



### The little book of blue school projects in the Mediterranean

## A collection of school projects by the Blue Schools MED project teachers, pupils and partners

### **CONTEXT AND OBJECTIVES**

Following the steps of the European Network of Blue Schools established by the EU4Ocean coalition in 2020, The BlueSchoolsMed project was funded by **Erasmus +** (2020-2023) and its main objective was to support the development of educational activities related to the sea in schools around the Mediterranean, by testing and evaluating different tools integrating marine themes into the curricula. The project consortium was made up of **10 partners**, and brought together marine experts, school teachers and pupils from pilot schools from **four Mediterranean countries: France, Greece, Italy and Malta**.

The project activities were diverse and followed four phases of co-creation:

- **Phase 1**: Development of the common framework and guidance
- **Phase 2**: Development of the blue school challenges in schools
- **Phase 3**: Implementation of the blue school challenges in schools
- **Phase 4**: Lessons, consolidation, and dissemination of results

Throughout the project, pilot schools **developed and implemented blue projects** with their pupils (following the requirements of the Network of EU Blue Schools), and **participated in several trainings** organised by partners. In the last year of the project, **national multiplier events were organised** in each of the four participating countries, bringing together pupils and teachers, alongside key stakeholders from the marine and educational sectors, and sharing experiences and best practices, leading towards a roadmap of blue schools in the Mediterranean.

This manual is a collection of the 19 projects developed and implemented by the BlueSchoolsMed schools over the course of the three years, in collaboration with partners and local institutions from the Mediterranean Sea basin. Its objectives are to keep the legacy of these projects alive, to applaud the efforts of teachers and pupils alike, and to serve as an inspiration for future similar initiatives.

The booklet is organised by alphabetical order of countries, and then in ascending order of school grades. Each project lays down briefly the main topics and activities undertaken, as well as key outputs and results. A more elaborate version will be available in the project deliverable.

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### DISCLAIMER

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The Blue Schools Med pupils, teachers and partners in Crete, Greece. March 2022



The Blue Schools Med pupils, teachers and partners in Crete, Greece. March 2022



The Blue Schools Med pupils, teachers and partners in Trieste, Italy. March 2023

# PROJECTS

|           | FRANCE   |
|-----------|--|
|           | ADOPT A FLOAT  |
|           | EDUCATIONAL MARINE AREA ANSE DE LA FAUSSE-MONNAIE                                |
|           | EDUCATIONAL MARINE AREA OF ST ESTÈVE   |
|           | EDUCATIONAL MARINE AREA OF GRAND MUGEL   |
| <b>Q</b>  | GREECE   |
|           | TRACING THE INVASIVE BLUE CRAB SPECIES (NORTH AEGEAN SEA)                        |
|           | SPOT THE ALIEN BLUE CRAB (PORTUNUS SEGNIS) IN THE CRETAN SEA                     |
|           | GETTING ACQUAINTED WITH A TYPICAL MEDITERRANEAN ESTUARINE SYSTEM                 |
|           | ROBYSSEA   |
|           |  |
|           | ITALY  |
|           | NO MAN IS AN ISLAND  |
|           | THE MEDITERRANEAN DREAM-A TRIP THROUGH THE MEDITERRANEAN                         |
|           | BLUE HEART   |
|           | W.A.T.E.R WHAT A TEAL RENEWAL  |
|           | SEA IN A BOTTLE  |
|           | ML-CSA - STUDY THE MARINE LITTER DISPERSION:<br>CITIZEN SCIENCE APPLICATION CASE |
| <b>Q*</b> | MALTA  |
|           | SEA LIFE   |
|           | SEA VEGETABLE USE IN FOOD PREPARATION  |
|           | RAISING AWARENESS ON LOCAL FISH  |
|           | KAHOOTING OUR WAY THROUGH THE SEA  |
|           | FISHING - A WAY FORWARD  |
|           |  |

SCHOOL NAME Ecole Joseph Caldéroni (Villefranche-

sur-Mer, France)

SCHOOL SUBJECT The educational program adopt a float aims to develop a multidisciplinary approach (math, physics, chemistry, biology,

with the Ocean Literacy concept

6 classes from 1st to 5th Grade (US) CLASS GRADE

AGE RANGE 6-11 years old

NUMBER OF PUPILS 185

MAIN TOPIC Global ocean and the Mediterranean

basin, Ocean observation, marine

sciences





### ROJECT OBJECTIVES

- Biscover the world ocean and the importance of studying it in order to better understand and protect it
- # Approach the Ocean (and marine sciences) & its Mediterranean basin in a scientific, cultural and citizen-based way

### **PROJECT ACTIVITIES**

- ## Following of the adopted underwater robot and access to its scientific data
- **::** In-class sessions during which scientists & science outreach officers present different ocean topics (plankton, marine currents, Ocean sounds, scientific marine models, oceanographic missions...) through interactive workshops
- :: Teacher trainings (1/month) during which scientists present ongoing research and educational resources to use within classrooms
- :: Visits of the Institut de la Mer de Villefranche (IMEV, France, partner of the BlueS\_Med project) with the possibility to participate in complementary science-based workshops
- ## At the end of each school year, a wrap-up session is organized to highlight the accomplished work: pupils present their outputs to other participating classes and scientists
- **::** Excursions at sea, on the beach and in different cultural places related to the Ocean



### PROJECT PARTNERS/COLLABORATOR

: Institut de la Mer de Villefranche (Sorbonne Université, CNRS)



### PROJECT OUTPUTS

- ## "Extraordinary Phytoplankton", an art exhibition made of pupils' creations has been installed at the Institut de la Mer de Villefranche (IMEV). Thanks to the Blues\_Med project, the exhibition counts numerous artworks from the Joseph Caldéroni pupils which led to an adapted reach out mirroring a positive and artistically successful approach
- ## After collecting waste on a beach near the school, the pupils worked on posters to raise awareness of the impact of human pollution on marine life
- **Song and overview video** of the school project
- # An end of the year show has been produced by the school teachers and pupils. It has been performed at the local open-air theater in 2022. Families as well as stakeholders could appreciate a diversity of presentations themed around the Ocean
- **::** We hope to provide soon additional info













### TESTIMONIALS

### **PUPILS' FEEDBACK:**

"Plus tard, on pourra venir à la place des scientifiques et défendre les océans "

### EDUCATIONAL MARINE AREA ANSE DE LA FAUSSE-MONNAIE



### NTRODUCTION

SCHOOL NAME École La Roseraie - France

SCHOOL SUBJECT Science, environmental education and

sustainable development, French

CLASS GRADE 4

AGERANGE 8-9 years old

NUMBER OF PUPILS 19

MAIN TOPIC Healthy Ocean (or Marine Biodiversity)

### PROJECT OBJECTIVES

- **Participatory management** of a stretch of coastline, chosen by and managed by the pupils: a beach on the Frioul island in front of Marseille
- Creation of collective and innovative educational projects that generate concrete and meaningful learning for pupils: participatory science protocol, text writing, creation of panels and posters, arts and crafts
- **Long-term management of a common resource**: at the end of the year, pupils pass the torch to others





### PROJECT ACTIVITIES

- **:: Field trip**: biodiversity, human activities with a focus on waste, posidonia and phyllodactyl (a lizard which lived only in the Mediterranean aera) this year
- **BioLit Junior participatory science protocol** with the local NGO Planete mer to monitor the evolution of the posidonia on their area
- **::** Meeting with the WWF on the Blue Panda boat to talk about the issues of marine waste
- **Lecture by the National Park of Calanques** about the phyllotactic and how it came on the tiny island close to their educational marine area



### PROJECT PARTNERS/COLLABORATOR

- Marseille city marine environmental office-they assisted the teacher and pupils throughout the year
- Planete Mer, local NGO, who helped them to follow a participatory science protocol called Biolit Junior
- ## French photographer Frederic Larray to present the pelagic ecosystems





### PROJECT OUTPUTS

- **Presentation** of their work at the first 'acting for the biodiversity of our coastline' event organised by the students of the 'Littoral Marseille Sud' sustainable development area
- **::** Creation of a mosaic by the pupils on a section of the world's longest bench bearing the marine education area label







### TESTIMONIALS

### PUPILS' FEEDBACK:

- "For us, the BlueSchool project is the blue challenge to protect the sea from pollution. It is also about protecting marine biodiversity."
- "Nature has given us magnificent gifts, we have to tell people not to spoil them."
- "The project helps us to learn about species, to know what threatens them and to know what they like."

"

### EDUCATIONAL MARINE AREA OF ST ESTÈVE

### INTRODUCTION

SCHOOL NAME École Montée des Accoules - France

SCHOOL SUBJECT Science, environmental education

and sustainable development, French, geography, moral and civic education

CLASS GRADE 6<sup>th</sup>

AGE RANGE 9-10 years old

NUMBER OF PUPILS 27

MAIN TOPIC Healthy Ocean (or Marine Biodiversity)



### PROJECT OBJECTIVES

- **::** Participatory management of a stretch of coastline, chosen by and managed by the pupils: a beach on the Frioul island in front of Marseille
- Creation of collective and innovative educational projects that generate concrete and meaningful learning for pupils: games, public presentations, shared project between primary and secondary school
- **## Managing a common good** over the long term: at the end of the year, pupils pass the torch to others

### **PROJECT ACTIVITIES**

- **Field trip**: biodiversity, human activities (with a focus on plankton this year)
- **Research activity** on planctons with small sample of sea water and a microscope. Observation of life in a tiny drop of water and the appearance of plankton (animal or vegetable) resembling monsters fascinated them
- Meeting with a French photographer Frederic Larray about his job and passion about the sea
- Inmersive activity without getting wet with Septentrion Environnement by following live divers underwater near their area on the internet. The diver explained what he saw and, on the boat, they were other people from the organization who answered pupils' questions live
- **::** Dive into an underwater trail with Septentrion Environnement on their AME







### PROJECT PARTNERS/COLLABORATOR

- National park of Calanques they assist the teacher and pupils throughout the year
- : Septentrion Environnement, local NGO
- ## French photographer Frederic Larray

### PROJECT OUTPUTS

- \*\* Presentation for the IUCN World Conservation Congress in front of people from the French Ministry of education and the French Ministry of environment. Talk with the French Minister of Army, Florence Parly
- **A board game** collaboratively built with a Middle School with questions about the Mediterranean Sea, the biodiversity and the history of their area











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### *TESTIMONIALS*

### **PUPILS' FEEDBACK:**

"The world of silence is a myth! Indeed, underwater, sounds are numerous and testify of an intense life... sometimes surprising like the small clicks of tiny shrimps!"

### **TEACHERS' FEEDBACK:**

"The long-awaited moment (for three years) has finally arrived: the FMS excursion with fins, mask and snorkel! Divided into two groups, the students were able to embark on the boat Cromagnon of the association Septentrion Environnement."

"

### EDUCATIONAL MARINE AREA OF GRAND MUGEL

### INTRODUCTION

Ecole Louis Marin La Ciotat - France SCHOOL NAME

SCHOOL SUBJECT Science, environmental education and sustainable development, French,

geography, moral and civic education

CLASS GRADE

AGE RANGE 10-11 years old

NUMBER OF PUPILS 24

Healthy Ocean (or Marine Biodiversity) MAIN TOPIC





### ROJECT OBJECTIVES

- **Participatory management** of a stretch of coastline, chosen by and managed by the pupils: the Grand Mugel beach
- ## Facilitate the creation of collective and innovative educational projects that generate concrete and meaningful learning for pupils: songs, poems, quizzes
- Long-term management of a common good: at the end of the year, students pass the torch to others.

### **PROJECT ACTIVITIES**

- :: Field trip biodiversity, human activities (focus on Posidonia this year)
- **# Meeting with local stakeholders**
- **:: Games** about the emblematic species of the Mediterranean and their way of life
- **Scientific research** on the anatomy of fish and the classification of species
- **::** Waste management and waste collection







### PROJECT PARTNERS/COLLABORATOR

- :: National park of Calanques they assist the teacher and pupils throughout the
- # CPIE Côte Provençale, local environmental education NGO
- : Inhabitants, researchers, fishermen, and scientists of their area

### PROJECT OUTPUTS

- ## Artistic productions created entirely by the ## Public restitution of their project to the inhabpupils: a song accompanied by the flute, a rap song, a poetic text poetic text.
- **::** Quiz on the species of their education marine area (biodiversity, posidonia, brown grouper, sea star)
- itants and their family





Les élèves de louis Marin se sont engagés avec leur aire marine depuis des années les espèces et la biodiversité on veut les protéger Toi aussi tu peux nous aider

encer on veut dire stop aux déchets Sachets, bouteilles, bouchons, poubelles arrêtez de jeter, il faut trier et recycler! arrêtez de jeter, il faut trier et recycler ! Le plastique c'est dramatique, à force d'en jeter tu te retrouves à en manger ... C'est comme la cigarette Un seul mègot ca pollue 500 litres d'eau Arrête de fumer la nature sera en meilleure santé





## TESTIMONIALS

### **PUPILS' FEEDBACK:**

"This is the most amazing project I have ever done!"

"Through this project, I learned the names of several marine species and that we should produce less waste."

### **TEACHERS' FEEDBACK:**

"It is impressive to see how, over the course of the sessions and field trips, the children become experts on the topics they have chosen to study in relation to their marine area and how their questions and arguments become more and more precise and sophisticated.

It is also very satisfying to observe the changes in students' speech, reactions, and behaviors as they learn more about the biodiversity of their marine area and the potential threats to it.

"Finally, engaging a class in such a project is a real driver in the life of the class and in the learning process in general. All the work done in class is influenced by the dynamics of the project."

### TRACING THE INVASIVE BLUE CRAB SPECIES (NORTH AEGEAN SEA)



### NTRODUCTION

SCHOOL NAME 6th Elementary School of Alexandroupolis, Greece

SCHOOL SUBJECT Language, Geography, Physics,

Chemistry, Mathematics, Social

Sciences, Arts, ICT)

CLASS GRADE

AGE RANGE 9-10 years old

NUMBER OF PUPILS 19

Migratory species in the MAIN TOPIC

Mediterranean Sea

### PROJECT OBJECTIVES

- ## Study of the non-indigenous marine species ## Literature research Callinectes sapidus
- # Acquaintance with the basic characteristics of the lagoonal ecosystem

### PROJECT PARTNERS/COLLABORATOR

- **::** Democritus University of Thrace
- **::** Local NGO
- **#** Fishermen

### PROJECT ACTIVITIES

- **::** Lectures by the teacher and the partners in the
- **::** Lectures by the teacher and the partners in the field
- **Lectures** by relevant NGO members
- ## Field trip to Evros Delta
- **Interviews** with local fishermen
- **## Collaboration** with researchers of Democritus University of Thrace
- **::** Poster creation







### PROJECT OUTPUTS

- : Poster with the typical Mediterranean lagoonal avifauna
- : Poster with the typical Mediterranean lagoonal fishfauna
- : Poster with the typical Mediterranean lagoonal macrobenthic fauna
- # Poster with the typical Mediterranean lagoonal food web
- : Presentation of the program to school students, parents, and local community



### **PUPILS' FEEDBACK:**

"A new and fascinating world, totally unknown to us, even though it was twenty minutes away from our school, was revealed to us."

### **TEACHERS' FEEDBACK:**

"The students came in touch with topics that they had not been able to deal with through the curriculum and the school textbooks. In addition, they developed skills that they did not even imagine they could have at this early age, such as scientific research, bibliographic research, artistic creation, interdisciplinary links between scientific fields, teamwork and the development of communication skills."

### SPOT THE ALIEN BLUE CRAB (PORTUNUS SEGNIS) IN THE CRETAN SEA

### INTRODUCTION

SCHOOL NAME Elementary School of Gournes Pediados,

Heraklion, Crete, Greece

SCHOOL SUBJECT Interdisciplinary (Mathematics, Physics,

Language, Geography, Social Education,

Arts, STEM)

CLASS GRADE

10-11 years old AGE RANGE

NUMBER OF PUPILS 20

MAIN TOPIC Climate change, Lessepsian migration in

the Mediterranean Sea

### PROJECT OBJECTIVES

**::** Studying marine non-indigenous species together with scientists

### PROJECT ACTIVITIES

- **::** Literature research
- :: Develop a poster
- **Present STEAM activities**
- **!! Invite a speaker** to the classroom
- **#** Fieldwork
- **::** Visit HCMR including Cretaquarium
- :: Implement lab experiments
- **## Collaborate** with scientific researchers in HCMR
- **Interview** of local fishers
- :: Collaborate with teachers from different subjects
- **::** Organize a thematic week in the school
- **::** Participate in events with local partners
- :: Visit the Town Hall and inform the Mayor about environmental actions









### PROJECT PARTNERS/COLLABORATOR

- # Hellenic Centre for Marine Research
- **#** Municipality of Hersonissos
- Local fishers

### PROJECT OUTPUTS

- **Poster** with the 7 principles of Ocean Literacy
- **::** Poster with the non-indigenous species in the Cretan Sea posted in the school and the local community (Town Hall, Aquarium, hotels, etc.)
- **::** Blue Crab **Board game**
- **::** Blue Crab **crafts**
- Blue Crab-stories Comic book
- **#** Blue Crab-poems
- **#** Blue Crab Padlet
- # Posting of actions on the school's website and newspaper
- **Presentation** of the program to school students, parents, and local community

### Project title: "Spot the alien Blue Crab: Portunus segnis in Cretan Sea"



Elementary School of Gournes, Crete-Greece Grade: 6

Teacher: Irene Skoula



## TESTIMONIALS

### **PUPILS' FEEDBACK:**

"It was fantastic and full of fun experience I learnt many new and interesting information about marine life I met many different people for many places and shared my opinions about how to protect the sea I have many good feelings about this project."

### **TEACHERS' FEEDBACK:**

"The students became a "bridge" between school and scientific researchers. With their participation and involvement in environmental actions, inside and outside school, they highlighted the importance of volunteering, collegiality, cooperation, and responsibility. They formed knowledge, values, attitudes and behaviours that are environmentally friendly, and they understood the value of participating in social actions."



### GETTING ACQUAINTED WITH A TYPICAL MEDITERRANEAN ESTUARINE SYSTEM



### INTRODUCTION

SCHOOL NAME 11<sup>th</sup> Elementary School of Alexandroupolis, Greece

SCHOOL SUBJECT Language, Geography, Physics,

Chemistry, Mathematics, Social

Sciences, Arts, ICT)

CLASS GRADE 6

AGE RANGE 11-12 years old

NUMBER OF PUPILS 24

MAIN TOPIC Mediterranean Sea Deltas and

Estuaries

### **PROJECT OBJECTIVES**

- \*\* Study of the basic biotic and abiotic characteristics of a Mediterranean lagoonal ecosystem
- **Study of invasive species focusing mainly on the blue crab** *Callinectes sapidus*

### PROJECT ACTIVITIES

- **::** Literature research
- **::** Lectures by the teacher and the partners in the classroom
- **::** Lectures by the teacher and the partners in the field
- **Lectures** by relevant NGO members
- Focus on the Mediterranean lagoonal biodiversity
- ## Focus on the Mediterranean lagoonal physical and chemical parameters
- # Field trip to Evros Delta
- **::** Interviews with local fishermen
- **Collaboration** with researchers of Democritus University of Thrace

### PROJECT PARTNERS/COLLABORATOR

- **::** Democritus University of Thrace
- **::** Local NGO
- **#** Fishermen







### PROJECT OUTPUTS

Presentation of the program to school students, parents, and local community







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## TESTIMONIALS

### PUPILS' FEEDBACK:

"We have been attending 6 years of our lives in primary school, we have learned a million things about the world, but have never heard anything about this amazing ecosystem (the Evros Delta) and its unique biodiversity, which happens to be only 15 km from where we live."

### TEACHERS' FEEDBACK:

"We have been running too many environmental education programmes in our school for many years now, but none of them provided both to our students and ourselves this kind of real feeling for carrying about the natural environment.

Never before had we experienced such an authentic teaching and learning, following holistic and interdisciplinary approaches through democratic and participatory approaches, and at the same time making us feel like real scientists. Truly magnificent experience which will be repeated with other classes in the coming years."

"



SCHOOL NAME 8th Junior High School of

Korydallos, Greece

SCHOOL SUBJECT Arduino Instruments

development for monitoring parameters of the marine environment (Robysea)

8<sup>th</sup>-10<sup>th</sup> CLASS GRADE

12-15 years old AGE RANGE

NUMBER OF PUPILS 50

MAIN TOPIC Marine technology, Arduino

Instruments development





### PROJECT OBJECTIVES

- **::** Development of **Arduino instruments** to monitor environmental parameters in the marine environment
- **::** Development of **STEM knowledge** and
- Development of **knowledge and skills** related to Ocean and Science Literacy

### PROJECT ACTIVITIES

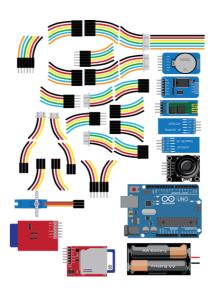
- # Develop simple Arduino devices
- **Study** about the Mediterranean Sea
- **::** Develop relevant **posters**
- Develop a portable Arduino instru**ment** that can be used to measure water temperature, pH, salinity and turbidity
- **!!** Use the **Arduino lab tool** to take measurements in a lake and coastal marine ecosystem during school field trips.



# Hellenic Centre for Marine Research

### PROJECT OUTPUTS

- **::** Arduino Instrument
- **::** Posters











# TESTIMONIALS

### **PUPILS' FEEDBACK:**

"The students got excited about measuring environmental parameters in the field during school trips, because they felt that their creation had a practical value."

### **TEACHERS' FEEDBACK:**

"Educators were impressed by the development of useful instruments that can be used either in the laboratory or in the field."

SCHOOL NAME Istituto Comprensivo Statale 3°

Gadda , Quarto (NA)

SCHOOL SUBJECT Science, English, Italian, Art,

Music

CLASS GRADE 6<sup>th</sup>-7<sup>th</sup>-9<sup>th</sup>

AGE RANGE 11-14 years old

NUMBER OF PUPILS 100

MAIN TOPIC Climate Change, Ocean

Acidification, Water Cycle, Carbon Cycle, Plastic Pollution, Marine and coastal ecosystems





### PROJECT OBJECTIVES

- **# Mobilize Sustainable Cities and Communication**
- Influence Responsible Consumption and Production
- :: Organize Climate Action
- :: Develop Life Below Water

### PROJECT ACTIVITIES

- **::** Beach clean-up and waste classification
- Coastal Invertebrates and plants observation and classification
- **::** Visiting the Turtle Point and the Darwin-Dohrn Museum
- **::** Science Lab experiences
- **Reading** the book Plastica, la soluzione siamo noi and meeting the author Franco Borgogno
- **::** Participate to the national competition (Educational Ministery) 'I'll tell you about the sea'



### PROJECT PARTNERS/COLLABORATOR

- :: The Municipality of Quarto
- # ANISN (Associazione Nazionale Insegnanti di Scienze Naturali)

### PROJECT OUTPUTS

- :: Create a **poster**, to use as an inspiration to reduce plastic use at home
- Write a novel/poem about the sea to participate in a national competition
- :: Compose a **piece of music** inspired by Ocean
- :: Create a **brochure** to distribute at the final school event
- :: Create a **video** to share with the community on the school website

The melody of the sea, so sweet and serene, It takes me away to a world so unseen. The sound of the waves is my favorite song, It carries me away, time slips alona.

The sound of the tide, so gentle and low, It's a tranquil gift that I can bestow. The rhythm of the sea, it's a constant beat, It's a calming sound, like a gentle retreat.

The music of the shore, it can let fall in love my soul, It takes away all my sorrow and woes. The waves on the beach, they are my lullaby, The sound of the sea is the song that I rely.

My favorite melody-Mariavittoria Trapani 3°G IC3°Gadda















## TESTIMONIALS

### **PUPILS' FEEDBACK:**

"The pupils engaged in the BlueSchool\_Med project created this word cloud."

### **TEACHERS' FEEDBACK:**

"A wonderful opportunity to introduce the Ocean Literacy in school curricula"

### THE MEDITERRANEAN DREAM-A TRIP THROUGH THE MEDITERRANEAN



### INTRODUCTION

SCHOOL NAME Istituto Comprensivo Statale «B.

Nodari», Lugo di Vicenza (Vi)

SCHOOL SUBJECT Middle School

CLASS GRADE 6<sup>th</sup>-7<sup>th</sup>

AGE RANGE 11-14 years old

NUMBER OF PUPILS 100

MAIN TOPIC A Multidisciplinary study of the

Mediterranean Sea

### PROJECT OBJECTIVES

- **Science**: 'The acidification of the Ocean'; 'The Science of water'; 'Marine biodiversity'
- **::** Civic education: 'The problem of plastic pollution'
- **::** Maths: 'The mathematics of navigation'
- **## History**: 'The tragedies of the immigrants deaths in the mediterranean Sea'
- **::** Arts and Music: 'The sea in the art and the art in the sea'
- **::** Digital skills 'Website, facebook and instagram account'





SABATO 14 MAGGIO 2022

# GIORNATA ECOLOGICA Raccolta Rifiuti Abbandonati

### INVITO RIVOLTO A TUTTI I CITTADINI

- ORE 9.00 RITROVO PRESSO :- PARCHEGGIO SCUOLE FARA VICENTINO
- PARCHEGGIO SCUOLA S. GIO
   ORE 12.30 FINE LAVORI

I partecipanti devono essere muniti di proprio **gilet rifrangente** e dovranno assicurare durante la mattinata **adeguato distanziamento** 



### PROJECT ACTIVITIES

- :: Laboratory experiences in Science
- Creation of 'The Environment Day' with local institutions; Meetings and collaboration with local business company
- ## How to use **nautical charts**, how to measure a marine route
- **:: Meetings** with local artis, presentation of the book 'Sogno Mediterraneo'
- \*\* Participation of European Research Night in Venice, International meetings in Crete, Trieste and Marsiglia; Italian blue schools meeting in Forli
- Creation of our blue school website, facebook and instagram account (blueschool\_ics-nodari) where we share all our activities and photos about the project

### PROJECT PARTNERS/COLLABORATOR

- ## Fara-Lugo Municipality; Fitt local business company
- # Anisn, CNR

### PROJECT OUTPUTS

- **::** Create a **poster**, for community and for the European Research Night
- Create a video to share with the community on the school website
- **::** Create **presentations**, for school and community
- :: Create a website and instagram account
- Create a video to share with the community on the school website











## "

### TESTIMONIALS

### **PUPILS' FEEDBACK:**

- "This blue project is an opportunity to protect the sea and the environment"
- "I learned a lot about the sea"
- "This project gave us good opportunities like the international meetings and activities with local institutions"
- "This project opened my mind"
- "After this project I changed my habits, I'm more responsible and I pay more attention to the problem of plastic pollution"
- "I think we should continue with this project also next years"

### TEACHERS' FEEDBACK:

- "The students showed interest while working on the project, they enjoyed all the activities."
- "I saw our students interested in marine science and making our students interested in a subject can be a real challenge."
- "The best thing was students' motivation, self-belief and use of various learning strategies"



SCHOOL NAME Engim - San Paolo, Rome

SCHOOL SUBJECT Science, Chemistry, Pastry workshop, Italian, Geography,

History, English, Mathematics

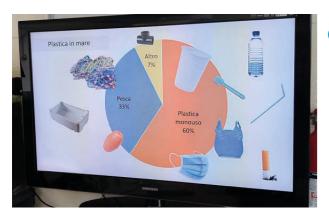
and Economy

CLASS GRADE High school

AGE RANGE 14-16 years old

NUMBER OF PUPILS 100

MAIN TOPIC Pollution, food from the ocean



### PROJECT OBJECTIVES

- **Enhance pupils' awareness** about environmental problems, such as water pollution.
- **Laboratory analysis** and extraction of microplastic ingested by fishes.
- **::** Being a researcher/teacher for a day

### PROJECT ACTIVITIES

- \*\* Activities related to the **preparation of dishes** in consideration of the healthiness of food, facing the problem of food wasting and with a better knowledge of some species of fish.
- **:: Demonstrative lessons** on the water cycle with attention to the formation of acid rain and the daily waste of water.
- \*\* Making some **statistical calculation** on the number of fish contaminated by plastic based on the data collected for a future prediction and developing a model of an economic disaster with loss of productivity, lack of earnings for the fishing industries.



### PROJECT PARTNERS/COLLABORATOR

- **::** European Research Institute
- **OECA**
- **#** ARPA Lazio

### PROJECT OUTPUTS

- Videos
- **::** Laboratory analysis











SCHOOL NAME ITT Guglielmo Marconi

SCHOOL SUBJECT Chemistry, Science, Mathematics,

Geography, Geology

CLASS GRADE High school 15-18 years old AGE RANGE

NUMBER OF PUPILS 120

How human activities can MAIN TOPIC impact on flowing water and

through it the sea.

A - Water flows in steps:

**::** The reservoir (hydro dam)

**::** The purifier process

: The users (pupils with their families and teachers...)

**::** The sewage treatment plant.

B - River Health evaluation:

**::** Sampling water along the riv- **::** Studying some historical er/mouth

**::** Testing water using some Physical, Chemical and Biological analysis.

C - Perspective view:

maps to observe the natural vs. anthropogenic variations in the river's course to evaluate how the river influenced human life, settlements and activities.

**#** Building a 3D model of the River mouth.

### **PROJECT OBJECTIVES**

- # Raising awareness, among teens, of the impor- # Engaging adolescents in learning and spreadtance of the water resources and their relationships with the ocean/sea health through the water cycle, by initiating a long-term school activity
  - ing virtuous behaviour starting from their own houses
  - Improving some scientific skills



### PROJECT PARTNERS/COLLABORATOR

**::** CNR-ISMAR

# HERA

:: Carabinieri per la Biodiversità

### PROJECT OUTPUTS

**::** Poster

**::** Video

**#** Questionnaire on water consumption at home

### **PROJECT ACTIVITIES**

- **::** Learning principles related to water storage in a hydro dam, purifier and sewage treatment plant,
- **::** Creating a simple form to be submitted to all students to examine water consumption in a given period,
- ## Filling out the form,
- ## Finding out ways to save water at home,
- **::** Suggesting a change in behaviour to save water at home,
- **::** Collecting samples from the river and analysing them in order to evaluate some bathing water quality parameters.







# SEA IN A BOTTLE



### INTRODUCTION

SCHOOL NAME Istituto Istruzione Superiore 'E.

Fermi'

SCHOOL SUBJECT Science, Chemistry, English,

Physical Education

CLASS GRADE Secondary School

AGE RANGE 15-17 years old

NUMBER OF PUPILS 62

MAIN TOPIC Environmental sustainability

### PROJECT OBJECTIVES

- Introducing the principle of the blue economy into school education
- **Promoting personal change** for sustainable economic development
- **##** Encouraging active participation in society



### PROJECT ACTIVITIES

- **::** Lessons about marine pollution
- **::** Chemical and physical analysis of seawater
- Monitoring the characteristics of beaches and coastal areas



### PROJECT PARTNERS/COLLABORATOR

- **::** European Research Institute
- # Alghero Municipality
- : Porto Conte Park

### PROJECT OUTPUTS

- **::** PowerPoint **presentation**
- **::** Objects created from plastic









# "

## TESTIMONIALS

### PUPILS' FEEDBACK:

"We liked to work on this project because it permited us to gain new knowledge and to meet other students from abroad."



### ML-CSA - STUDY THE MARINE LITTER DISPERSION: CITIZEN SCIENCE APPLICATION CASE



### INTRODUCTION

SCHOOL NAME iis capellini-sauro, la Spezia

(Italy)

SCHOOL SUBJECT Chemistry, Informatic

Technology, Math, Literature, Electronics, Geography, English,

Physics, Statistics

CLASS GRADE

AGE RANGE 16-18 years old

NUMBER OF PUPILS 65

MAIN TOPIC Marine litter dispersion

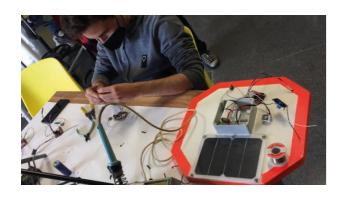
### PROJECT OBJECTIVES

- Investigate the effects of marine currents, winds and river discharge on ML dispersion in the Ligurian and Tyrrhenian Sea
- Involve students in the Ocean Literacy activity, by using citizen science, as means to grow and spread knowledge and awareness
- ## Help students to achieve comprehension on the hazards of plastic pollution on the marine ecosystem



### PROJECT ACTIVITIES

- Construction of a drifter made up of a selected marine litter and equipped with low cost electronic devices
- **Communication actions** in public events such as EMD Ravenna 2022, Notte dei ricercatori Venezia 2022, BlueSchools meeting, Giornata del Mare 2022, dissemination of the results in lower grade schools
- **::** Sharing experiences with pupils from other schools and countries





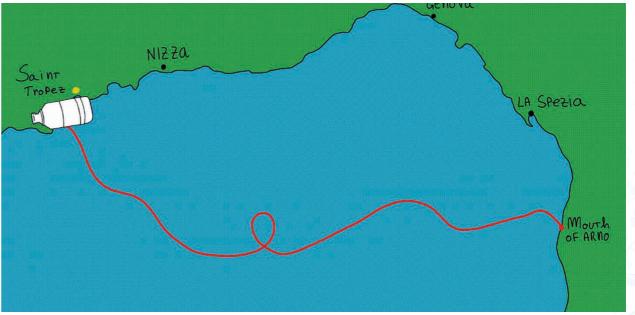
### PROJECT PARTNERS/COLLABORATOR

- **# INGV**
- **::** CNR-ISMAR
- **#** IFC

### PROJECT OUTPUTS

- **::** Video of the launch of the drifters at the Arno River Mouth
- **!! Video of tutorial** for drifter construction





## 66

## TESTIMONIALS

### **PUPILS' FEEDBACK:**

"Very beautiful and challenging project which, thanks to teamwork collaboration, has developed my transversal and multidisciplinary skills. I have enjoyed this experience and am grateful for the learning and divulgation opportunity I have been given through it.". Gaia Torrini"

"A wonderful experience that has embraced my potential. To be honest at the beginning I was a little bit anxious because I would be dealing with a large number of people, but then I felt relieved thanks to the pupils and partners involved that encouraged and gave me a role.

Every activity had its aims of teaching something fundamental to live in harmony with our ocean." Elisabetta Scialpi

"A way to meet new people and to study interesting projects, a positive experience that I will carry with me forever.". Matteo Zonca

### **TEACHERS' FEEDBACK:**

"Fantastic experience, two years of satisfaction, great goals and successes achieved, thanks to the involvement of a large team of enthusiastic colleagues and students, and new friends met to plan new challenges for sea protection!". Prof.ssa G. Castiglioni"

SCHOOL NAME Maria Regina College Mellieħa

Primary School

SCHOOL SUBJECT Primary

CLASS GRADE 6<sup>t</sup>

AGE RANGE 10-11 years old

NUMBER OF PUPILS 24

MAIN TOPIC To engage the community in

Ocean Literacy through a holistic

approach



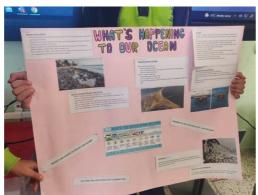
### PROJECT OBJECTIVES

- **::** Students to identity **environmental threats** that are destroying the ocean
- Students to create and produce posters related to environmental threats
- Students to actively participate and take on initiatives to help preserve the ocean

### PROJECT ACTIVITIES

- \*\* The project was introduced through class discussions about ecosystems and environmental threats such as sea water pollution because of human activity, waste such as plastic, fuel from fishing boats, etc
- **School assemblies** about the danger of sea life; we got to be more aware of the waste being consumed and thrown at sea
- **2ero-waste day at school**; everyone at school was encouraged to consume the least amount of waste possible for the day (example using rough paper, using lunchboxes, using reusable bottles, recycling, putting waste for compost etc). We were encouraged to take part in a coastal clean-up within the community
- Representatives from the Esplora Stem Shark Lab were invited to introduce wild sea creatures and the difficulties these encounter through a storytelling activity; where afterwards we had the opportunity to feel the texture of these wild creatures
- when waters are acidic due to pollution, shark's skin and teeth are corroded. Related to this, we carried out a class experiment on how ecosystems are affected by ocean acidification (when sea is polluted). Through this experiment, we observed the destruction of the shells because of acidity, therefore the problems sea creatures find to build up their own shell. In this experiment, the vinegar which is a mild acid, represented acid pollution in the ocean









The students were invited to **interview fishermen** so we could find out about the problems that they encounter and why less fish is caught. We concluded that fuel released from ships is making it difficult for fish to survive. Water is polluted because rubbish is thrown at sea, especially plastic. Small fish is caught, thus not enough reproduction.

There is insufficient law reinforcement and not enough education related to waste management.

We came up with some ideas of how to preserve the ocean, such as to prevent oil spill from boats, to reduce the usage of plastic and wrong disposal of plastic, to reduce overfishing and to eat sustainable seafood

**::** Green news journalists: The students decided on a green issue they wished to do something about; the focus was on environmental threats in the ocean. They researched the issue by looking up information and going on site and finding facts for themselves.

They followed up in **writing** and put the short article together. When the green news was complete, they spread the word by presenting their articles to their peers and publishing it on the school display board. The aim is to reach as many people as possible

### PROJECT PARTNERS/COLLABORATOR

**::** Esplora Stem SharkLab







### SEA VEGETABLE USE IN FOOD PREPARATION



### NTRODUCTION

SCHOOL NAME St Monica School B'Kara

SCHOOL SUBJECT Multiple Subjects

CLASS GRADE

AGE RANGE 11-15 years old

NUMBER OF PUPILS 250

Local area/food/Sea MAIN TOPIC

Vegetables

### PROJECT OBJECTIVES

- **::** Engage students in obtaining knowledge about sea vegetables available around the Maltese coastline and how these can be incorporated in food preparation
- **::** Explore the different uses of locally grown seaweed (e.g. sea lettuce) and sea herbs (e.g. Sea Fennel, Glasswort, Iceplant) and the possibility of using them in recipes (maybe even some traditional recipes or preservation), keeping in mind the current food trends





### PROJECT ACTIVITIES

- **Research/**Literature review/Sway Presentation
- **::** Web Quest
- **::** Cooking
- **::** Survey

### PROJECT PARTNERS/COLLABORATOR

: Natural Preserves Malta







### PROJECT OUTPUTS

- **::** Sway Presentation
- : Traditional Maltese Ftira and Sushi
- **::** Web quest results
- **::** Chart
- Survey result







# TESTIMONIALS

### **PUPILS' FEEDBACK:**

"Pupils discovered a lot of information about the different sew vegetables which are found in the Mediterranean sea and can be used in cooking.

Students also had the chance to find out what the general public knows about sea vegetables and their popularity in local cuisine.

They were also very interested in finding how they can be used, their nutritional value and their versatility in using them in different recipes especially when they had the opportunity to taste some of them."

### **TEACHERS' FEEDBACK:**

"We were very pleased to see how enthusiastic pupils were in exploring an unknown topic. All the information they were researching and obtaining was new and thus made it interesting and intriguing.

This excitement motivated us teachers more. The topic chosen was a really good choice, there is so much more which still needs to be explored."

### RAISING AWARENESS ON LOCAL FISH

### INTRODUCTION

SCHOOL NAME St Aloysius' College Secondary School

SCHOOL SUBJECT EkoSkola & Geography

CLASS GRADE EkoSkola students Form 1 to Form 4

AGE RANGE 11-14 years old

NUMBER OF PUPILS 15

MAIN TOPIC Fish







### PROJECT OBJECTIVES

- **::** Raise awareness about the different types of fish that are caught locally
- **::** Learn about **how local fish is caught** and fishing
- **::** Identify recipes that use local fish



- **::** Each month create a poster on a different fish.
- **::** Conduct Interviews
- **::** Try out some local recipes





### PROJECT PARTNERS/COLLABORATOR

- **::** Relatives
- **::** Fishermen

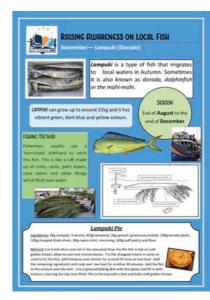
### PROJECT OUTPUTS

- **::** Posters
- **::** Social Media
- **::** Trying and tasting **recipes**













# TESTIMONIALS

### **PUPILS' & TEACHERS' FEEDBACK:**

"Pupils discovered a lot of information about the different sew vegetables which are found in the Mediterranean sea and can be used in cooking. Students also had the chance to find out what the general public knows about sea vegetables and their popularity in local cuisine. They were also very interested in finding how they can be used, their nutritional value and their versatility in using them in different recipes especially when they had the opportunity to taste some of them."

"This was a very interesting project to integrate with the EkoSkola team".

"Students really enjoyed learning about different local fish."

"It would be a great if we could have some more support to conduct this project such as funds."

### KAHOOTING OUR WAY THROUGH THE SEA



### NTRODUCTION

SCHOOL NAME Maria Regina College Mosta Secondary School

SCHOOL SUBJECT Geography, English, PTI, Ekoskola

CLASS GRADE 9th-11th

AGE RANGE 13-16 years old

NUMBER OF PUPILS -

MAIN TOPIC Learning about different aspects of the sea

through the creation of Kahoot! Quizzes

### PROJECT OBJECTIVES

- **To learn** about different aspects of the sea
- **::** To have **student-centered learning**, focusing on their topics of interests
- To go beyond examinable skills and knowledge and make learning about the sea more realistic





### PROJECT ACTIVITIES

- \*\* Kahooting in English lessons: students were introduced to the topic of the sea and the whole class all agreed to focus on endemic and alien species. This led them to conduct some research, whereby students individually worked on a particular species and formulated Kahoot! questions which were then compiled in the English lessons. The skills that were involved included; discussions, question formulation, expressing ideas and new vocabulary and teamwork
- **::** In **Geography** option lessons, students focused on **maps**, countries, **geography facts**. Most was done through personal research and kahoots played in class
- \*\* Prince Trust International students had a topic about healthy eating and concluded it by doing a class research about whether eating sea food good for you. They also created and written their own questions and answers
- **::** Ekoskola Students took this activity further by organizing cleanups, writing poems, going on visits and doing experiments to learn about certain aspects of the sea. All these activities led to different quizzes

### PROJECT PARTNERS/COLLABORATOR

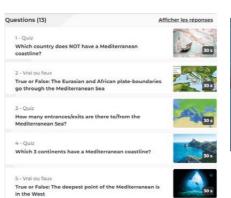
- **CEER**
- # Faculty of Geosciences
- :: University of Malta

### PROJECT OUTPUTS

- **::** Kahoot quizzes
- **::** Poems
- **::** Logo
- Noticeboard
- **::** Poster
- **::** Cleanups









## Sea pollution

1 partie - 5 joueurs

### Seas the day – Natasha Jones

Once a place of life and prosperity Now a place of trash and debris Not everyone understands the severity Of what has happened to life under the sea

The BlueMed project has taught me Not everything is as it seems, For one person can't move a boulder But the world's fate isn't on one person's shoulders

Take the turtle for example There used to be ample Now some have become extinct Rather sad, wouldn't you think?



### **PUPILS' FEEDBACK:**

"I am grateful for this opportunity because it made me more productive and more knowledgeable about the sea". Natasha Jones

### **EACHERS' FEEDBACK:**

"This project is special because it gives a purpose to learning new things that make sense, things that students themselves choose and which might not be linked directly to exams but which are of great importance to have more ecologically literate students.

The best education comes when there is a connection between students, the material taught and their lived experience, when there is a connection between students themselves, and there is a purpose."



SCHOOL NAME St. Thomas More College Ħal

Tarxien Middle School

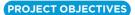
**SCHOOL SUBJECT** Geography and Science

CLASS GRADE 7<sup>th</sup>-8<sup>th</sup>

AGE RANGE 10-12 years old

NUMBER OF PUPILS -

*MAIN TOPIC* Fishing



:: To learn about the fishing practices used in Malta

**::** To learn about the fish market

- **::** To learn about the consequences of overfishing in the Mediterranean Sea
- To learn about the damage being done to the sea, sea bed and marine life in the Mediterranean Sea





### PROJECT ACTIVITIES

- During break, the students were shown a documentary on the effects of fishing by David Attenborough. This served as an introduction to the main topic of fishing. During this first activity, students prepared
- **Talking to a fisherman** to learn about the fishing practices used in Malta
- # Going to Marsascala to see the effects of fishing
- \*\* Students prepared some **shorts videos** about fishing to show the other students in school. These videos were also presented in Crete during the project presentation

### PROJECT PARTNERS/COLLABORATOR

- :: University of Malta
- : Local council of Marsascala
- ## Fishermen and Marine scientist

### PROJECT OUTPUTS

**::** Videos









# TESTIMONIALS

### PUPILS' FEEDBACK:

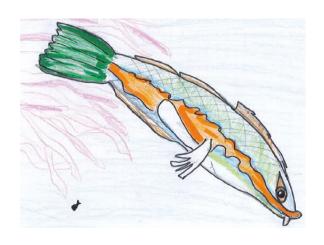
"I learned a lot during these activities about fishing and the effects it is having on our Mediterranean Sea". Chanelle Debono

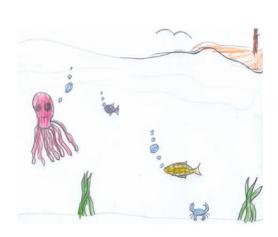
### TEACHERS' FEEDBACK:

"This project helped a number of students realize the importance of sustainable fishing practices and how harmful fishing can be. Apart from learning about fishing, these activities improved the students public speaking and other skills such as interviewing and team work. Education is not only factual knowledge but even soft skills, both of which are important to have active knowledgeable citizens."

"

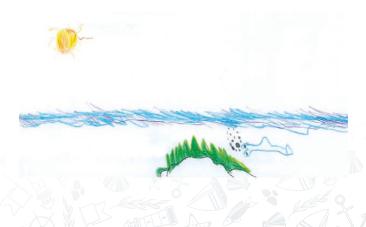








































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