

Using sustainable architecture to improve people's lives



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| School subjects |
| Mathematics, environmental sciences and arts |
| Age of students |
| 12 -16 |
| Aim of the activity |
| Gaining STEM subject knowledge: Girls have opportunities to develop and apply STEM knowledge (measures, proportions, balanced forces in buildings, architectural design). |
| Knowledge of inspiring role models and their meaning: girls get in touch with inspiring role models: a female architect who promotes the use of sustainable architecture and urbanism to improve people's lives. |
| Knowledge about the STEM world of work: girls know about the STEM world of work through an immersion experience playing the role of a female architect. |
| Entrepreneurial mind-sets: girls develop entrepreneurial mind-sets by thinking how you can get funding for your architectural project. |
| Transversal skills: girls acquire transversal skills such as the capacity to observe and critically analyse the world around, creativity to design new structures, problem solving to overcome barriers and improve accessibility and wellbeing and personal initiative. |
| Activity |
| Girls were invited to critically observed a university campus from the point of view of the space, the arrangement of buildings, the presence of gardens, local flora and fauna and the use of |

resources and energy. They analysed the impact of the campus on environment with a focus on sustainability, usability and people's accessibility. Afterwards they discussed different architectural solutions used in other places of the world and design their own proposals to improve the campus.

We provide girls with an overview of what the activity was about using the following title and summary about the activity:

Towards inclusive and sustainable cities: Through a holistic approach to what life in the city is and its relationship with sustainability, you will be able to reflect on our patterns of energy consumption, mobility, the value of new and heritage, the role of urban flora and fauna, and the value of design and innovation to improve people's lives contributing to wellbeing and the achievement of sustainable development goals.

Afterwards, several inspiring images were used to prompt girls' engagement and reflection on the key role of architecture and design to improve people's lives.

Time necessary

It can last from one morning to one week depending on the time available.

Learning outcomes

Through the development of the activity, girls will:

1. Develop a sense of identity in the STEM field by having an immersion experience as a female architecture shared with a role model and small group of girls.
2. Acquire and apply knowledge in the STEM field (measures, proportions, balanced forces in buildings, etc.).
3. Know about some options related to the STEM world of work (architecture, in this case).
4. Acquire entrepreneurial skills (development of a creative project, planning implementation, presenting your ideas to an audience, etc.)
5. Develop transversal skills such as collaboration, communication and creativity.

The achievement of the intended learning outcomes was evaluated through a pre/post questionnaire, some open questions and the analysis of the artefacts produced by girls during the activity (drawings, written reflections and a presentation to a general audience).

Costs and materials necessary

Paper, pencils and slides about creative and sustainable architectural solutions in different parts of the world.