SCHOOL CAMPAIGN
AGAINST CLIMATE CHANGE

Mission:
Take climate action

The Scavenger Hunt of the Environment

FEMP
FEDERACION ESPAÑOLA DE MUNICIPIOS Y PROVINCIAS

Red Española de Ciudades por el Clima

oecc

The Scavenger Hunt of the Environment

The Scavenger Hunt of the Environment is a playful, didactic activity that seeks to focus the students on concepts regarding efficiency and saving energy as measures to fight against climate change.

The game consists of 5 stations or positions -one for each concept- in which you have to complete a task related to the objectives of the campaign.

1. **Mobility**
2. **Temperature**
3. **Light / electricity**
4. **Air quality**
5. **Energy efficiency**

The tasks are both physical and intellectual, designed for a competition of teams between 3 and 6 participants in the 3rd grade or higher. The tasks require a moderator at each station, which can be the same person (teacher) if the scavenger hunt is sequential.

OBJECTIVES

To pass through all 5 stations by completing the tasks given. At each station the winning team will receive a badge based on their efficiency. The team that collects 5 badges will be the winner of the A+++ efficiency badge, the badge of maximum efficiency.

TEAMS

5 groups of 3 to 6 participants. Each team must choose a name related to energy or the environment. For example:

- Kilowatts
- Carbons
- Dioxides
- Climates
- Centigrades

Student badges, efficiency labels and worksheets can be found at the end of this document.

TASK Nº 1 – Mobility. HOW DID YOU COME TO SCHOOL?

Cars and motorcycles use fossil fuels (gasoline, which comes from petroleum), which pollute a lot because they emit many greenhouse gasses (CO_2) into the atmosphere. Do you think we can use them less? How many people have come to school in an environment-friendly way? Let´s find out!

Competition:	In teams.	**Time:**	15 minutes.
Develop-ment:	Each team should ask the most people they can at school (students, teachers, and other staff), how they came to school today, documenting each answer in a questionnaire created for this task, before time runs out (5 minutes). The options are: • By car. • By motorcycle. • By school bus. • By public transport. • By bike. • On foot. When time runs out, each team will also have to include the responses of its own members. The teacher will then collect the questionnaires and compare the points obtained. Each answer documented as “On foot” and “By bike” is worth 10 points. Each answer documented as “By public transportation” or “By school bus” is worth 5 points. Each answer documented as “By car” or “By motorcycle” is worth 0 points. The team that scores the most points wins the task.		
Material needed:	• A stopwatch. • A whistle to signify the star and end of the activity. • A “How did you come to school?” questionnaire for each team. • A pen for each team.		

TASK Nº 2 – Emission reduction. TEMPERATURE CONTROL

One of the most polluting and energy consuming human activities is the heating system. Setting the thermostat to 21ºC is enough to be comfortable. In addition, for each degree that we lower the heating system by, we are emitting up to 184 kg less of CO_2 per year. Imagine that multiplied by every family in your city!

Show how well you can control the temperature by stopping the thermostat when you think it has reached the proper temperature.

Competition:	Each of the team members will play a total of 5 rounds.	**Time:**	10-15 minutes.
Develop-ment:	The moderator, with a stopwatch, plays the role of the thermostat. At the "thermostat" signal, players must guess when it reaches the proper temperature. When they believe that it has reached 21ºC (21 seconds) they clap. Whoever gets closer or claps at the correct time wins. The team with the most winning members wins the task.		
Material needed:	• Stopwatch. • Blackboard and chalk/marker to record the time given by each participant.		

TASK Nº 3 – Energy saving methods. TURN OFF THE LIGHT

Taking advantage of the natural light and turning off lights when they are not necessary are two very efficient methods that take care of the planet, because they save energy, but there are other methods that can be used to be efficient with the use of energy. Will our school be efficient? Let´s find out!

<table>
<tr><td>Competition:</td><td>In teams.</td><td>Time:</td><td>20 minutes.</td></tr>
<tr><td>Develop-ment:</td><td colspan="3">Teams must detect, within 10 minutes, the greatest number of inefficiencies in the use of electric devices/appliances that may be found in the school and write them down on a worksheet. They will search in spaces proposed by the teacher or in those that students usually use (library, gym, cafeteria, classrooms etc.) for situations such as those described below, or others that the students identify.

Inefficient uses of electric devices/appliances:
• Classrooms or empty spaces with the lights turned on.
• Classrooms or spaces with the lights turned on even though there´s natural light present.
• Electric devices/appliances that aren´t being used, but are turned on.
• Devices on “standby”.

Other types of inefficiencies that the students can look for:
• Classrooms or spaces with the heating system turned on while windows or doors are open.
• Faucets or cisterns that are leaking water.
Each inefficiency correctly identified is worth 1 point. Those that are not among the previous examples are worth 3 points. The team with the highest score wins.</td></tr>
<tr><td>Material needed:</td><td colspan="3">• A stopwatch.
• A whistle to signify the star and end of the activity.
• An inefficiency worksheet for each team.
• A pen for each team.</td></tr>
</table>

TASK Nº 4 – Air quality. THE FAIR EMISSIONS

Many human activities emit CO_2, a greenhouse gas that pollutes the air and is one of the reasons responsible for climate change. In our daily life, we can make a difference by choosing food, transportation and an energy use that emit the least amount of CO_2. But how do we know which they are? Let´s find out by playing!

<table>
<tr><td>Competition:</td><td>In teams, with one spokes-person.</td><td>Time:</td><td>About 7 minutes.</td></tr>
<tr><td>Develop-ment:</td><td colspan="3">Each team must match or approximate the amount of emissions (in kilograms) of a list of human activities that will be given by the game moderator. They will have 30 seconds to answer each question. The team that gets the closest to the actual time wins. It´s necessary to give a clue to the students (such as a range of figures) since these are values that can only be understood in relation to their alternatives (going on foot/going by car, etc.).
<table>
<tr><th>Activity</th><th>Kg of CO_2</th></tr>
<tr><td>Setting the thermostat to 24ºC (per home and year)</td><td>820</td></tr>
<tr><td>Setting the thermostat to 20ºC (per home and year)</td><td>620</td></tr>
<tr><td>Walking or biking (100 km)</td><td>0</td></tr>
<tr><td>Traveling by subway (100 km)</td><td>18</td></tr>
<tr><td>Riding a car through the city (100 km)</td><td>86</td></tr>
<tr><td>Traveling by plane (100 km)</td><td>132</td></tr>
<tr><td>Varied diet (1 year)</td><td>1 830</td></tr>
<tr><td>Diet high in meat (1 year)</td><td>4 732</td></tr>
<tr><td>A class A + refrigerator (year)</td><td>49</td></tr>
<tr><td>A class A+++ refrigerator (year)</td><td>26</td></tr>
</table>
Each team must write their approximation on the activity sheet, and then the correct figure, once revealed, in the box next to it.</td></tr>
<tr><td>Material needed:</td><td colspan="3">• A stopwatch.
• A document of activities to be filled by each team.
• A pen for each team.</td></tr>
</table>

TASK Nº 5 – Energy efficiency. THE ENERGY ROUTE

Energy efficiency is not only marked by the labels of electrical appliances: it´s also important to be efficient in the use we make of them. We will play by being efficient and trying to bring energy from one point to another in the least amount of time. Pay attention to the enemies of efficiency!

Competition:	In teams. Everyone plays in pairs, like in a relay: when a pair finishes their lap around the track, the next pair begins. There must always be a pair running in the track.	**Time:**	About 15 minutes.
Development:	Participants, in pairs, must transport as much energy as possible from one point to another of the track. The energy will be crumpled paper balls on an elastic band that must be stretched between both players to prevent the balls from falling. The pair will have 5 minutes, and they will have to avoid the “enemies of efficiency”. The “enemies of efficiency” are: • Windows and doors not closed all the way • Electronic devices that are running when nobody is using them • Excessive heating • Air conditioning that’s too high • Water that´s too hot Inside the track, the “enemies of efficiency” are symbolized by obstacles such as chairs, ropes (which they will pass under), volunteers who will hinder their path... If a pair drops the paper ball, they must start again. The most efficient team wins: the one that manages to bring the highest amount of energy (crumpled paper balls) to the other side of the track before time ends.		
Material needed:	• About 20 crumpled paper balls. • Rubber bands. • Strings, cones, hoops, balls to hinder their path...		

TEAM: .....

1 Mobility questionnaire: How have you come to school?

In 5 minutes, ask the most people you can how they have come to school. Mark each answer with an X under the corresponding box and sum all of them at the end.

Name						

TEAM: .....

3 Inefficiency worksheet

Search in the school areas assigned and write down all the inefficiencies found, as in the example given.

Space	Inefficiency description
Exemple: Library	Open window with the heating on.

TEAM: .....

4 Worksheet on activities and emissions

Write down next to the activity **indicated by your teacher** the number of kilos of CO_2 you think it emits. Afterwards, write the correct answer in the right column. The closer to the actual number, the higher your score!

Human activities	How many emissions?	Correct emissions
Setting the thermostat to 24°C (per home and year)		
Setting the thermostat to 20°C (per home and year)		
Walking or biking (100 km)		
Traveling by subway (100 km)		
Riding a car through the city (100 km)		
Traveling by plane (100 km)		
Varied diet (1 year)		
Diet high in meat (1 year)		
A class A + refrigerator (year)		
A class A+++ refrigerator (year)		

Efficiency label

TEAM: .....

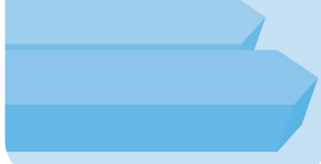
Task 1
Mobility

Task 2
Temperature
control

Task 3
Light / electricity

Task 4
Air quality

Task 5
Efficiency



Efficiency label

TEAM: .....

Task 1
Mobility

Task 2
Temperature
control

Task 3
Light / electricity

Task 4
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Task 5
Efficiency