

# Europeana Learning Scenario

## Title

Water Scientists

## Author

Leticia Pilar Gil Ramos

## Abstract

Water is a precious resource and through this LS our children are going to learn how important water is in our lives. They will become Scientists investigating the properties of water. What is more, they will learn how easy is to obtain water in our lives and how difficult it is for other children from other countries.

This LS is going to be implemented around the 22 of march, the World Water Day. We will celebrate the water party this specific day.

## Keywords

*Water, Environment, Scientists, Experiments, STEAM.*

## Table of summary

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<b>Subject</b>	<i>We are going to work globally, including the three areas of early childhood education established by Decree 67/2007 on education in our community.</i> <ul style="list-style-type: none"> <li>- <i>Self-knowledge and personal autonomy.</i></li> <li>- <i>Knowledge and interaction with the environment.</i></li> <li>- <i>Communication languages and representation</i></li> </ul>
<b>Topic</b>	<i>Water Scientists.</i>
<b>Age of students</b>	<i>4-5 years old.</i>
<b>Preparation time</b>	<i>3-4 hours.</i>
<b>Teaching time</b>	<i>Three sessions. 45 minutes per session.</i>
<b>Online teaching material</b>	<i>Padlet to share their materials. Blogger to share with the families the activities.</i>
<b>Offline teaching material</b>	<i>For the experiments: cork, bubble wrap, paperclip, coin, plasticine, water, box ... For the creation of the corner: Colored letters, tables, panels of water saving images, water poems.</i>
<b>Europeana resources used</b>	<a href="#">Tippy tap for handwashing   Europeana</a> <a href="#">Geography: water spouts at sea. Engraving.   Europeana</a> <a href="#">Method of raising water from a river. Wood engraving.   Europeana</a> <a href="#">R.T. Claridge, Hydropathy, or the cold water cure...   Europeana</a> <a href="#">Oral rehydration solution demonstration, Lesotho   Europeana</a> <a href="#">Sanitation: mother supervising child washing hands   Europeana</a>



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## Integration into the curriculum

The proposal will be integrated into the Early Childhood Education Curriculum of Spain, which encompasses three areas that are worked in a globalized way.

1. Self-knowledge and personal autonomy.
2. Knowledge of the environment.
3. Languages: Communication and representation

## Aim of the lesson

Children will learn how important their actions are to preserve water, knowing how important it is in our life.

The main objectives we want to achieve are the following:

- Know properties of water.
- Be conscious about the importance of the water in our lives.
- Protect clean water resources.
- Know how important the role of Scientist is in life.
- Prevent soil polluting wastes (domestic waste, industrial pollution, agricultural pollution...)
- Encourage and disseminate the solution of global and local environmental pollution.
- Create social awareness and to raise awareness of sustainability in individuals.

## Outcome of the lesson

Different experiments are going to be done in class.

We will create an online Padlet where we will share our experiments and the activities done.

## Trends

The relevant trends that we are going to incorporate are:

- **Project-Based Learning:** students get fact-based tasks, problems to solve and they work in groups. This kind of learning usually transcends traditional subjects.
- **Cooperative Learning:** working by groups.
- **Continuous Assessment:** the focus of assessments is shifting from "what you know" to "what you can do" and "What we have learnt".

## 21<sup>st</sup> century skills

- Real-world problem solving.
- Communication and Collaboration.

- Critical thinking.
- Knowledge construction
- Use of ICT for learning.
- Self-discipline

## Activities

Name of activity	Procedure	Time
<b>PRESENTATION</b> <b>What we know and what we want to learn about the water.</b>	Children will come to school and they will find different images of landscapes with and without water.	20 minutes.
<b>TALE about droughts and the importance of water.</b>	A girl who wonders why it rains and why there are places on earth that do not have water. ITS reflection in the water, allows you to develop your imagination and portray yourself as a pirate sailing through seas and oceans. <a href="https://drive.google.com/file/d/1v0AEnD0ILFM2gtRDspmiN1tqGt91qFNW/view?usp=sharing">https://drive.google.com/file/d/1v0AEnD0ILFM2gtRDspmiN1tqGt91qFNW/view?usp=sharing</a>	10 minutes.
<b>EXPERIMENT 1. CYCLE OF WATER.</b>	Each group will have a plastic bag with some water and will draw the landscape in which the water cycle can be appreciated. We will place it on the radiator and we will see how the drops of steam start to appear. We will use Europeana resources: <a href="https://www.europeana.eu/es/item/9200579/zzqejr8n">https://www.europeana.eu/es/item/9200579/zzqejr8n</a> <a href="https://www.europeana.eu/es/item/9200579/b29kfq53">https://www.europeana.eu/es/item/9200579/b29kfq53</a>	45 minutes.
<b>EXPERIMENT 2. Floats or sinks.</b>	Children become little scientists. They create their scientist card and watch video about the importance and role of science in our lives. <a href="https://drive.google.com/file/d/1lhmmrz9oeuNbY6m6zl80T9XoBMypRK-O/view?usp=sharing">https://drive.google.com/file/d/1lhmmrz9oeuNbY6m6zl80T9XoBMypRK-O/view?usp=sharing</a> CC-BY-SA Laura Hernando. Spanish Scientist.  Scientist card: <a href="https://drive.google.com/file/d/1ARty3hZJNpbNCzSjuPz-w2p0yyJXxCXB/view?usp=sharing">https://drive.google.com/file/d/1ARty3hZJNpbNCzSjuPz-w2p0yyJXxCXB/view?usp=sharing</a> CC-BY 11defebrero.org  Then they prepare different materials to know the properties of the density of water. We select objects: cork, polystyrene, plasticine, paper clip, coin and after knowing and writing their hypotheses, we check what happens. Finally, we test the hypotheses and learn why some objects float and others sink.	Two sessions. 30 minutes per session.

Name of activity	Procedure	Time
<b>EXPERIMENT 3: Water transfers</b>	In groups, they will carry out water transfers, using boats and bottles of different sizes and shapes. They will understand the properties of water and experiment with it.	Two sessions. 30 minutes per session.
<b>HOW DO OTHER CHILDREN LIVE?</b>	We will learn how they get water in other countries. We will get closer to other children's stories and we will understand how lucky we are to be able to turn on the tap and have water. <a href="https://www.europeana.eu/es/item/9200579/d67mgt7h">Tippy tap for handwashing   Europeana</a> <a href="https://www.europeana.eu/es/item/9200579/xk3jfqw7">https://www.europeana.eu/es/item/9200579/d67mgt7h</a> <a href="https://www.europeana.eu/es/item/9200579/xk3jfqw7">https://www.europeana.eu/es/item/9200579/xk3jfqw7</a> <a href="https://www.europeana.eu/es/item/9200579/qwnxqjhn">https://www.europeana.eu/es/item/9200579/qwnxqjhn</a>	30 minutes.
<b>The importance of water sources.</b>	We see different images of the construction of fountains in other countries. We will create our own constructions with plasticine. <a href="https://drive.google.com/file/d/1wdvoMuLcYqtd135DuvT7ghOxelduZHNI/view?usp=sharing">https://drive.google.com/file/d/1wdvoMuLcYqtd135DuvT7ghOxelduZHNI/view?usp=sharing</a> Author: Edelvives. We will use Europeana resources with Toledo construction of fountains. <a href="https://www.europeana.eu/es/item/9200579/vq3yduy5">https://www.europeana.eu/es/item/9200579/vq3yduy5</a> <a href="https://www.europeana.eu/es/item/9200579/b29kfq53">https://www.europeana.eu/es/item/9200579/b29kfq53</a> <a href="https://www.europeana.eu/es/item/2022711/urn_repos_ist_utl_pt_Otros_124772">https://www.europeana.eu/es/item/2022711/urn_repos_ist_utl_pt_Otros_124772</a> <a href="https://www.europeana.eu/es/item/110/pandora_0000001757">https://www.europeana.eu/es/item/110/pandora_0000001757</a>	45 minutes.
<b>Water properties workshops (with family's collaboration).</b>	THE PROPERTIES OF WATER. Through this workshop the students will be able to experiment with water through their senses, thus knowing its properties: <u>Taste workshop.</u> We test the water. We differentiate and test: 1. Water. 2. Fresh water (with a little sugar). 3. Salt water. <u>Smell workshop.</u> We smell the water and compare it with different liquids: cologne, soap, juices, anise ... You can identify the different smells arranged in glasses. <u>Sight workshop.</u> Viewing images related to water from different contexts, formats and states. They will then be able to make a drawing on paper about the observed. <u>Ear workshop.</u> Auditions. Sounds of water. We provide you with some examples but you can create the sounds with the water from home (tap, pan with boiling water ...)	45 minutes per workshop.

Name of activity	Procedure	Time
	<p><a href="https://www.youtube.com/watch?v=cefloSaGK20">https://www.youtube.com/watch?v=cefloSaGK20</a>  <a href="https://www.youtube.com/watch?v=L4YDasLBVUM">https://www.youtube.com/watch?v=L4YDasLBVUM</a>  <a href="https://www.youtube.com/watch?v=0wEqFCLD1C0">https://www.youtube.com/watch?v=0wEqFCLD1C0</a></p> <p><u>Touch workshop.</u>            What do we feel when we touch the water?            We differentiate hot water from cold water. Contrast temperature in food: glass of hot milk, cold yogurt ...</p>	
<b>TAKING RESOURCES FROM EUROPEANA</b>	We will use Europeana resources to complement our learnings.	Different sessions. 45 minutes.

### Assessment

Direct and systematic observation will be the fundamental procedure for its evaluation.

Evaluation Criteria	% final mark	Adequate	Good	Excellent
Motivation	30%	Child doesn't show interest and doesn't pay attention.	Child doesn't show some effort and strives for his/her best while experimenting.	Child shows his/her effort and strives for his/her best while creating their own ways to solve experiments.
Collaboration	20%	Children don't collaborate with their friends trying to discover what happens with Water experiments.	Children talk with their friends and divide up the tasks.	Children collaborate a lot and try to pass the trials all together.
Participation in learning	20%	Children rarely share information or ideas when participating in the group. Children rarely cooperate with others or solve problems appropriately	Children share information or ideas when participating in the group some of the time. Cooperate with others and solve problems appropriately some of the time.	Children share information or ideas when participating in the group. Cooperate with others and solve problems appropriately.

Families' implication. Workshops.	5%	Families are not interested in knowing how we are working from class and do not support their children's work.	Families participate somewhat in the activities proposed	Families show interest and investigate with student from home
Technology uses	25%	Children are able to create different products through Digital Board.	Children are able to elaborate products using the Digital Board.	Children are really interested in creating the products with the use of the Digital Board, sharing the experience with the rest of the classroom.

\*\*\*\*\* AFTER IMPLEMENTATION \*\*\*\*\*

### Student feedback

*The interest shown by the students has been exemplary from the first moment. Their curiosity and motivation have been essential to obtain good results.*

*Observation has been the fundamental evaluation technique. It has been carried out continuously and progressively.*

Evaluation Criteria	Adequate	Good	Excellent
			
Motivation	I haven't paid much attention to the explanations	I have done the activities well but quickly and individually.	I have been happy doing the activities and I have collaborated and helped my friends.
Participation in learning	I have made little effort to do the activities.	I have tried hard enough to do the activities.	I have tried hard and have been involved in the activities.
Families implication. Workshops.	My family has helped me little from home.	My family has searched for some information with me from home.	My family has worked with me from home for many days, helping me and teaching me many things about the painter and then

			being able to explain them in class.
Technology uses	I have used little and without complying with the standards the whiteboard.	I have used properly the whiteboard and it has helped me to improve my knowledge.	I loved using the whiteboard in compliance with standards to improve my knowledge.

**Teacher’s remarks**

The implementation has been a success. Students have been able to approach scientific knowledge, developing their logical and critical thinking. Experimentation has been fundamental in all activities.

**About the Europeana DSI-4 project**

[Europeana](#) is Europe’s digital platform for cultural heritage, providing free online access to over 53 million digitised items drawn from Europe’s museums, archives, libraries and galleries. The Europeana DSI-4 project continues the work of the previous three Europeana Digital Service Infrastructures (DSIs). It is the fourth iteration with a proven record of accomplishment in creating access, interoperability, visibility and use of European cultural heritage in the five target markets outlined: European Citizens, Education, Research, Creative Industries and Cultural Heritage Institutions.

[European Schoolnet](#) (EUN) is the network of 34 European Ministries of Education, based in Brussels. As a not-for-profit organisation, EUN aims to bring innovation in teaching and learning to its key stakeholders: Ministries of Education, schools, teachers, researchers, and industry partners. European Schoolnet’s task in the Europeana DSI-4 project is to continue and expand the Europeana Education Community.

## Annex

Pictures from the implementation. CC-BY-SA Leticia Gil



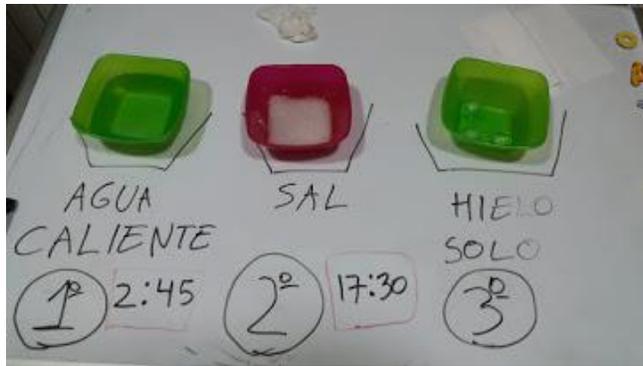


Bee Bot. Discovering the states of water



Online workshops with families.





Water Festival. 22 March.



<http://leticiasclassroom.blogspot.com/search/label/Proyecto%20El%20agua>