

# HSCI2018

Barcelona  
Catalonia, Spain  
16-20 July



## Hands-on Science Activities for Children Aged from 6 to 10: Perspectives from Partners of the Outreach Project

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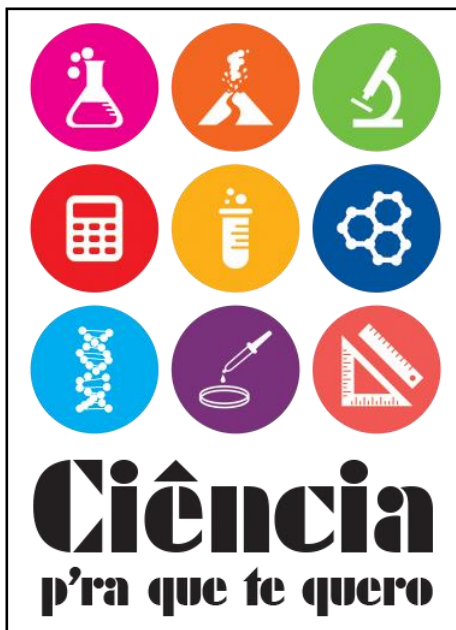


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# The project





# Topic of 2018

Our heritage: where  
the past meets the  
future

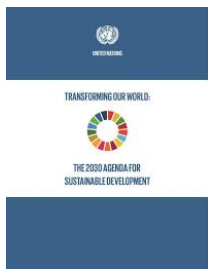
2018   
EUROPEAN YEAR  
OF CULTURAL  
HERITAGE  
#EuropeForCulture



**Preserve**  
**Valorize**  
**Promote**



# SUSTAINABLE DEVELOPMENT GOALS



In 2015, goals were set to **end poverty**, **protect the planet** and **ensure prosperity for all** to be achieved over the next 15 years.



# Goals



2018

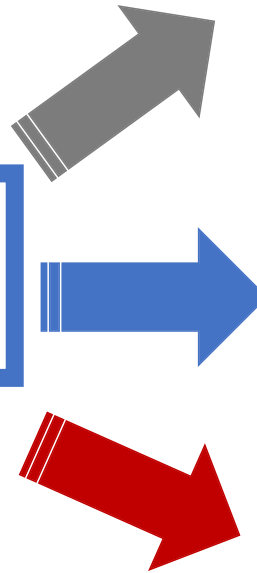
- Recognize **global citizenship**, cultural diversity and intercultural dialogue.
- Preserve and appreciate **our heritage**
- **To revive and strengthen the heritage**
- Become aware that cultural heritage is of great cultural, environmental, social and economic importance



# How?



Topic



*Opening oral session*

*Hands-on activities*

*Feedback*



# Reception and opening oral session





17 Feb.

Is your house sustainable?  
Let's save the Cultural  
Heritage

Topics





# Is your house sustainable? Let's save the Cultural Heritage

- Electricity: energy makes it move!
- Renewable energies
- Rainwater recovery for domestic use
- Composting: how to start in your house
- Acid rain and Heritage





# Topics

17 Feb.

Is your house sustainable?  
Let's save the Cultural  
Heritage

24 Mar.

The sustainability of liquids  
that are also patrimony



# The sustainability of liquids that are also patrimony

- Bees' maths
- Patrimony showcase - Portuguese liquids
- Density tower

- Viscosity
- Soil permeability
- Wine fermentation
- Mini water cycle





# Topics

17 Feb.

Is your house sustainable?  
Let's save the Cultural  
Heritage

24 Mar.

The sustainability of liquids  
that are also patrimony

21 April

Food – from sustainability  
to patrimony



# Food – from sustainability to patrimony

- Calories – an energy game
- Heritage showcase – Food
- Food preservation
- Food circle
- Quick fresh cheese
- Mug cake





# Topics

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21 April

Food – from sustainability  
to patrimony

19 May

Alert: vegetal Heritage



## Alert: vegetal Heritage



- Chromatography: extraction of pigments
- Germination
- Fractals in Nature
- Biologist in action





# Topics

17 Feb.

Is your house sustainable?  
Let's save the Cultural  
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The sustainability of liquids  
that are also patrimony

21 April

Food – from sustainability  
to patrimony

19 May

Alert: vegetal Heritage

16 Jun.

We do not have to buy  
always new! – Second-  
hand fair





## We do not have to buy always new! – Second-hand fair

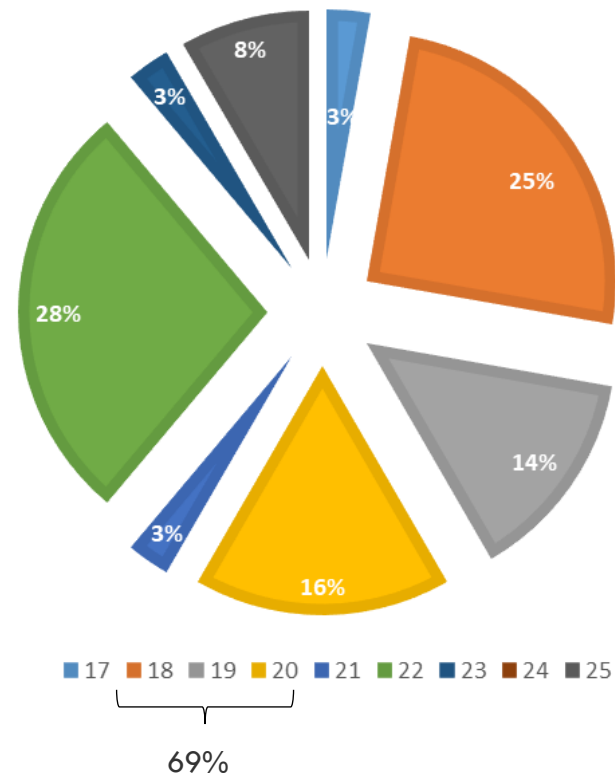
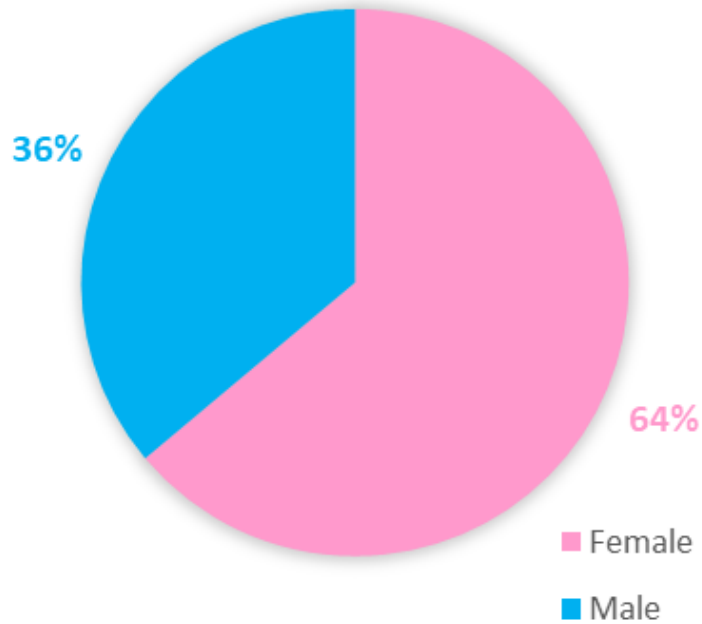


- Workbench recycle / reuse / recover / ...
- Second-hand fair





# Volunteers



University students from Science Courses



# Volunteers



- Selection/preparation of hands-on multidisciplinary activities
- Structuring and test protocols
- Help participants to conduct the activities
- Explain scientific concepts in an easier and correct way



## Volunteers - Statements

*"The activities allowed me to develop my **ability to simplify and transmit scientific knowledge**, and in some cases demanded from me quickness to answer the most unexpected questions."*

*"I liked the fact that I was teaching, to **break the routine**. I learned that trying to transmit information is not easy, but it is rewarding"*

*"It was a very inspiring experience, as we were given the opportunity not only to teach children something, but also to encourage their interest for science and for always know more. It also made it possible for me to realize that **children can be far more insightful and assertive than I thought!**"*



## Volunteers - Statements



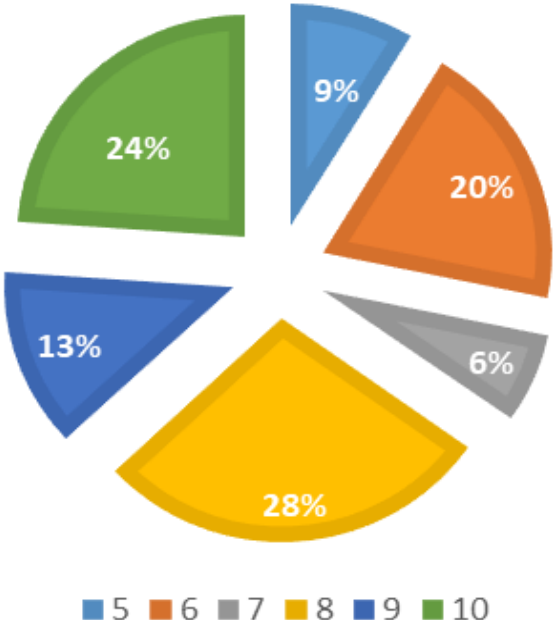
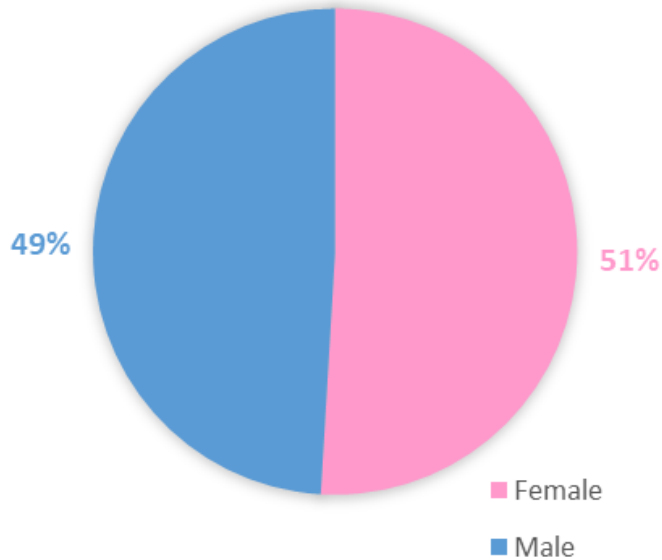
*“(...) this project has **improved several of my skills** and allowed me to go out of my **comfort zone**. It also helped me in changing my mind about the importance not only of science communication but also of some current questions often ignored.”*

*“(...) the success of such projects that can only reach this level due to the **engagement of all the participants**, volunteers and partners.”*

*“Apart from my **initial difficulties** due to the change from the usual public (field related and older people) to children, talk to children and discuss current and relevant topics with them was tricky, yet gratifying.”*




# Participants





# Participants - Feedback



**A TUA CASA É SUSTENTÁVEL!?  
VAMOS PRESERVAR O PATRIMÓNIO**

*Este questionário serve para conhecermos a tua opinião e podermos melhorar esta atividade. Agradecemos as tuas respostas!*







IDADE: \_\_\_\_\_ SEXO:  Feminino  Masculino

GOSTASTE DE PARTICIPAR NESTAS ATIVIDADES? Assinala as tuas escolhas.

SIM, porque:  gosto de estar noutros sítios  posso fazer novos amigos  gosto de aprender coisas novas  outra \_\_\_\_\_

NÃO, porque:  prefiro ficar sossegado em casa  prefiro estar no computador  não aprendi nada de novo  outra \_\_\_\_\_

INDICA AS ATIVIDADES CONFORME A TUA PREFERÊNCIA:

	 não gostei	 gostei pouco	 gostei	 gostei muito	 sem opinião	 Não experimental
Apresentação						
Energia – a electricidade faz dançar						
Energias alternativas						
Compartagem						
Recuperar água para uso doméstico						
Chuvas ácidas e património						

JÁ TINHAS PARTICIPADO NUMA ATIVIDADE PARECIDA COM ESTA?  
 Sim  Não

Se respondeste sim, qual?  
 \_\_\_\_\_

GOSTAVAS DE PARTICIPAR NOUTRA ATIVIDADE DO MESMO TIPO?  
 Sim  Não

1

- They liked the sessions, mostly because they like to learn new things
- Interest in participating in further related activities



## Parents - Statements

*“The chosen activities always address very **interesting topics** and can be further discussed at home. (...) they can **learn content often taught in class context**, which is usually very theoretical and here they can experience, see, touch, feel, smell...;”*

*“(...) **acquiring very useful knowledge** for their future life; (...) sharpen their interest in learning, discovering and research.”*

*“(...) **advantages for university students**: the need to adapt the work for a group and an audience with the need of a different language; seeing themselves in the place of their teachers and thus understand better the difficulty teachers sometimes have in their job; skills acquisition in dealing with children in an educational environment;”*





## Library staff - Statements

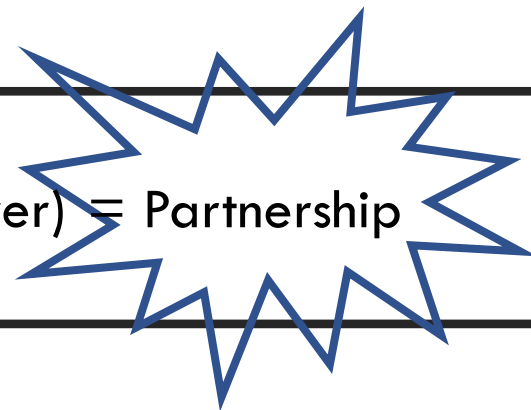
*“(...) **central importance in the dissemination of science among the youngest.** The simple and playful presentation of nature and practical life as a source of scientific learning and in complementarity with science teaching in basic education, becomes an asset in the reinforcement of initiatives of scientific nature, inherent to the School's Educational Projects.”*

*“There has been a growing interest in participating in this activity, not only because of its importance, but also because of the **joyful, fun and stimulating practice** with which the teachers and their undergraduate students carry out the “Ciência pra que te quero”, in multiple themes.”*



**To sum up...**

**Work x (Trust + Respect + Shared Risk + Power) = Partnership**



Peter Felten, "Engaging Students as Partners in Learning"

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**Thank you for your attention!**

**Any questions?**



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