

## TEESCHOOLS

### Transferring Energy Efficiency in Mediterranean Schools

**PRIORITY AXIS:** Fostering Low-carbon strategies and energy efficiency in specific MED territories: cities, islands and remote areas

**OBJECTIVE:** 2.1 To raise capacity for better management of energy in public buildings at transnational level

**DELIVERABLE NUMBER:** 5.4.1

**TITLE OF DELIVERABLE:** WP5 Open lessons for behavioral change to teachers and students  
**WP n. 5: CAPITALISING**

**ACTIVITY n. 5.4. 1 Open Lessons**  
**PARTNER IN CHARGE:** FVMP

**PARTNERS INVOLVED:** CEA

*Status:*

<i>Draft</i>	<i>Final</i> X	<i>Version n. 01</i>
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*Date:* December 2019

## **OBJECTIVE**

The open lessons has the objective to change the behaviour of the actors on energy efficiency in school buildings.

## **CONSIDERATIONS**

Considerations and suggestions to do the activities:

- Students, teachers and technical staff will be involved
- The main thing is to transfer knowledge on simple every day actions
- Reference point could be the presentation of CEA in Split
- Examples of good practices in other schools could be used
- Each open lesson must last between one hour and one hour and a half
- The open lessons will end at the end of October

## **OUTPUTS**

The open lessons will involve around 2000 teachers, students and school staff and

- There will be 70 open lessons
- 10 open lessons per country
- At least 5 schools for each country

## **REPORT**

- At the end of the activities each country will send a report (max 10 pages) with:
  - Schools where the open lessons took place
  - Agenda, poster....
  - Number of students, teachers and staff involved (list of participants)
  - Material used
  - Photos (2 or 3 per open lessons)
  - Surveys
  - Evaluation and conclusions (1 page)

## **PARTNERS INVOLVEMENT**

The institutional partners will organize the open lessons.

The technical partners will help institutional partners in technical aspects.

## CYPRUS: OPEN LESSONS FOR BEHAVIORAL CHANGE TO TEACHERS AND STUDENTS



**Local partner in charge: CEA**

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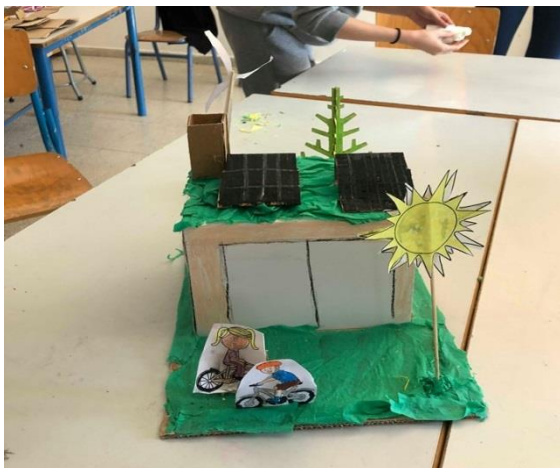
## Schools where the open lessons took place:

The following schools have participated in TEESCHOOLS for Cyprus:

No	Name of School	Location	Number of students	Number of staff	Number of open Lessons	Date of implementation
1	Kornesios Hatzigiorkatzis Primary School	Nicosia	141	12	2	3/12
2	Agios Panteleimonas Primary School	Limassol	55	9	1	11/12
3A	Prodromos Primary School	Larnaca	61	4	2	12/12
3B	Prodromos Primary School	Larnaca	65	5	2	13/12
4	Kapedes Elementary School	Nicosia [village]	33	7	2	16/12
5	Ethnarxis Makarios CB ' Primary School	Larnaca	95	9	2	17/12
6	Livadia Primary School CB'	Larnaca	40	10	2	18/12
7	Idaliou Primary School	Nicosia	130	11	2	19/12
<b>Total</b>			<b>617</b>	<b>67</b>	<b>15</b>	<b>7</b>

## Materials used for the open lessons

The materials used were mainly recyclable materials. Such as used paper, large cartons, plastic bottles and pieces of used wood. They have also been used watercolors pencils, pastels, colored pencils, paper cutters, paper tapes, pencils, erasers and scissors.







## Photos per Open Lesson

The lectures were attended by a total of 617 students. Along with the teachers and staff of the school had the opportunity to ask questions and get informed, showing particular interest. The public has raised key questions and concerns about the future of the planet as well as solutions to protect it. There has been obvious determination, willingness and volition from the public for a better tomorrow.

### 1. Kornesios Hatzigiorkatzis Primary School-Photos

The first and the second graders created energy-related diaries, with children drawing different ways to save energy each month. In addition to the children's' classes an energy search game took place, where the kids were finding the devices in their classes that have the energy and what to do to reduce it. Solar ovens were created with the third-grade students.



## 2. Agios Panteleimonas Limassol Primary School-Photos

The students of the sixth grade had the opportunity to take part in a two-hour workshop on energy saving. The action is part of the activity of building a bioclimatic building model. The children also responded to a questionnaire given to them about what they had attended in the lecture but also to questions about their daily lives.





### 3. Prodomos Primary School-Photos

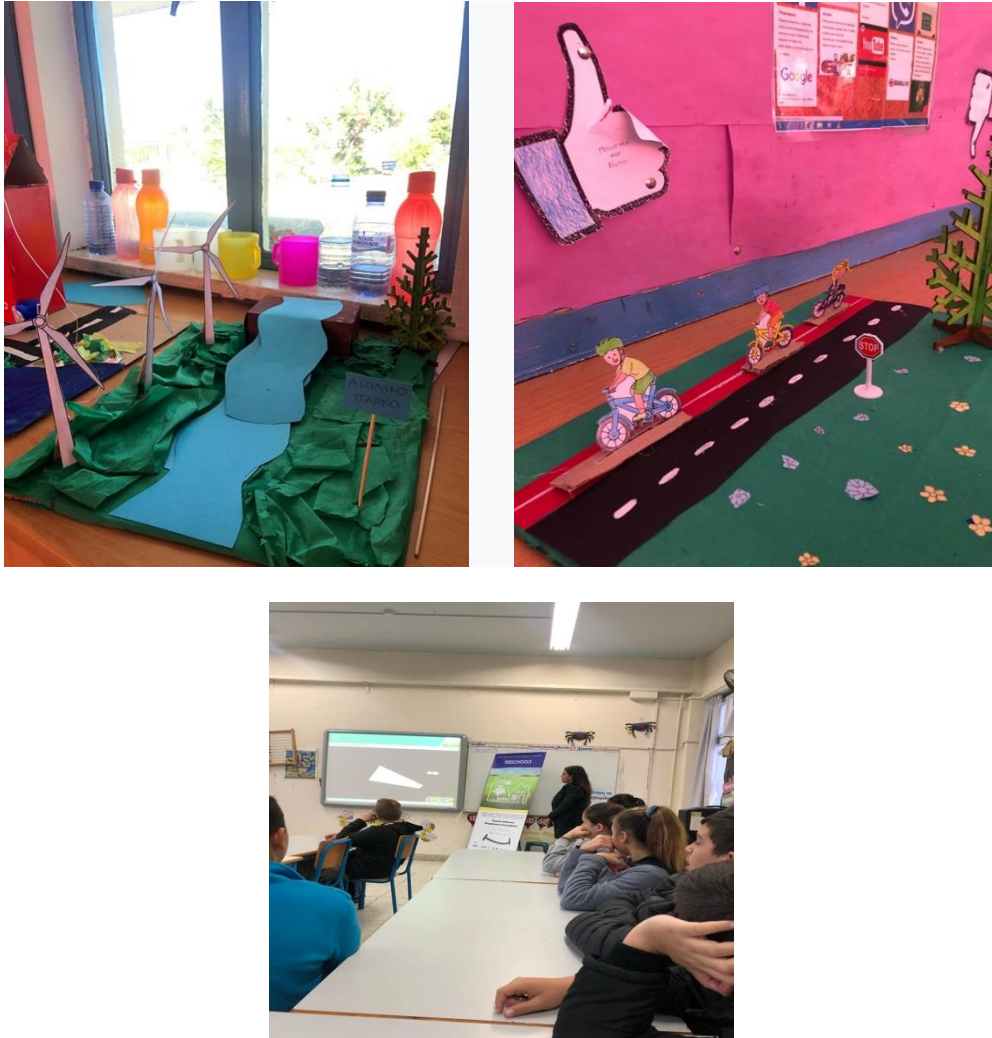
#### a. First lecture

The first lecture was held in the three classes of first-grade students of the school. The students had the opportunity to paint, glue, cut to create their own 3D house. They also became heroes of the planet creating their own crown.



b. Second lecture

Students of the sixth grade participated in the second lecture. The children created, collaborated and prototyped ideas as they built wind-energy park, bicycles roads and showed renewable energy using recyclable materials.





#### 4. Kapedes Elementary School-Photos

This school is located in a mountain village. The whole school has 33 students. All students and teachers participated in the lectures. Students created crowns and filled out worksheets such as cryptos and divided the images into environmentally friendly and non-environmental ones. Students were also divided into groups and played board games such as a snake related to energy questions.



## 5. Ethnarxis Makarios CB ' Primary School- Photos

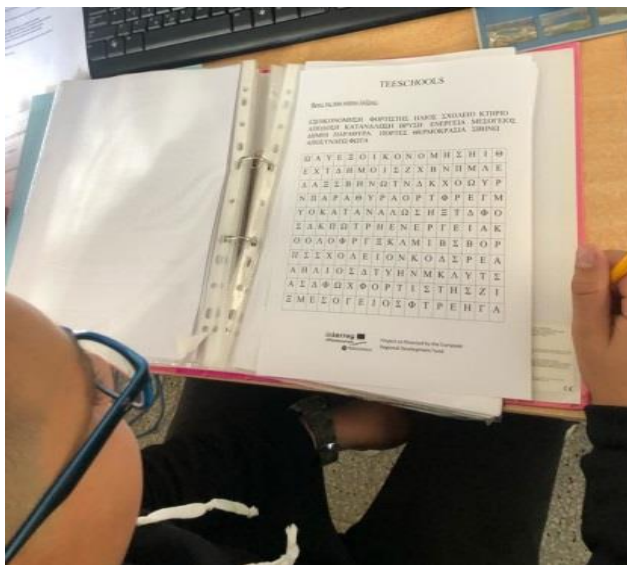
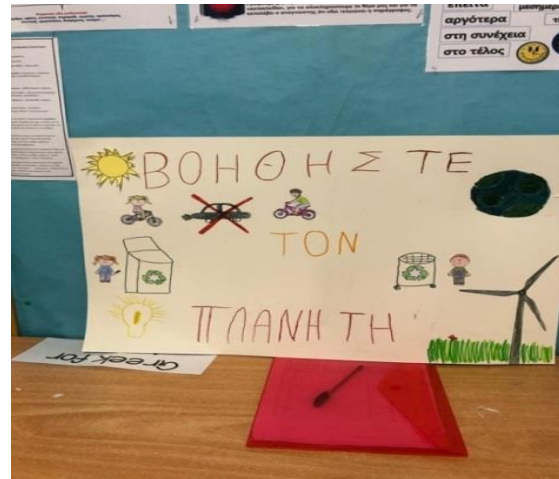
The students of this school were divided into groups and research committees were established. Other students were surveyed about reduction-reuse-recycling, waste management, and the ways they move to and from school. Also some of the students had the opportunity to create their own solar oven. The rest of the students created their own wind park and bioclimatic building.





## 6. Livadia Primary School-Photos

Students in F grade worked in groups. Some participants in the groups complete worksheets such as cryptos or the planet code associated with their school lesson, Mathematics. The children also made models of a bioclimatic building and a wind park. The classes' curators also undertook weekly recycling, with the help of their classmates, who created new recycling boxes of paper and plastic bottles and placed them in classrooms where there were shortages.





## 7. Idaliou Primary School-Photos

At Idaliou Elementary School students worked in groups. There were two phases. The first groups started construction and the next groups completed it. They created energy mock-ups, awareness posters or banners. Another group of students undertook energy reduction in classrooms. In the case of wasted energy, students pointed it out to other students to achieve energy reduction.



## Evaluation and conclusions

TEESCHOOLS is a project that encourages students to become aware of energy and become actively conscious. Courses and experiential workshops help to change the mindset of adopting energy-saving habits. It helps people of all ages to gain knowledge about energy. What is energy, where it comes from, its sources and uses.

Research and experience show that energy savings can be achieved through activities that focus on behavior change and this is one of the actions of the TEESCHOOLS project. The most important effort begins from schools. The teacher, after all, knows better than anyone else that the future belongs to those who prepare it.

There is still a great deal of awareness for energy savings by being labeled and cited with examples of these ways. The program also realizes that small changes in our daily habits can save a great deal of energy.

By focusing on behavior change, we aim at daily habits such as turning on and off lighting, setting the temperature for the heating and cooling system, using home and school equipment, managing various systems (heating, lighting, etc.). People tend to believe that their behavior is already energy friendly and efficient and they could not save more by changing their habits and practices. However, through research and experience it has been found that with the help of educator, training, practical tools and obviously, with active participation through changing our habits, we can bring even more savings.

Students learn how to consume and waste energy in their school and how to save energy in every way. The awareness of the school community has been successful as well as the involvement of the students in the effort to save energy through activities, experiential workshops, worksheets and research.

In addition, children have learned that an environmentally friendly and climate-friendly lifestyle does not amount to suffering, hardship and self-denial. It can be fun and enjoyable. We have also pointed out to children that an environmentally friendly lifestyle equals less fossil fuels, cleaner alternative energy, fewer cars, less traffic and pressure, more fresh air and green, gentler life, less unnecessary things and more.

Under the guidance of the teacher and the educational material developed, the students implement the action, increasing their knowledge and sensitivity to energy saving and environmental protection. In the work-activities carried out under the program the students worked in groups. Students create 'energy groups' that make decisions about what measures to take applied to save energy. Research and experience show that collective effort works. People have different skills, knowledge, experience and ideas and so there are many opportunities for exchange, mutual help, support and encouragement.

By the end of the seminars the students have learned that climate change is not a theatrical performance we watch from afar as spectators, and it is inevitable that we are all in the lead. But we



are the directors too! Human activities affect the climate and we are all responsible. It also became clear to the students that if we do not face reality immediately, then it may be late!

Climate change is already affecting millions of people around the world, and the extreme weather we experience is not accidental. It is one of the biggest environmental challenges and not a small problem "that can be resolved tomorrow". Climate change is directly linked to energy use. The aim is to reduce consumption as much as possible. Science and technology alone cannot solve the problem. It's never too late, and even the simplest of actions, such as turning off the lights, count!

It is better for all of humanity if we look at climate change to revise our lifestyles and change our lives with a lower carbon footprint.

The purpose and hope for a better tomorrow for future generations, for the environment and for our planet, is to help and contribute to protecting the environment in our own way. Collective and systematic efforts always bring the best desired result. The school environment can be a great starting point for energy awareness.

Research conducted by TEESCHOOLS showed that participants expanded both their knowledge and attitudes toward energy-related issues. In addition, it appeared that they understood proper energy management and everything related to it. This was done through the critique and interactive process involving these individuals, participating in research committees and experiential laboratories. In conclusion, through this project, the conscious development of critical thinking and the ability of young people to build sincere attitudes towards the protection of the planet are achieved.

## ANNEX: INDICATIVE EDUCATIONAL MATERIAL DEVELOPED FOR OPEN LESSONS [GREEK]

### TEESCHOOLS

Βρες τη λέξη

Η	Σ	Η	Μ	Ο	Ν	Ο	Κ	Ι	Ο	Ξ	Ε
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ΠΛΑΝΗΤΗΣ

ΝΕΡΟ

ΕΞΟΙΚΟΝΟΜΗΣΗ ΠΗΓΕΣ

ΦΥΣΗ

ΑΝΑΚΥΚΛΩΣΗ

ΣΚΟΥΠΙΔΙΑ

ΔΕΝΤΡΑ

ΑΤΜΟΣΦΑΙΡΑ

ΗΛΙΑΚΗ ΕΝΕΡΓΕΙΑ

ΚΛΙΜΑΤΙΚΗ ΑΛΛΑΓΗ

# TEESCHOOLS

## Βρες τις πιο κάτω λέξεις:

ΕΞΟΙΚΟΝΟΜΗΣΗ ΦΟΡΤΙΣΤΗΣ ΗΛΙΟΣ ΣΧΟΛΕΙΟ ΚΤΗΡΙΟ ΑΠΟΔΟΣΗ ΚΑΤΑΝΑΛΩΣΗ ΒΡΥΣΗ  
ΕΝΕΡΓΕΙΑ ΜΕΣΟΓΕΙΟΣ ΔΗΜΟΙ ΠΑΡΑΘΥΡΑ ΠΟΡΤΕΣ ΘΕΡΜΟΚΡΑΣΙΑ ΣΒΗΝΩ  
ΑΠΟΣΥΝΔΕΩ ΦΩΤΑ

Ω	Α	Υ	Ε	Ξ	Ο	Ι	Κ	Ο	Ν	Ο	Μ	Η	Σ	Η	Ι	Θ
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Δ	Α	Ξ	Σ	Β	Η	Ν	Ω	Τ	Ν	Δ	Κ	Χ	Ο	Ω	Υ	Ρ
Ν	Π	Α	Ρ	Α	Θ	Υ	Ρ	Α	Ο	Ρ	Τ	Φ	Ρ	Ε	Γ	Μ
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Ξ	Μ	Ε	Σ	Ο	Γ	Ε	Ι	Ο	Σ	Φ	Τ	Ρ	Ε	Η	Γ	Α

# TEESCHOOLS

## ΛΥΣΕ ΤΟΝ ΚΩΔΙΚΑ ΤΟΥ ΠΛΑΝΗΤΗ!

Χρησιμοποίησε τον πιο κάτω κωδικό για να ανακαλύψεις το κρυμμένο μήνυμα!

$8 \times 12 = \underline{\quad} \text{ K}$	$329 - 236 = \underline{\quad} \text{ Z}$	$7 \times \underline{\quad} = 77 \text{ E}$
$75 \div 3 = \underline{\quad} \text{ T}$	$4 \times 28 = \underline{\quad} \text{ Ω}$	$14 \times 3 = \underline{\quad} \text{ N}$
$9 \times 9 = \underline{\quad} \text{ A}$	$24 \times 6 = \underline{\quad} \text{ !}$	$28 + 35 = \underline{\quad} \text{ Σ}$
$10 \times 12 = \underline{\quad} \text{ M}$	$39 \div \underline{\quad} = 13 \text{ P}$	$60 \div \underline{\quad} = 15 \text{ I}$
$42 \div 6 = \underline{\quad} \text{ O}$	$63 + 19 = \underline{\quad} \text{ Ξ}$	$56 \div \underline{\quad} = 7 \text{ H}$

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 8      11    82    7    4    96    7    42    7    120    8    63    8

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 11    4    42    81    4            93    112    8    144

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 82      11      96      4            42      81                    25    112    3      81    144





# TEESCHOOLS

## ΛΥΣΕ ΤΟΝ ΚΩΔΙΚΑ ΤΟΥ ΠΛΑΝΗΤΗ!

Χρησιμοποίησε τον πιο κάτω κωδικό για να ανακαλύψεις το κρυμμένο μήνυμα!

$8+11= \underline{\hspace{1cm}} \text{ B}$

$17+5= \underline{\hspace{1cm}} \Psi$

$7+7= \underline{\hspace{1cm}} \text{ E}$

$13+8= \underline{\hspace{1cm}} \text{ T}$

$6+5= \underline{\hspace{1cm}} \Pi$

$15+8= \underline{\hspace{1cm}} \text{ N}$

$7+6= \underline{\hspace{1cm}} \text{ A}$

$16+9= \underline{\hspace{1cm}} !$

$8+8= \underline{\hspace{1cm}} \Sigma$

$18+6= \underline{\hspace{1cm}} \Lambda$

$12+5= \underline{\hspace{1cm}} \text{ P}$

$9+3= \underline{\hspace{1cm}} \text{ I}$

$14+4= \underline{\hspace{1cm}} \text{ O}$

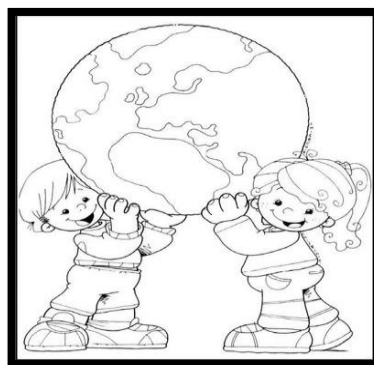
$9+6= \underline{\hspace{1cm}} \Theta$

$10+10= \underline{\hspace{1cm}} \text{ H}$

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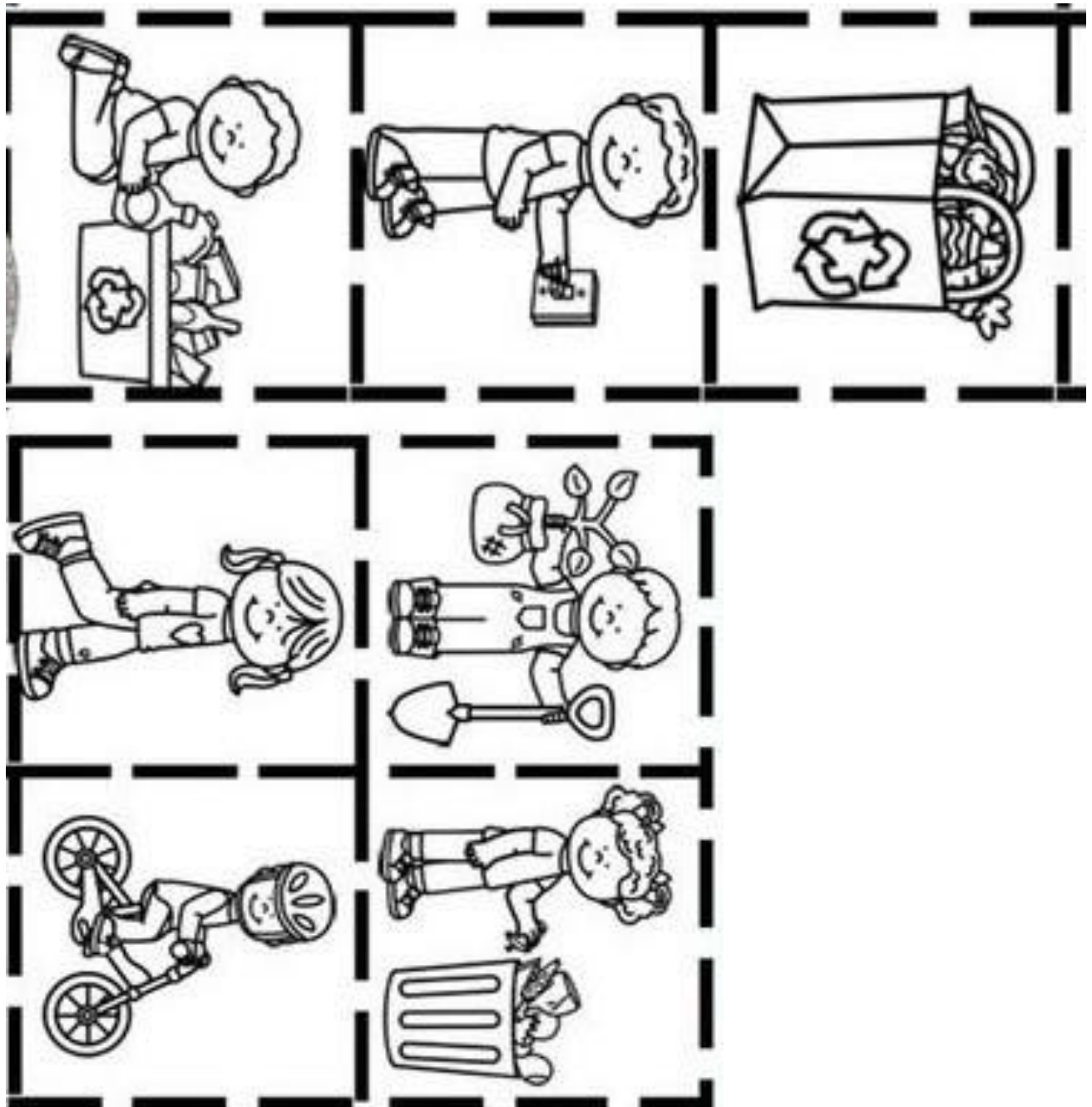
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# ΗΡΩΑΣ ΤΟΥ ΠΛΑΝΗΤΗ

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# TEESCHOOLS

Ανανεώσιμες Πηγές Ενέργειας στο σχολείο μας!

Τάξη: \_\_\_\_\_

Σχολείο: \_\_\_\_\_

Όνομα μαθητή / ομάδας: \_\_\_\_\_

Υλικά: στυλό/ μολύβια, Η/Υ, διαδίκτυο

1) Μπορείς να σκεφτείς τι είναι οι Ανανεώσιμες Πηγές Ενέργειας (ΑΠΕ) και γιατί ονομάζονται έτσι;

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2) Ξέρεις κάποιες Ανανεώσιμες Πηγές Ενέργειας;

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3) Προσπάθησε να βρεις τις Ανανεώσιμες Πηγές Ενέργειας που έχουν μπερδευτεί με άλλα γράμματα!!! Είναι έξι...

E	P	T	Y	Θ	I	K	O	Λ	Π	Γ	Δ	Z
Z	B	H	Ξ	I	K	O	H	Λ	O	Π	T	P
Ω	I	X	Z	Σ	Φ	Λ	K	Ξ	H	Φ	B	N
P	O	E	Γ	A	I	M	P	E	Θ	Ω	E	Γ
X	M	Δ	Φ	A	N	M	B	O	I	Y	M	B
H	A	O	K	Ξ	T	Ω	Ψ	M	T	E	N	Λ
N	Z	H	Λ	O	I	Θ	Y	T	P	M	E	Δ
M	A	K	A	I	O	Λ	I	K	H	Γ	A	O
Y	Δ	P	O	H	Λ	E	K	T	P	I	K	H
A	Σ	P	T	Y	Θ	I	O	Ξ	K	Λ	O	Π

4) Αφού τις βρήκες, θα ήθελες να μάθεις περισσότερα για αυτές; Χωριστείτε σε 6 ομάδες και κάθε ομάδα ας αναλάβει να συλλέξει πληροφοριακό υλικό για κάθε μία Ανανεώσιμη Πηγή Ενέργειας. Ψάξτε στοιχεία για τις δυνατότητες και τα προβλήματα που δημιουργεί η χρήση και η εγκατάστασή τους και παρουσιάστε στους συμμαθητές σας τη δουλειά και τα συμπεράσματά σας!

	Ανανεώσιμες Πηγές Ενέργειας	Πλεονεκτήματα	Μειονεκτήματα
1.			
2.			
3.			
4.			
5.			
6.			

5) Με βάση τα στοιχεία που παρουσίασε κάθε ομάδα, τα δυνατά σημεία και τις αδυναμίες αυτών των μορφών ενέργειας, αλλά και τα ιδιαίτερα χαρακτηριστικά της περιοχής που είναι το σχολείο σας, συζητήστε ποια ή ποιες από τις ΑΠΕ κα προτείνετε να εγκατασταθούν στο σχολείο σας.

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### Αφορμή για προβληματισμό!

- Για ποιούς λόγους οι πολίτες δε χρησιμοποιούν τις ΑΠΕ;
- Τι θα προτείνετε να γίνει ώστε να ενθαρρύνουμε τους πολίτες να εγκαταστήσουν ΑΠΕ στα σπίτια τους;
- Με ποιούς τρόπους θα μπορούσατε να δραστηριοποιηθείτε εσείς;