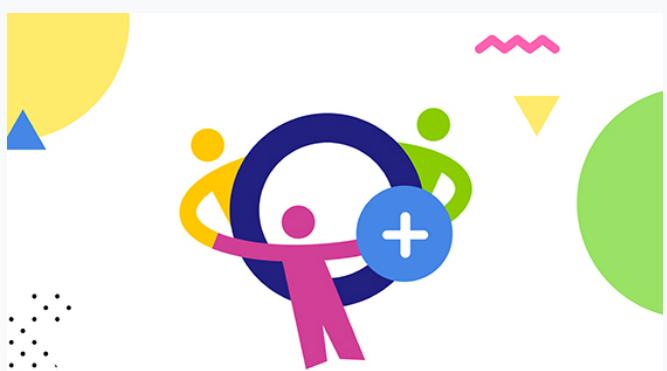


## Open Schools Journal for Open Science

Vol 3, No 4 (2020)

Special Issue - 2nd Encontro de Ciência Cidadã



# Open Schools Journal

## For Open Science

VOLUME 3 - ISSUE 4 - 2020  
ISSN: 2623-3606

### Science in the School Playground

A. Cavalheiro, E. Calvo, M. A. Santos, V. Costa

doi: [10.12681/osj.23414](https://doi.org/10.12681/osj.23414)

Copyright © 2020, A. Cavalheiro, E. Calvo, M. A. Santos, V. Costa



This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/).

### To cite this article:

Cavalheiro, A., Calvo, E., Santos, M. A., & Costa, V. (2020). Science in the School Playground. *Open Schools Journal for Open Science*, 3(4). <https://doi.org/10.12681/osj.23414>

# Science in the School Playground

*A. Cavalheiro<sup>1</sup>, E. Calvo<sup>1</sup>, M. A. Santos<sup>1</sup>, V. Costa<sup>1</sup>, students from class 4.ºF<sup>1</sup>*

<sup>1</sup>*Escola António Gedeão, Agrupamento de Escolas Cidade do Entroncamento, Entroncamento, Portugal*

## Abstract

How to improve our school playground? Based on the school plan and the surrounding area, it was decided to promote science activities in the playground by sharing scientific knowledge. In these activities, 20 pupils and 4 teachers participated as organizers, covering a community of 244 pupils (ages 3-10), 18 teachers and 11 other school's staff. We chose a set of scientific questions, connected with the knowledge of space, the influence of the Sun in our lives and with the protection of bats. We promote the questions through two tools: a conference and an exhibition, both organized by the students. The conferences were prepared in small groups, by exploring and using reliable scientific sources such as Ciência Viva science centres and ESERO Portugal. In the exhibition scientific knowledge was offered at the school playground, in an experimental, interactive and dynamic approach, where we were the facilitators and guides of the other students and the educational community.

## Keywords

Bats; science; school playground; solar system; sun.



## Science in the school playground

**Escola António Gedeão • AE Cidade do Entroncamento • Entroncamento • Anabela Cavalheiro, Élia Calvo, Maria Ana Santos, Vasco Costa • Students from 4.º F**

### Resumo Abstract

How to improve our school playground? Based on the school plan and the surrounding area, it has been chosen the possibility of promoting science activities in the playground by sharing scientific knowledge. In these activities, 20 pupils and 4 teachers participated as organizers, covering a community of 244 pupils (ages 3-10), 18 teachers and 11 other people part of the staff's school.

**Palavras-chave:** Science; School playground; Sun; Solar system; Bats.

### Sentir Feel

The aim of the project was to recover the space in the school playground, promoting the scientific spirit. It started from the students' experiences and choices. Three moments and three areas were defined on which to share knowledge.



### Criar Create

A mini-planetarium and some mini-conferences were organized in the school playground. It was built a bat shelter and it was carried out a raising awareness on behalf of these animals. With the theme "Around the Sun", it was promoted a solar observation by using a solar scope; it was cooked using a solar oven and several experiments were carried out in regarding temperature and the influence of color.



### Imaginar Imagine

For the scientific preparation Alviela's and Constância's CCV (PEDIME program) were visited. Experiments were carried out inside classroom and in different other contexts, always with the support of «Ciência Viva» and ESERO Portugal (Understanding the Earth through Space).



### Partilhar Share

It was promoted Scientific knowledge by sharing the dynamics of the «Agrupamento» in the area of science and the OSOS project, participating in the «Palmo e Meio» Scientific Congress. The work was published and integrated in a task from the Institute of Nature and Forests Conservation.

