign's sustainable message.

These activities aim to strengthen communication by collaborating in planning specially marked days relating to the environment. In the same way, as the aim is to extend these habits into the students' daily lives and to motivate them to continue recycling, these activities and competitions take on a global dimension by allowing the students to learn to take care of the environment in a fun way.

Primary school, grades 1 and 2



1. Guessing game

To introduce the theme of renewable energy, there will be a small activity involving riddles, such as:

- I give off heat and my shape is round. At the end of the day I leave quickly westbound (the Sun).
- It whistles without a mouth and without wings it flies. It can push you without hands, but you can't see it with your eyes (the wind).
- Since my first day I have run and forever running I will be. Never stopping night or day until I finally reach the sea (rivers).
- They make noise and they come, they make noise and they go. When they return tomorrow, it will be the same old show (waves).

2. Starting the class

With the help of the teacher, the class will prepare the following cardboard boxes:

1. Yellow Box: the students can put soft drinks cans, juice and milk cartons, plastic sweet wrappers, etc. into this box.
2. Blue Box: the students can put all the papers and cardboard that cannot be used any more into this box. The Campaign sticker will be put on this box.
3. Grey box: the students can put everything else into this box.

The students can be organised into groups, with each one in charge of emptying the boxes into the appropriate container when it is their turn, with the help of the teaching staff.



3. Water at my school

The students should observe the use of water across the school's facilities to then produce a poster on what they have learned.

On a large map of the school, the students should mark the points of water consumption, identifying any possible incidences (dripping taps, leaks, etc.).

The groups should then work on good practices to be implemented at each point in order to use water more efficiently, under the premise of saving water. These tips will be written down by each group on a sheet, which will be placed over each previously identified point of water consumption, so that the plan of the school will become a plan of efficient uses of water.

The tips compiled should be written on a poster so that it is visible next to each point of consumption at the school.

The students can likewise identify points for collecting water. On the same map, they should mark the ideal places for collecting rainwater, and think about what it could be used for.

4. Transforming waste materials into toys

The students should be asked to bring some household packaging waste to class (it should be stressed that the waste must be empty, clean and dry).

With all the packaging waste they bring, they should be encouraged to make their own toys, to remind them how important it is to reuse the waste before throwing it away.

Primary school, grades 3 and 4



1. How the greenhouse effect works

To understand the greenhouse effect, the students should use two medium glass beakers, one large glass beaker, two small alcohol thermometers, a lamp and a bulb over 60 watts. The small thermometers should be placed inside each medium beaker, so that the temperature data is easy to read. The thermometer will record the room temperature. The two beakers should then be placed under the light of a lamp that generates heat. The temperature of the air inside the beakers will begin to increase. One of the beakers should be covered with another larger beaker or container. The larger beaker that covers the small one lets the light through and the small beaker will heat up. However it does not let out the heat that is generated inside it, in the greenhouse effect mode, which is reflected in the thermometer reading.

2. Recycling map

The students will draw up a recycling map of their town or city, indicating collection points for paper, glass, packaging and used button batteries as well as shops that collect second hand books, clothing, household appliances and furniture, etc.

The students will then share their results, and decide where there should new collection points for the different materials.

Students will also be asked to note down all their daily activities and fill in the attached table, keeping note of all the waste generated by each activity.

After this, the students should pool their results, highlighting the amount of waste that we generate in our daily lives:

- What is the most common kind of waste?
- Does all this waste go in the general rubbish bag? Where should this waste be disposed of?
- Do we separate the waste so we can dispose of it in different containers?
- Where does the waste go once we dispose of it?

Time	Activity	Waste materials	What do I do with them?

3. Let's save water

This activity involves making a set of cards which show daily activities that involve using water. For example:

- Washing your hands, leaving the tap running the whole time.
- Washing your hands, turning the tap off when you're not using the water.
- Brushing your teeth, leaving the tap running the whole time.
- Brushing your teeth, turning the tap off when you're not using the water.
- Washing your face, leaving the tap running the whole time.
- Washing your face, turning the tap off when you're not using the water.

Distribute the cards randomly. Each student has to find their partner who does the opposite to them (if someone does the activity with the tap left running, they have to find someone who does the same activity with the tap turned off).

In pairs, the students should place a volume meter under the tap and carry out the activity on the card. Then, they should measure how much water there is in the volume meter. This is the amount of water that can be saved simply by turning off the tap when carrying out these activities.

Each pair should share their results with the class and write a list of good practices to save water. This list can be placed in all school bathrooms and in places in the local area where there are taps.

4. Let's save energy

In pairs, the students should walk around the school and note down all the areas where energy is used. They should also note down if they find lights switched on in empty rooms, or rooms where there is sufficient sunlight.

Next, the students should make stickers with drawings and messages reading "Please turn off the light when you leave", to stick on all the school's light switches.

Primary school, grades 5 and 6



1. Let's take a look at desertification

To understand the problem of desertification (soil erosion and the loss of vegetation cover) associated with climate change, teachers should carry out an experiment aimed at teaching the students about the importance of taking care of vegetation.

Three large containers with some form of drainage will be needed. The first should contain soil with vegetation. The second should contain soil with a layer of organic material (for example pine bark). The third should only contain soil.

Once the containers are ready, the students should pour water, little by little, in each one.

They should observe that in the first container, the water flows through the vegetation on the surface, draining away quite clear and without drawing away any sediment.

In the second container, the water that drains away will be slightly darker, but it won't contain too much sediment.

In the third container, the water will be cloudy, and it will draw away some of the soil.

2. Melting ice and the consequences

To understand melting ice and its consequences, teachers should attempt to reproduce the melting of floating ice (Arctic model) and that of continental ice (Antarctica, Greenland, mountain glaciers) with a pair of glass cubes, ice, blue-tinted water to simulate the ocean, and a container and rocks to build the Antarctic continent.

The ice cubes are placed floating in one container and sat on top of the rocks in the other. The containers should then be filled to the brim and the students should wait a few minutes to observe the difference between the two models.

The teacher should then guide a class reflection to help the students understand that the melting of floating ice (Arctic model) does not change the sea level, although it can significantly change the climate of many regions due to the impact of this on ocean circulation.

On the other hand, the melting of continental ice (Antarctica, Greenland, mountain glaciers) increases the sea level, subsequently causing the flooding of islands and coastal areas, which will disappear underwater, and especially affecting highly populated areas of the planet.

3. CO₂ and global warming

Place the small thermometer inside each medium beaker, so that the temperature data is easy to read. The thermometer will measure the temperature inside the beaker. The two beakers should then be placed upright under the light of a lamp that generates heat.

The temperature of the air inside the beakers will begin to increase. In a small pot that fits inside one of the

beakers, two small tablespoons of baking soda should be mixed with 40 ml of vinegar. The reaction between these two ingredients will produce CO_2 . The mixture should then be decanted into one of the beakers exposed to the light bulb, next to the thermometer. After a few minutes the students will be able to observe that in the beaker containing the baking soda and vinegar mixture the temperature is higher, due to the higher concentration of CO_2 .

4. Ocean currents

For this activity, several blue or black ice cubes should be made, adding food colouring or squid ink to the water before putting it in the freezer. You will also need to heat up 40 ml of water and pour this, and a few drops of red food colouring, into a small bottle with a weight at the bottom of it (for example, nuts). Both the ice cubes and the bottle of hot water should be placed in a large, transparent container filled with water.

The bottle filled with warm water should sink to the bottom. However, the ice cubes will remain floating on the surface of the water, in the same container. The students will then be able to observe how the red, warm water in the bottle rises, while the dark, cold water of the melted ice sinks.

Ice cubes are placed floating in one container and sat on top of the rocks in the other. The containers should then be filled to the brim and the students should wait a few minutes to observe the difference between the two models. The teacher should then guide a class reflection to help the students understand that the melting of floating ice (Arctic model) does not change the sea level, although it can significantly change the climate of many regions due to the impact of this on ocean circulation.

On the other hand, the melting of continental ice (Antarctica, Greenland, mountain glaciers) increases the sea level, subsequently causing the flooding of islands and coastal areas, which will disappear underwater, and especially affecting highly populated areas of the planet.

5. Making recycled paper

To start the paper recycling workshop, you will need: newspaper, sheets of paper or cardboard, a large container to hold the paper, a blender, a large spoon and a vegetable drainer, a mesh rack and several pieces of fabric in different sizes on which to eventually place the recycled paper.

The first step is to cut the paper into small pieces. These pieces should be placed in the large container, such as a bucket, and mixed with hot water, at a ratio of about twice as much water to paper.

The paper should then be blended into a thick paste, which is left to rest for a few hours.

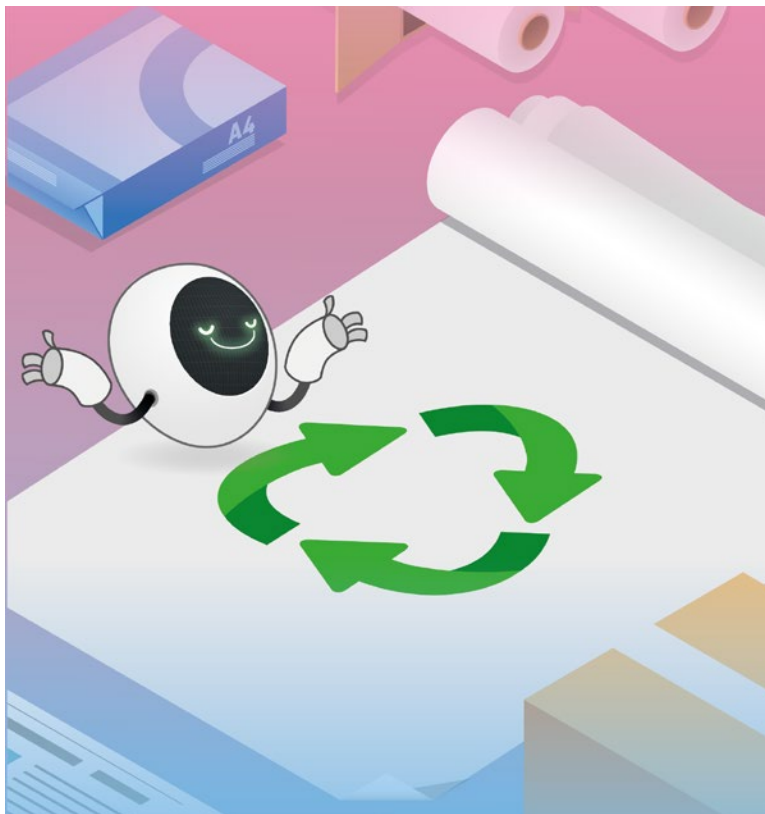
The draining rack should then be used to remove excess water. Once the paper has been drained, it will need to be rinsed well under the tap with cold water. The paper paste should then be drained again.

Using a spoon, some of the paste should be spread out on the mesh rack. This process will determine the size of the resulting sheet of recycled paper.

Once it has been spread out, a cloth should be placed over the paper pulp. Then the mesh should be turned over, to release the sheet of paper. The paper pulp then needs to be completely covered with the fabric.

A weight can be placed briefly on top of the fabric to make the recycled paper thinner. Then, once the fabric has absorbed the water, it should be removed and the paper sheet will need to be left to dry for at least a day.

The recycled paper is now ready to be used!



6. Climate memory

To better understand the changes that are taking place in the climate, it is very helpful to consult people's climate memory.

With the help of the teaching staff, the students will establish years and events to talk about with their relatives, neighbours and friends.

The aim is to collect information on the differences in temperatures or meteorological phenomena between the current day and the past that demonstrate climate change.

SCHOOL CAMPAIGN
AGAINST CLIMATE CHANGE

Mission:
Take climate action

