**Learning scenario with MARG**

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| PART 1: General information  |
| Title of the scenario: | Building an ECOSchool |
| Keywords: | Energy consumption, ecological footprint, environmental awareness |
| Name(s) of the scenario’s creator(s): | Spyros Spyrou |
| [Creative Commons License](https://creativecommons.org/licenses/?lang=en) of the scenario: | Attribution | Attribution-NoDerivs |
| Attiribution-ShareAlike | Attribution-NonCommercial |
| Attribution-NonCommercial-ShareAlike | Attribution-NonCommercial-NoDerivs |
| Estimated duration of the scenario’s activities: | 120 minutes |
| Age range of learners: | 9-12 years old |
| Learners’ special characteristics: (i.e. immigrants, special needs) | None |
| Learning subject based on your curriculum to which the scenario relates: | Environmental education |
| To which Sustainable Development Goal (s) does the scenario relate to : (highlight it/them) | { } No Poverty | { } Industry, Innovation and infrastructure |
| { } Zero Hunger | { } Reduced Inequalities |
| { } Good Health and Well-Being | {Χ} Sustainable Cities and Communities |
| { } Quality Education | {Χ} Responsible Consumption and Production |
| { } Gender Equality | {Χ} Climate Action |
| { } Clean Water and Sanitation | { } Life Below Water |
| { } Affordable and Clean Energy | { } Life On Land |
| { } Decent Work and Economic Growth | { } Peace, Justice and Strong Institutions |
|  | { } Partnerships For The Goals |
| Which 21st century skill(s) does the scenario involve:(highlight it/them) | {Χ} Information and data literacy  | {Χ} Critical thinking,  |
| {Χ} Communication | {Χ} Active citizenship |
| {Χ} Collaboration | { } Respect for differences |
| {Χ} Problem solving |  |

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| PART 2: Learning outcomes of the scenario  |
| In terms of knowledge  | The learner knows and understands:* What should be done as a citizen to reduce the energy footprint of the school.
* How various everyday devices affect the energy footprint
* How do our daily activities (hand washing, bathing, dishwashing, recycling, etc.) relate to the energy footprint (conservator).
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| In terms of skills | The learner is able to:* Acquire skills that will lead to the reduction of the energy footprint of the school and consequently the planet.
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| In terms of competences | The learner:* Proposes solutions to reduce the energy footprint.
* Proposes interventions in their immediate social environment to reduce the energy footprint
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| PART 3: Description of the game |
| Narrative description of the game plot: | The game will be played at the premises of Primary School of “Ekpaideftiki Etaireia Rodou”. The main character will be Kollegioulis. Kollegioulis will present the problem of the energy footprint and the need to reduce it. The game will be divided in stages. Each stage will provide students with information which they will use at the end to answer a quiz in order to collect as many points as possible. At the end, the team with the highest score will be awarded with a certificate of authenticity that the building is eco - friendly. The players will have to go through four stages. At each stage they will gather information from an expert (the electrical engineer, the mechanical engineer, the electrician and the maintenance technician) about the amount of energy footprint that our actions leave on the planet Earth and what we have to do every day at school in order to have zero energy footprint. Thus, the players will move around their school premises with their tablets so as to take action to create a school with zero energy footprint. Each expert will give the workers an item to solve the energy footprint puzzle. Also, at each stage the workers will answer quizzes and collect points.  |
| Game objectives: | 1. Players must go through all the specialists, electrical engineer, mechanical engineer, electrician, maintenance technician to gather the necessary information to reduce the energy footprint and answer the quizzes to collect points.2. Players - workers to collect all the data to solve the puzzle of the energy footprint. |
| Does the scenario refer to a specific location? If yes, specify. If no, write everywhere. | Ekpaideftiki Etaireia Rodou |
| Characters: | Kollegioulis, electrical engineer, mechanical engineer, electrician, maintenance |
| Scenes: | The game consists of five scenes/places of interest:Since it is an indoor game, each location of interest will be password protected. Once students reach this location, they will have to observe their surroundings, spot the password and fill it in the game in order to access the location’s digital content.(1) Electrical engineer near air conditioner-heating.(2) Mechanical engineer outside the school building.(3) Electrician in a class.(4) Conservator in the school yard. |
| Type of work: Individual/ collaboration | Students play the game in teams of three |
| Does the game involve different player roles? If yes, specify. | No |

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| PART 4: Description of the learning scenario activities |
|  | **Learning settings** | **Estimated time** |
| Before the game: | Students are given instructions about how to use mobile devices and how to play the MARG. They are divided in team of three players. | 10΄ |
| During the game: | All teams will start the game from class and will be accompanied by the class teacher. After Kollegioulis presents the problematic situation, the four locations of interest will appear on the map and the children will choose whichever they want to start the game. The four locations-scenes in particular:Scene 1: Electrical engineer near air conditioning-heating: The electrical engineer will analyze through a video and pictures that will augment the energy footprint left by all electrical installations of a building and what we need to do to reduce it. It will also provide an element for solving the energy footprint puzzle. The player-workers will collect the information by filling in a specially formulated worksheet, will answer the special quiz and will note the element that solves the puzzle.Scene 2: Mechanical engineer outside the school building: The mechanical engineer will analyze through a video and pictures that will augment the energy footprint left by mistakes made from design to construction of a building and what we need to do to reduce it. It will also provide an element for solving the energy footprint puzzle. The player-workers will collect the information by filling in a specially formulated worksheet, will answer the special quiz and will note the element that solves the puzzle.Scene 3: Electrician in a room: The electrician will analyze through a video and pictures that will augment the energy footprint left by mistakes made about lighting and electrical appliances in the school and what we need to do to reduce it. It will also provide an element for solving the energy footprint puzzle. The player-workers will collect the information by filling in a specially formulated worksheet, will answer the special quiz and will note the element that solves the puzzle.Scene 4: Conservator in the schoolyard: The conservator will analyze through a video and pictures that will augment the energy footprint left by mistakes we make every day at school and at home and what we need to do to reduce it. It will also provide an element for solving the energy footprint puzzle. The player-workers will collect the information by filling in a specially formulated worksheet, will answer the special quiz and will note the element that solves the puzzle. | 60΄ |
| After the game: | The players - workers with the information they collected will decide what to create (videos, posters, collages or something else) to present what they learned from the experts in their environment. They will also combine the elements to solve the puzzle of the energy footprint. | 50΄ |
|  | **Total**: | 120΄ |

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| PART 5: Prerequisite knowledge and supportive material |
| Learners’ prerequisite knowledge: | Basic knowledge of mobile device usage, basic knowledge about environmental problems related to the energy footprint. |
| Infrastructure/ equipment needed for implementing the scenario: | Mobile devices with data-internet connectivity  |
| Other learning resources needed: | Under configuration |

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| PART 6: Approach towards the assessment of the learning outcomes |
| Learners’ assessment approach: | Digital quizzesQuestionnaires |