Templates and guidance to develop blue-school projects

Last updated: 30 September 2024

This document is designed to help teachers prepare a ProBleu project for the 3rd funding call [https://probleu.school/probleu-funding-calls/], and become a member of the Network of European Blue Schools (NEBS).

If you need any further assistance, please contact us by email or get in touch with us through our social media before **18th November 2024**. We cannot guarantee that emails related to the 3rd funding call will be answered after this date.

Info sessions will be held to clarify any doubts about the ProBleu call. Click the links below to register:

- 8th October at 10:00 CET
- 30th October at 10:00 CET

- Email: probleucall@probleu.school

- Website: https://probleu.school/

- LinkedIn: https://www.linkedin.com/company/probleu-project/

- Facebook: https://www.facebook.com/profile.php?id=100095504382672

- Instagram: https://www.instagram.com/probleu.schools/

- Twitter: https://twitter.com/pro_bleu

If the deadline for the 3rd ProBleu funding call has passed but you're interested in preparing an application for the 4th funding call or just to become a member of the Network of European Blue Schools, the tools in this document may still be helpful. An updated version of the document will be released before the 4th ProBleu funding call.

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1. Introduction to the Blue School project

The Network of European Blue Schools (NEBS) is an initiative established under the EU4Ocean Coalition for Ocean Literacy to promote ocean and freshwater literacy among schools. The NEBS strives to create a more ocean-conscious society by encouraging collaboration between schools and ocean professionals and facilitating the sharing of experiences and resources.

1.1. Applying through NEBS

The European Blue School initiative is open to all schools within the European Union and countries associated with Horizon Europe. These schools can apply to receive the certification and can take part in the online European Blue School Community. The application form is only available in English and must be filled out in English. Your project must be ongoing or already finished. Applications submitted in languages other than English or for projects that have not started before the application period will not be considered. You need an EU login to complete the application form.

Applications are open twice a year: from September to December and from January to May. They are reviewed by the European Blue Schools coordinating team. After the evaluation period, you will be informed of the results via email. Applications are reviewed at the beginning of each month: October, November, December, February, March, and April, with a final assessment after the deadlines (December 15th and May 31st). During the evaluation process, teachers may be contacted for additional information. Following the evaluation, teachers will receive the results via email. If approved, the European Blue School Certificate will be issued for the current school year. If declined, the project can be modified to meet the requirements and resubmitted.

Link to application:
https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/network-blue-schools/become-european-blue-school_en

1.2. Applying through ProBleu

The ProBleu funding scheme supports primary and secondary schools in working with children, youth, and the wider school community in the education on the sustainability and protection of marine and freshwater ecosystems. ProBleu supports schools by providing funding for ocean and freshwater literacy projects. Projects should engage students, teachers, school leaders and the wider school community in pursuing ocean and water literacy and sustainability. Schools are expected to develop and implement ideas that contribute to achieving the objectives of the Mission "Restore our ocean and waters by 2030". Importantly, it is a mechanism to become a member of the Network of European Blue Schools (NEBS), contributing to the work of the EU4Ocean Coalition.

You are eligible to be a part of NEBS if you receive ProBleu funding and demonstrate that the proposed project has started. The application process for NEBS has been streamlined by ProBleu. Schools funded by ProBleu will automatically be accredited as a Blue Schools and will not need to apply to NEBS separately.

Link to the funding call: https://probleu.school/probleu-funding-calls/

2. Planning your Blue School project

This brainstorming worksheet is a tool designed to help schools applying for ProBleu funding. It provides structured support across key areas, including project topic selection, activity planning, inclusivity, and project management, ensuring alignment with NEBS principles and fostering the development of impactful Blue School projects.

There are 4 pages in this worksheet to help you generate ideas for your project:

- Selecting a project topic
- Selecting project activities
- Including all students
- Making a project plan

While using the brainstorming worksheet provided is not a requirement for preparing ProBleu application, it is designed to aid those who might find the structure provided useful. To utilise the worksheet effectively, you can download it and, if preferred, print it out. This sheet is meant for rough use and allows you to organise potential ideas in a structured manner, covering all the relevant questions in the ProBleu application.

> **! Reminder !** The brainstorming worksheet is NOT the same as the ProBleu application; it is just a tool to help you develop your project ideas. To apply for ProBleu funding you will still need to complete the application form available from the ProBleu website:
> https://probleu.school/probleu-funding-calls/
>
> You can see guidance on how the sections of the brainstorming worksheet match with the ProBleu application in Section 2.1 below.

2.1.　　　　Mapping your project to the application

The following figures allow you to visualise where certain sections of the 'Project brainstorming worksheet' will be relevant when filling out the 'Project description' as part of your ProBleu application. The main images are screenshots from the 'Project brainstorming worksheet' whilst the blue arrows and text are the corresponding section in the ProBleu funding application.

PROJECT BRAINSTORMING WORKSHEET

CHOOSING PROJECT ACTIVITIES

Can you develop creative projects that combine different subjects?

- Organise a school cleanup event for a local water body.
- Raise awareness about the importance of responsible waste disposal to prevent water pollution.
- Design a plan to restore a local habitat (e.g., planting native vegetation along a riverbank, algaculture garden).
- Research a water-related policy issue impacting your community (e.g., water conservation measures, sustainable fishing practices). Organize a campaign to raise awareness and advocate for change.

3.4. What will happen with the results of your project?

3.4.1. How will the results or activities of your project be incorporated in the curriculum or plan of activities of the school?

Guidelines: Please describe in which subjects or other activities of the school the results will be used in the future. Describe how these results will be available to teachers, students and other members of the school community [Maximum 1000 characters, including spaces]

How can you integrate ocean and water literacy concepts into existing lessons?

2.6. How do the activities and results proposed relate to the existing school curricula or activities?

Guidelines: Please explain how the activities proposed in your project relate to specific aspects of one or more subjects or to other activities already existing in your school. [Maximum 1000 characters, including spaces]

Student Interests

What are their existing interests in science, art, technology, or social justice?

- Conduct water quality testing in your local waterbody. Partner with a local organisation to analyse your findings and identify potential solutions.
- Citizen Science: Participate in a global citizen science program that collects data on ocean health (e.g., monitoring water quality, monitoring coastal biodiversity, tracking marine mammal populations).
- Creative Expression: Organise an art or writing competition focused on raising awareness about ocean threats and inspiring solutions.
- Partnerships: Connect with a school in a coastal community to learn about their challenges and collaborate on a joint project.

How can you use art, music, literature, or film to explore ocean and water themes?

PROJECT BRAINSTORMING WORKSHEET

INCLUDING ALL STUDENTS

How will you adapt this project for different learning styles and abilities?

3.2. How will you ensure that students have equal access to the activities of the project?

Guidelines: Please explain how and why the activities of your project are accessible to all types of students, regardless of gender, cultural background, or physical accessibility barriers, among others. If you envisage any special measures to ensure equal access, please explain them here. [Maximum 1000 characters, including spaces]

exploration, citizen science projects, community action projects)

rld to the tual field trips, guest speaker series, global connections)

3.3. Will the project reach students with fewer opportunities?

Guidelines: Please see Annex 1 of the Call for Proposals for more information about participants with fewer opportunities.

◯ No ◯ Yes   [if yes, please select one or more of the following]:

☐ Disabilities	☐ Health problems	☐ Educational difficulties
☐ Cultural differences	☐ Social barriers	☐ Economic barriers
☐ Discrimination	☐ Geographic barriers	☐ Other

3.3.1. If you replied "yes", please explain how the activities of the project will facilitate the access of people with fewer opportunities. [Maximum 1000 characters, including spaces]

Can you raise awareness about a specific ocean or water-related issue? How?

What educational materials or resources can you use?

How can you encourage sustainable practices within your school?

4.3. How does your project ensure that the activities proposed will have carbon neutrality?

Guidelines: Carbon neutrality means that your project (or even better, your school) will include actions to removing as much carbon dioxide (CO_2) from the atmosphere as it is emitting. While planning your project, you can include concrete measures that will be implemented or designed to be implemented at the school level to reduce carbon footprint in any way or to combat other forms of pollution such as the use of plastic. [Maximum 1000 characters, including spaces]

What educational materials or resources can you create?

PROJECT BRAINSTORMING WORKSHEET

MAKING A PROJECT PLAN

Time line

2.3. *How will you implement the activities? When will they take place? Who will be involved? What will happen?*

Guidelines: Describe the main steps or phases of your project. This description should allow us to understand how the project will run, in which order, what will be done, and how long each phase will last. For example, you can have an initial phase to gather a team and plan activities in detail, then proceed with the implementation of activities or development of resources, then promote the results achieved, etc. [Maximum 2000 characters, including spaces]

Budget

Expense type	
Technology	
Resource material	
Travel	

5. Budget summary

Please select the lump sum category of the financial support requested.

Up to 2 500€ (small scale project)	○
Up to 5 000€ (medium scale project)	○
Up to 10 000€ (large scale project)	○

Justify how the requested funding will be used to carry out the project activities.

Guidelines: Please refer to the financial provisions in the Call for Proposals, namely the types of eligible costs. You can provide a list of the main costs the project will incur (in line with the activities and plan described in section 2) and for which you are requesting the financial support [Maximum 1000 characters, including spaces]

3. Connecting with external organisations

Collaborating with external organisations is a requirement that will significantly enhance your Blue School project. By connecting with interested parties and actors in your community, you can access valuable resources, expertise, and support.

- **Universities:** Research universities with marine science, environmental studies, or education departments. Consider departments that specialise in outreach or community engagement. Connect with universities, colleges, or research institutes in your area.
- **Local NGOs:** Identify organisations focused on environmental conservation, marine life protection, or community development.
- **PTAs (Parent-Teacher Associations):** Engage with your school's PTA to involve parents and the wider community in the project. Identify parents who are involved in the interested topics who can provide support to the project.
- **Community Groups:** Explore local groups interested in environmental issues, such as fishing associations, coastal communities, or water sports clubs.
- **Volunteer Groups:** Seek out individuals or groups passionate about marine conservation who can contribute their time and skills.
- **Local Government:** Explore collaborations with city councils, environmental agencies, or tourism boards.

You may consider utilising platforms such as LinkedIn, Twitter, and Facebook to build relationships with potential partners. Making use of online directories and databases to identify relevant organisations can be a valuable strategy. Engaging with online communities to identify potential collaborators is also highly recommended. Attending local conferences, workshops, or community events will allow you to connect with potential partners and seek out organisations with similar goals and values. Additionally, it's suggested to proactively reach out to potential partners via email or phone calls. It would also be beneficial to look for potential partners within your school's network and expand on existing collaborations to foster new opportunities.

When reaching out to potential partners, clearly define your project goals and objectives. Find common ground between your school and potential partners. Highlight how the partnership can benefit both parties. Maintain regular communication and foster a collaborative relationship. Consider creating partnership agreements to outline roles, responsibilities, and expectations.

The following email template serves as an example for reaching out to external parties to seek support for your project.

Dear [Recipient Name],

I hope this email finds you well.

My name is [Your Name], and I am the [Your Position] at [School Name]. We are excited to be embarking on a Blue School project to enhance our students' understanding of marine and water environments.

Our project aims to [Briefly outline your project goals]. We believe that a partnership with [Organization's Name] would significantly enrich our students' learning experience and contribute to our shared environmental objectives.

[Organization's Name]'s expertise in [Specific area of expertise] aligns perfectly with our project goals. We are particularly interested in exploring opportunities for [Potential areas of collaboration, e.g., joint research, educational workshops, volunteer programs].

I would welcome the opportunity to discuss potential collaborations further and explore how we can work together to achieve our shared objectives. Please feel free to contact me at [Your Email] or [Your Phone Number] to arrange a convenient time to talk.

Thank you for your time and consideration.

Sincerely,

[Your Name]

[Your Position]

[School Name]

[School Contact Information]

4. Ensuring inclusivity in your project

Below we present a list of potential barriers that may configure a situation of "fewer opportunities" (adapted from the Erasmus+ Guide 2023) and strategies to adapt to the barriers. These are just ideas to consider. As a teacher, you may have children with diverse needs that require different care and attention. It is always recommended to do what is best for the students, be considerate of the situation, and adapt accordingly to participants with fewer opportunities.

Barrier type	Strategies for adaptation
Disabilities: This includes physical, mental, intellectual or sensory impairments which, in interaction with various barriers, may hinder someone's full and effective participation in society on the same footing as others.	**Accessibility:** Ensure that all project activities and materials are accessible to individuals with disabilities. This may involve providing accommodations such as sign language interpreters, assistive technology, or accessible transportation. **Inclusive learning:** Design activities that cater to diverse learning styles and abilities. Incorporate hands-on experiences, visual aids, and opportunities for peer support.
Health problems: Barriers may result from health issues including severe illnesses, chronic diseases, or any other physical or mental health-related situation that prevents from participating in the programme.	**Flexibility:** Allow for flexibility in project requirements and deadlines to accommodate individuals with health issues. **Support services:** Connect participants with necessary support services, such as healthcare providers or counsellors.
Barriers linked to education and training systems: Individuals struggling to perform in education and training systems for various reasons, early school-leavers, NEETs (people not in education, employment or training) and low-skilled adults may face barriers. Although other factors may play a role, these educational difficulties mostly result from an educational system which creates structural limitations and/or does not fully take into account the individual's particular needs.	**Bridging gaps:** Offer preparatory courses or workshops to address educational disparities and help participants develop necessary skills. **Mentorship:** Provide mentorship opportunities to support individuals who may face challenges in educational settings.
Cultural differences: Cultural differences may represent significant barriers to learning in general, all the more for people with a migrant or refugee background (especially	**Culturally sensitive materials:** Use culturally sensitive materials and examples in project activities. **Language support:** Offer language support services, such as translation or

newly-arrived migrants), people belonging to a national or ethnic minority, sign language users, people with linguistic adaptation and cultural inclusion difficulties, etc. Being exposed to foreign languages and cultural differences may limit the benefits of participation and even prevent potential participants from applying for support.	interpretation, to help individuals from different cultural backgrounds participate effectively.
Social barriers: Social adjustment difficulties such as limited social competencies, anti-social or high-risk behaviours, (former) offenders, (former) drug or alcohol abusers, or social marginalisation may represent a barrier. Other social barriers can stem from family circumstances, for instance being the first in the family to access higher education or being a parent (especially a single parent), a caregiver, a breadwinner or an orphan, or having lived or currently living in institutional care.	**Community building:** Create a supportive and inclusive community atmosphere within the project. Encourage peer support and networking. **Social skills development:** Offer workshops or training on social skills to help individuals overcome social adjustment difficulties.
Economic barriers: Economic disadvantages like a low standard of living, low income, learners who need to work to support themselves, dependence on the social welfare system, long-term unemployment, precarious situations or poverty, being homeless, in debt or with financial problems, etc., may represent a barrier.	**Financial assistance:** Provide financial assistance or scholarships to help individuals overcome economic barriers.
Barriers linked to discrimination: discriminations linked to gender, age, ethnicity, religion, beliefs, sexual orientation, disability, or intersectional factors (a combination of two or several of the mentioned discrimination barriers).	**Diversity and inclusion training:** Provide training on diversity and inclusion to all project participants. **Safe spaces:** Create safe and inclusive spaces where everyone feels respected and valued.
Geographical barriers: Living in remote or rural areas, on small islands or in peripheral/ outermost regions, in urban suburbs, in less serviced areas (limited public transport, poor facilities) or in less developed areas may constitute a barrier.	**Remote participation:** Explore options for remote participation, such as online activities or field trips to nearby locations. **Transportation assistance:** Provide transportation assistance or subsidies to help individuals from remote areas participate.

5.   Internal sign-off template

This section of the handbook provides guidance on using the downloadable and editable presentation template to effectively gain internal sign-off for your ProBleu project proposal. Every school will have a different internal sign-off procedure. In some cases, teachers just informally discuss the project with their headteacher but in some schools a formal sign-off procedure has to be followed. You will know the situation in your own school.

If you have to follow a formal internal-sign-off procedure, we have developed a presentation template, which is designed to highlight key elements of your project and demonstrate its alignment with the ProBleu initiative's goals. The presentation should be adapted to your audience so feel free to edit all the content and delete slides you don't need. The presentation template can be downloaded using the following link: P Internal sign-off template.pptx

Key sections of the presentation

1. **Title slide:** Customise the title with your project's specific name and tagline.
2. **Introduction:** Briefly introduce what ProBleu does and how it will help the school to become a part of the European Network of Blue Schools Network. This will give them an understanding of ProBleu and its aims.
3. **Eligibility:** Highlight your school's eligibility for funding by indicating the country it is located in and possible collaboration opportunities with schools from other eligible countries (this could be particularly helpful for schools in non-EU member states who might assume they are not eligible for funding).
4. **Benefits of participating:** Explain the potential benefits of participating in the ProBleu funding initiative, such as increased visibility, professional development, and access to resources.
5. **Activities:** Outline the potential activities that can be done with ProBleu funding.
6. **Available funding:** Explain the funding options provided by ProBleu and the expenses it will cover.
7. **Project idea**: Clearly articulate the specific objectives of your project and their importance.
8. **Activities planned:** Outline the proposed activities for your project, ensuring they are aligned with the initiative's themes and objectives.
9. **Budget:** Clearly present the funding requirements and how the allocated funds will be used.
10. **Sustainability practices:** Emphasise the sustainability aspects of your project, demonstrating its alignment with the initiative's goals.
11. **Student participation:** Outline how the planned activities will be inclusive of all students and how you will ensure safety among them.
12. **Application process:** Explain the steps involved in applying for funding, including deadlines and requirements.
13. **Related projects:** Highlight relevant other funders that can provide additional context or support.
14. **Contact information:** Include contact details for the ProBleu initiative.

ProBleu

6. Ideas for writing a project on a specific subject aligned with the EU Mission on oceans and water

This section provides teachers with guidance on developing project ideas for their Blue School projects. Table 1 is divided into three columns: the third column highlights the Mission sub-targets, organised under broader targets aligned with the three official objectives of the EU Mission 'Restore Our Ocean and Waters.' These objectives direct efforts to sustainably manage marine and freshwater ecosystems (EU, 2024). Initially, D2.1 proposed three project ideas for each Mission sub-target, which have since been categorised by subject to improve usability for educators. The aim is to help teachers easily create comprehensive and impactful Blue School projects. It's important to recognize the shift from the 17 goals outlined in the 'Mission Starfish 2030' proposal to the three objectives now supported by EU Missions. While the 17 goals offered detailed guidance, they have been reorganised under the new framework for enhanced clarity, ensuring teachers can align their projects with the Mission's strategic objectives effectively.

Table 1 Alignment of Targets with Objectives of the EU Mission "Restore Our Ocean and Waters"

Objective Number	Target	Sub-target
	1: Each European is a citizen of our ocean and waters	1.1: Literacy and knowledge about the water system are compulsory elements in all science curricula in primary and secondary schools throughout the EU
		1.2: 50 percent of Europeans have participated in events organised by the pan-European ocean literacy coalition (EU4Ocean)
		1.3: At least 50 percent of the European blue workforce has been upskilled or re-skilled

Objective 1: Protect and Restore Marine and Freshwater Ecosystems and Biodiversity	2: Marine and freshwater observation is streamlined and accessible to all via a digital twin of the ocean and all waters	2.1: Global digital twin of all oceans and waters is operational
		2.2: Global marine and freshwater observation is streamlined: all data collected is pooled centrally and made accessible to all
		2.3: Global high-resolution ocean forecasting and regional ocean climate services are operational to support climate change adaptation at coastal scale
		2.4: The European seabed is fully and coherently mapped in high-resolution
		2.5: 50 percent of DNA of life in our ocean and waters is fully sequenced and publicly available
	3: 30% of EU waters are highly to fully protected	3.1: 30 percent of EU-waters are highly to fully protected, with concrete management plans and forming a network of MPAs co-managed by local communities
		3.2: Total water abstraction has decreased by 50 percent and groundwater abstraction has decreased by 20 percent
	4: Active regeneration of 20% of degraded habitats	4.1: 20 percent of degraded seabed habitats have been regenerated through removal of pressures, blue reforestation, ecological engineering and full ecosystem-based management of local activities
		4.2: Ecosystem-based services and nature based solutions have been scaled up by at least 20 percent to improve resilience from sea level rise, floods and coastal erosion

	5: Renaturalise rivers and waters	5.1: 30 percent of Europe's rivers are re-dammed.
		5.2: 30 percent of surface water bodies suffering hydro-morphological pressures are restored
	6: End overfishing	6.1: The most destructive fishing practices like bottom trawling and other activities causing seabed habitat loss or degradation are phased out
		6.2: The level of incidental catches of protected and non-target species has decreased by 80 percent
		6.3: All catches are fully controlled at landing and all vessels above 12 metres are equipped with CCTV
	10: Underwater noise is regulated and reduced	10.1: Underwater acoustic emissions are reduced by at least 50 percent
		10.2: Noise impact mitigation measures have been defined in each European marine region and continental subaquatic environment
Objective 2: Prevent and Eliminate Pollution	7: Zero plastic litter generation[1]	7.2: All single-use plastics are banned worldwide
		7.1: All plastics on the EU-market are reusable or recyclable
	8: Eutrophication of European seas and waters is halted	8.1: Losses of nutrients into the environment are reduced by at least 50 percent and the use of fertilisers is reduced by at least 20 percent
		8.2: Use and risk of chemical pesticides and the use of more hazardous pesticides is reduced by 50 percent

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[1] This target also comes under objective 1

		8.3: 100 percent of urban wastewater is subject to tertiary (advanced) treatment
		8.4: All waste waters from ships operating in the European waters is delivered to treatment plants on land
	9: Zero spill	9.1: 50 percent of ships operating in the EU are granted the EU Green shipping label
		9.2: Waste and container loss from the shipping sector operating in the EU is reduced by at least 75 percent
		9.3: All ports have facilities to receive waste and wastewaters from ships
		9.4: The release of micro-pollutants (pesticides, pharmaceuticals, biocides, PFASes) into wastewater treatment plants has been reduced by 50 percent
Objective 3: Make the Sustainable Blue Economy Carbon-Neutral and Circular	11: Climate-neutral waterborne transport	11.1: 100 percent of propulsion engines of leisure boats, fishing vessels and ferries and other short-sea shipping are converted to non-fossil propulsion
		11.2: CO2 emissions from the shipping sector operating in the EU are reduced by 45 percent
		11.3: 50 percent of vessels older than 20 years are dismantled and recycled in Europe
		11.4: 100 percent of European ports are carbon-neutral and provide electricity at berths.

	12: Support the energy transition through renewable low-impact ocean energy	12.1: At least 35 percent of the EU energy mix is covered by clean, low-impact, renewable ocean energy (wind, wave, tidal, thermal and salinity gradient energy)
	13: Zero-carbon aquaculture	13.1: The consumption of low trophic aquaculture (e.g. algae, shellfish, other invertebrates) from European waters, and seas has increased by 70 percent
	14: A thriving blue biotech	14.1: The EU is the world leader in blue biotech.
		14.2: The market value of Blue Biotech has reached 200 billion euros
	15: Climate-neutral blue tourism	15.1: 100 percent of marinas are carbon neutral and provide electricity at berth
		15.2: 50 percent of tourism resorts and accommodation are converted to low CO_2 emission and low CO_2 consumption
	16: An integrated and participatory EU system of ocean and water governance	16.1: A European Ocean and Water Agency is fully established
	17: EU leadership for effective global ocean governance	17.1: The BBNJ Treaty is enforced [UN]
		17.2: IUU fishing is eradicated globally [UN]

		17.3: International ban on all activities causing seabed habitat loss and degradation takes effect [UN]
		17.4: International UN agreement on protection and management of major rivers is concluded and all major rivers of the globe have an internationally supported management plan and national/international commission (EU sponsored set-up and is member of boards of key rivers linked to EU territories, such as Nile, Amazonia, Congo)
		17.5: New international standards for harbours, ports and shipping are enacted [IMO]
		17.6: All EU bilateral trade agreements condition market access to elimination of IUU fishing and fulfilment of international fisheries agreements
		17.7: All maritime surveillance activities of EU agencies and Member States are coordinated and joint surveillance operations in EU and international waters are carried out

6.1. Subject-wise project Ideas

These project ideas are categorised based on subjects, allowing you to choose the topic that interests you the most. You can use these ideas as inspiration to create or modify projects. These ideas are designed to fit most curriculums in general, so feel free to tailor them to your specific needs.

Music

Exploring the sounds of water (target 1.1)

Students will explore the concept of water literacy through music composition and performance. By immersing themselves in the sounds of water, students will develop a deeper appreciation for this vital resource while honing their musical skills.

For primary schools

Activities

- Sound exploration: Students will listen to various recordings of water sounds (rain, rivers, ocean waves, etc.) and identify different musical elements such as pitch, rhythm, and dynamics.
- Instrument exploration: Students will experiment with different instruments to recreate water sounds. This could include using percussion instruments, recorders, or even homemade instruments like water xylophones.
- Composition: Students will work collaboratively to compose a short musical piece inspired by the sounds of water. Teachers can guide the composition process by introducing basic music notation concepts and encouraging creativity.
- Music notation: Students will learn about basic music notation, including rhythm, pitch, and dynamics. They will create a score of their composition, which can be a collaborative effort or individual work.
- Performance: Students will rehearse and perform their composition for the school community, showcasing their musical talents and understanding of water.

Links to the music curriculum

- Listening
- Composing
- Performing
- Understanding music notation

Cross-curricular links

- Science: Water cycle, properties of water, water conservation
- Language: Descriptive language, storytelling
- Art: Visual representation of water, sound art

For secondary schools

Activities

- **Water research:** Students will conduct research on water-related topics such as water pollution, or water scarcity.
- **Sound recording:** Students will record their own water sounds using recording equipment. This could involve field trips to local rivers, lakes, or coastlines.
- **Composition:** Students will compose original musical pieces inspired by their research and sound recordings. This could involve experimenting with different musical styles and incorporating electronic music elements.
- **Music technology:** Students will use music technology software to create and manipulate their compositions, exploring digital audio workstations and music notation software.
- **Performance:** Students will prepare and perform their compositions for the school community, incorporating visual elements or multimedia presentations to enhance the performance.

Links to the music curriculum

- Composition
- Performance
- Music technology
- Aural skills

Cross-curricular links

- **Science:** Water cycle, water pollution, environmental science
- **Geography:** Water resources, hydrological cycle
- **Language:** Research, presentation skills
- **Art:** Multimedia composition, visual arts

Balancing human actions with sustaining marine life (target 6.2)

Students will explore the concept of reducing incidental catches through music composition and performance. By focusing on rhythm and melody, they will learn about the delicate balance between fishing and marine life.

For primary schools

Activities

- **Water literacy and music exploration:**
  - Introduce students to the concept of incidental catches and its impact on marine ecosystems.
  - Explore different types of water sounds (waves, rain, sea creatures) and how they can be represented musically.
  - Experiment with rhythm and melody using percussion instruments and recorders.
- **Composition:**
  - Divide students into groups to compose short musical pieces inspired by different aspects of the project (e.g., a playful melody for dolphins, a rhythmic pattern for waves).

- ○ Combine the individual compositions into a larger piece representing the harmony between humans and marine life.
- **Rehearsals and performance:**
  - ○ Regular rehearsals to refine the composed piece.
  - ○ Incorporate movement and dance to enhance the performance.
  - ○ Organise a school assembly or local community event to showcase the students' work.

Links to the music curriculum

- Composition
- Performance
- Listening
- Aural skills

Cross-curricular links

- **Science:** understanding ecosystems, human impact on the environment
- **Language:** creative writing, storytelling
- **Art and design:** visual representation of marine life

For secondary schools

Activities

- **Research and analysis:** Investigate the scientific and social aspects of incidental catches. Analyse existing music related to environmental issues to identify potential compositional techniques.
- **Composition:** Experiment with different musical styles and genres to convey the project's message. Develop a concept for the musical piece, considering its structure, mood, and intended audience. Utilise advanced compositional techniques (e.g., harmony, counterpoint) to create depth and complexity.
- **Rehearsals and performance:** Conduct in-depth rehearsals to achieve a high performance standard. Consider collaborating with other arts disciplines (e.g., visual arts, drama) for a multidisciplinary presentation. Organise a public concert or online platform to share the music with a wider audience.

Links to the music curriculum

- Composition
- Performance
- Music technology
- Music history

Cross-curricular links

- **Science:** ecology, marine biology, environmental science
- **Geography:** global patterns of resource consumption
- **Media studies:** media representation of environmental issue

Underwater noise pollution (target 10.1)

To develop students' understanding of underwater noise pollution while fostering creativity and musical expression.

For primary schools

Activities

- **Introduction to Underwater Noise:** Discuss the concept of sound and how it travels through different mediums, focusing on water. Explore the importance of a quiet underwater environment for marine life. Listen to recordings of underwater soundscapes (whales, dolphins, fish, etc.) and discuss the atmosphere they create.
- **Composition and Performance:** Students create rhythmic patterns and melodies inspired by water-related sounds (rain, waves, bubbles, etc.). Introduce percussion instruments to represent water droplets, bubbles, and underwater creatures. Encourage the use of vocal sounds to mimic marine life or underwater ambiance. Compose short pieces focusing on peaceful and harmonious sounds, avoiding loud or harsh noises. Perform compositions to their classmates, explaining the inspiration behind their music.
- **Creative Expression:** Create visual representations of their compositions (drawings, paintings, or collages). Write short stories or poems about the underwater world, linking them to their music.

Links to the music curriculum

- Composition
- Performance
- Listening
- Creativity

Cross-curricular links

- **Science:** Understanding sound, habitats, and ecosystems.
- **Art and Design:** Visual representation of musical ideas.
- **Literacy:** Writing and storytelling.

For secondary schools

Activities

- **Research and Analysis:** Investigate the impact of human activities on underwater noise pollution (shipping, oil exploration, sonar). Analyse scientific data on noise levels and their effects on marine life. Discuss the concept of acoustic ecology and the importance of sound balance in ecosystems.
- **Composition and Production:** Experiment with different musical styles and genres to represent the underwater world. Compose original pieces that reflect the peaceful underwater environment and contrast it with the disruptive effects of noise pollution. Utilise technology to create soundscapes and electronic music, exploring various sound effects and textures. Collaborate in group compositions, combining individual contributions to create a larger piece.

- **Public Awareness:** Perform compositions at a school assembly or local community event. Create informative displays or presentations about underwater noise pollution. Develop a social media campaign to raise awareness about the issue.

Links to the music curriculum

- Composition
- Performance
- Music technology
- Music theory

Cross-curricular links

- **Science:** Ecology, environmental science, data analysis
- **Geography:** Human impact on the environment
- **Media Studies:** Creating media products for public awareness

Literature

Water and its importance to life (target 1.1)

Students will explore the multifaceted nature of water through creative writing and collaborative projects. This project aims to foster a deep appreciation for water, its importance for life, and the responsibility we have to protect it.

For primary schools

Activities

- **Water exploration:** Students will engage in sensory exploration of water through activities such as water play, observing water in different forms (rain, rivers, oceans), and conducting simple experiments.
- **Creative writing:** Based on their experiences, students will write poems, short stories, or diary entries about water. These could explore topics like the water cycle, water creatures, or personal experiences with water.
- **Collaborative storytelling:** Students will work in groups to create stories or poems about water, fostering cooperation and sharing ideas.
- **Water conservation:** Introduce the concept of water conservation through discussions, role-plays, and creative writing prompts. Students could write about water-saving superheroes or create public service announcements.
- **Water art:** Students can express their understanding of water through visual arts, such as painting, drawing, or sculpture. These can be integrated into the final compilation.

Links to the literature curriculum

- Literacy skills
- Creative writing
- Speaking
- Listening

Cross-curricular links

- **Science:** Water cycle, properties of water, living things and their habitat
- **Art and Design:** Creative expression, visual communication

For secondary schools

Activities

- **Water research:** Students will research various water-related topics, such as water scarcity, pollution, or water management. They can use a variety of sources, including books, articles, and online resources.
- **Creative writing:** Based on their research, students will write short stories, poems, or essays exploring themes such as environmental impact, social justice, or personal reflections on water.
- **Genre exploration:** Students can experiment with different literary genres, such as science fiction, dystopian, or historical fiction, to convey their messages about water.
- **Public awareness campaign:** Students can create campaigns to raise awareness about water issues, using a variety of media (e.g., social media, presentations, posters) to engage their peers.
- **Water-related debates:** Students will participate in debates or discussions on water-related topics, developing critical thinking and argumentation skills.

Links to the literature curriculum

- Literary analysis
- Creative writing
- Research
- Argumentation

Cross-curricular links

- **Geography:** Water cycle, water resources, environmental issues
- **Science:** Water chemistry, water pollution, ecosystems
- **Citizenship:** Global issues, environmental responsibility

Narratives of the Sea: Exploring Maritime Themes in Literature (target 17.5)

Students will embark on an imaginative journey exploring the world of water through literature. They will delve into maritime tales, analyse character development, and understand the importance of the oceans. Through creative writing and artistic expression, students will develop a deep appreciation for the marine environment.

For primary schools

Activities

- **Read and discuss:** Explore a variety of maritime literature, such as children's stories, poems, and picture books. Discuss characters, settings, and themes related to water.
- **Vocabulary building:** Introduce nautical terms and expand students' vocabulary related to the sea, ships, and marine life.

- **Creative writing:** Encourage students to write their own poems, stories, or plays based on maritime themes. They can imagine being a sailor, a fish, or a sea creature.
- **Art and craft:** Create visual representations of their literary work through drawing, painting, or collage.
- **Field trip (optional):** Visit a local beach, aquarium, or maritime museum to enhance their understanding of the marine environment.

Links to the literature curriculum

- Reading comprehension
- Writing
- Speaking and listening
- Vocabulary development

Cross-curricular links

- **Science:** Understanding the water cycle, marine life, and environmental issues
- **Art and design:** Visual representation of ideas and emotions

For secondary schools

Activities

- **Literary analysis:** Study a range of maritime texts, including novels, poetry, and drama. Analyse themes, characterisation, and literary devices.
- **Historical context:** Explore the historical and cultural context of maritime literature, examining the impact of exploration, trade, and colonisation on ocean-based societies.
- **Environmental issues:** Investigate contemporary maritime challenges, such as pollution, climate, and overfishing. Analyse how these issues are represented in literature.
- **Creative response:** Write original pieces of creative writing inspired by maritime themes. Students can choose from a variety of genres, including poetry, short stories, or scripts.
- **Research project:** Conduct research on a specific maritime topic, such as piracy, shipwrecks, or oceanography. Present findings in a written or oral format.

Links to the literature curriculum

- Literary analysis
- Creative writing
- Research
- Presentation skills

Cross-curricular links

- **History:** Exploration, trade, and colonisation.
- **Geography:** Oceans, and environmental issues.
- **Science:** Oceanography, marine biology.

Science

Exploring the properties of water (target 1.1)

Students will embark on a scientific exploration of water, investigating its properties, the water cycle, and the importance of water conservation. Through hands-on experiments and creative activities, students will develop a deep understanding of water's role in our lives and environment.

For primary schools

Activities

- **Water cycle experiment:** Observe the water cycle in action by setting up a mini-ecosystem in a clear container. Students can add soil, plants, and water, and monitor the evaporation, condensation, and precipitation processes over time.
- **Water filtration challenge:** Construct simple water filters using materials like sand, gravel, and cloth. Test the effectiveness of different filter designs by filtering muddy water and analysing the results.
- **Water conservation campaign:** Create informative posters and short videos about water-saving tips for home and school. Students can conduct water audits in their classrooms and suggest ways to reduce water consumption.
- **Water stories:** Write and illustrate stories or poems about water, exploring themes of its importance, scarcity, and pollution.
- **Field trip (optional):** Visit a local water treatment plant or a natural body of water to learn about water sources and management.

Resources

- Clear containers, soil, plants, water
- Sand, gravel, cloth, muddy water
- Art supplies (poster paper, markers, crayons)
- Digital devices (for video creation)
- Water-related books and resources

Links to the science curriculum

- Properties of matter
- States of matter
- Ecosystems
- Environmental science

Cross-curricular links

- **Language:** Literacy skills (reading, writing, speaking, listening), creative writing
- **Art and design:** Visual communication, creative expression
- **Citizenship:** Environmental responsibility, community engagement

For secondary schools

Activities

- **Water quality analysis:** Collect water samples from different sources (e.g., river, tap, pond) and test for pH, temperature, turbidity, and dissolved oxygen levels. Analyse data to assess water quality and identify potential pollution sources.
- **Hydropower investigation:** Design and build small-scale hydropower models to explore the potential of renewable energy from water. Investigate the environmental impacts and economic feasibility of hydropower.
- **Water scarcity research:** Research water scarcity issues in different regions of the world, analysing causes, consequences, and potential solutions. Develop proposals for sustainable water management strategies.
- **Water-related literature analysis:** Read and analyse literary works that explore themes of water, such as "Water for Elephants" or "The Water-Dwelling Place." Discuss the role of water in the texts and its broader cultural significance.
- **Water conservation campaign:** Develop and implement a water conservation campaign within the school community, using data analysis and persuasive communication to promote water-saving behaviours.

Resources needed

- Water quality testing kits, laboratory equipment (such as www.freshwaterwatch.org)
- Materials for hydropower model construction (cardboard, tape, glue, scissors)
- Access to scientific databases and research materials
- Literary texts
- Digital media for campaign creation

Links to the science curriculum

- Chemistry
- Physics
- Biology
- Environmental science

Cross-curricular links

- **Geography:** Water cycle, water resources, environmental issues
- **Mathematics:** Data analysis, statistics
- **Language:** Literature analysis, persuasive writing
- **Citizenship:** Global awareness, environmental responsibility

Oceanography Quest (target 1.2)

Pupils will become ocean explorers, discovering the wonders of the underwater world through hands-on experiments and creative activities. They will learn about marine life, water cycles, and the importance of protecting our oceans. The project culminates in an ocean-themed event where pupils share their knowledge with the school community.

For primary schools

Activities

- **Ocean experiments:** Conduct simple experiments to explore water properties (e.g., density, buoyancy, surface tension).

- **Marine life exploration:** Learn about different ocean creatures, their habitats, and adaptations.
- **Water cycle model:** Create a visual representation of the water cycle.
- **Ocean-themed art:** Design posters, create models, or write stories about the ocean.
- **Ocean day:** Organise an ocean-themed event with stalls, games, and information sharing.

Resources

- Basic science equipment (e.g., beakers, measuring cylinders).
- Art materials (paint, paper, cardboard).
- Books and resources about the ocean.

Links to the science curriculum

- Water
- Materials
- Living things

Cross-curricular links

- **Art and Design:** Creative expression, communication.
- **Geography:** Maps, location, environment.

For secondary schools

Activities

- **Oceanographic research:** Conduct experiments to investigate topics like salinity, pH, and water density.
- **Marine biology:** Study different marine ecosystems and the challenges they face.
- **Data collection and analysis:** Collect and analyse data related to oceanographic phenomena (e.g., water temperature, wave patterns).
- **Project design and implementation:** Develop and carry out individual or group research projects.
- **Ocean science fair:** Organise a science fair to showcase findings, engage with the public, and promote ocean conservation.

Resources

- Laboratory equipment (e.g., microscopes, pH metres, data loggers).
- Access to scientific databases and resources.
- Presentation materials.

Links to the science curriculum

- Biology
- Chemistry
- Physics

Cross-curricular links

- **Mathematics:** Data analysis, statistics.

- **Design and Technology:** Research, design, evaluation.
- **Citizenship:** Community engagement, problem-solving.

Digital Ocean Explorer (target 2.1)

Pupils will become water detectives, exploring their local water environment and creating a digital representation of it. They will learn about water cycles, water quality, and the importance of protecting our water resources.

For primary schools

Activities

- **Water exploration:** Explore local water bodies (e.g., pond, river, stream) and observe the water and its inhabitants.
- **Water testing:** Conduct simple water tests (e.g., temperature, clarity) and record observations.
- **Digital representation:** Create a simple map or model of the local water environment.
- **Water cycle art:** Design a visual representation of the water cycle.
- **Water conservation:** Discuss ways to save water and protect water resources.
- **Share findings:** Present their findings to the school community through presentations, posters, or displays.

Resources

- Simple water testing kits.
- Maps of the local area.
- Art materials (paper, crayons, markers).
- Digital devices (tablets, computers) for data recording and mapping.

Links to the science curriculum

- Water
- Living things
- Habitats

Cross-curricular links

- **Geography:** Maps, local environment.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Data collection:** Use citizen science tools (e.g., FreshWater Watch kits) to collect data on water quality parameters (temperature, pH, dissolved oxygen, etc.).
- **Data analysis:** Use software to analyse collected data, identify trends, and patterns.
- **Digital twin creation:** Develop a simple digital model of the water body, incorporating collected data.
- **Modelling and simulation:** Explore different modelling techniques to simulate water flow and quality changes.

- **Environmental impact assessment:** Assess the impact of human activities on the water body.
- **Communication of findings:** Create presentations, reports, or interactive displays to share results with the school community.

Resources

- FreshWater Watch kits or similar water quality testing equipment.
- Data analysis software (e.g., spreadsheets, statistical software).
- Geographic Information Systems (GIS) software (optional).
- Digital devices (computers, tablets) for data collection and analysis.

Links to the science curriculum

- Biology
- Chemistry
- Physics

Cross-curricular links

- **Mathematics:** Data analysis, statistics, modelling.
- **Computer Science:** Data handling, programming (optional).
- **Geography:** Geographical information systems, environmental management.

Data Dive Expedition (target 2.2)

Pupils will become water explorers, investigating their local water environment and contributing to scientific knowledge. They will learn about water quality, the importance of data collection, and how to share information with others.

For primary schools

Activities

- **Water exploration:** Explore a local water body (e.g., pond, river) and observe its characteristics.
- **Water quality testing:** Conduct simple water tests (e.g., temperature, clarity) and record findings.
- **Data collection:** Use simple data sheets to record observations.
- **Sharing findings:** Create visual representations of their findings (e.g., drawings, graphs).
- **Water protection:** Discuss the importance of clean water and how to protect water resources.

Resources

- Simple water testing kits.
- Data recording sheets.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Water

- Living things
- Data handling

Cross-curricular links

- **Geography:** Local environment, maps.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Water body selection:** Choose a local water body for investigation (e.g., river, lake).
- **Data collection methods:** Explore different methods of water quality monitoring (e.g., chemical tests, biological indicators).
- **Data collection:** Collect data on water quality parameters (e.g., temperature, pH, dissolved oxygen).
- **Data analysis:** Use statistical software to analyse collected data and identify trends.
- **Data standardisation:** Learn about data formats and standards for sharing information.
- **Data contribution:** Prepare data for submission to a centralised database (e.g., European Open Science Cloud).
- **Presentation of findings:** Create presentations or reports to communicate results to the school community and beyond.

Resources

- Water quality testing equipment.
- Data collection sheets and forms.
- Statistical software (e.g., spreadsheets, statistical packages).
- Access to the internet for data submission.

Links to the science curriculum

- Biology
- Chemistry
- Physics

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Computer Science:** Data handling, programming (optional).
- **Geography:** Geographical information systems, environmental management.

Ocean Forecast Explorers (target 2.3)

Pupils will become ocean forecasters, learning about how scientists predict weather and sea conditions. They will explore the importance of understanding the ocean and how it affects our lives.

For primary schools

Activities

- **Ocean observation:** Observe the sea or a large body of water, noting weather conditions and wave patterns.
- **Weather watchers:** Learn about different types of weather and how they affect the sea.
- **Ocean models:** Create simple models to demonstrate how waves are formed and how wind affects the water.
- **Ocean predictions:** Make predictions about the weather and sea conditions based on observations.
- **Ocean heroes:** Discuss the importance of understanding the ocean for protecting our coasts and marine life.

Resources

- Weather charts and information.
- Materials for building models (e.g., cardboard, plastic containers).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Weather
- Water
- Forces

Cross-curricular links

- **Geography:** Maps, weather patterns.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Ocean data collection:** Research different methods of collecting ocean data (e.g., satellites, buoys, ships).
- **Ocean modelling:** Learn about computer models used to simulate ocean behaviour.
- **Data analysis:** Explore how data is used to create forecasts and predictions.
- **Case studies:** Investigate real-world examples of how ocean forecasting has been used to address challenges.
- **Communication:** Create informative materials (e.g., presentations, infographics) to explain ocean forecasting to a wider audience.

Resources

- Access to oceanographic data and models.
- Computer software for data analysis and visualisation.
- Presentation software.

Links to the science curriculum

- Physics
- Computer science

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Geography:** Coastal geography, climate change.
- **Design and Technology:** Information technology, communication.

Seabed Cartographers (target 2.4)

Pupils will become seabed explorers, discovering the hidden world beneath the waves. They will learn about different tools used to map the seabed, the importance of knowing about the ocean floor, and how to share their findings.

For primary schools

Activities

- **Ocean exploration:** Discuss different types of marine life and their habitats.
- **Seabed mapping:** Create a simple map of the classroom floor to represent a seabed, using different materials to show different features.
- **Treasure hunt:** Play a game where pupils use clues to find hidden objects on a map, simulating a seabed exploration.
- **Ocean protection:** Discuss the importance of knowing about the seabed for protecting marine life and our coasts.
- **Sharing findings:** Create a class display of seabed maps and discoveries.

Resources

- Maps, globes, or pictures of the ocean floor.
- Different materials for creating seabed models (e.g., sand, pebbles, fabric).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats

Cross-curricular links

- **Geography:** Maps, location, environment.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Seabed exploration:** Research different methods of seabed mapping (e.g., sonar, multibeam echo sounders).
- **Data collection and analysis:** Learn about data processing techniques used to create seabed maps.
- **Map interpretation:** Analyse existing seabed maps to identify features and patterns.
- **Model creation:** Create a digital or physical model of a seabed area based on collected data.
- **Communication of findings:** Develop presentations or reports to explain the importance of seabed mapping and share their findings.

Resources

- Access to seabed mapping data and images.
- Geographical Information Systems (GIS) software (optional).
- Mapping and modelling tools.
- Presentation software.

Links to the science curriculum

- Geology
- Physics

Cross-curricular links

- Geography: Geographical information systems, marine geography.
- Mathematics: Data analysis, statistics.
- Design and Technology: Data handling, modelling.

DNA Detectives (target 2.5)

Pupils will become marine detectives, discovering the hidden world of DNA. They will learn about different sea creatures and how scientists use DNA to understand them better.

For primary schools

Activities

- **Ocean exploration:** Discuss different types of marine life and their habitats.
- **DNA basics:** Introduce the concept of DNA as the building block of life.
- **DNA extraction simulation:** Conduct a simple experiment to simulate DNA extraction from fruit.
- **Creature classification:** Learn how DNA can help scientists classify different organisms.
- **Ocean protection:** Discuss the importance of understanding marine life for protecting our oceans.

Resources

- Pictures and information about marine life.
- Materials for DNA extraction simulation (e.g., fruit, salt, alcohol).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Classification
- Materials

Cross-curricular links

- **Geography:** Oceans, habitats.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **DNA sequencing basics:** Learn about the principles of DNA sequencing and different sequencing technologies.
- **Marine biodiversity:** Explore the concept of marine biodiversity and the importance of understanding genetic diversity.
- **Data analysis:** Analyse DNA sequence data to identify different species and genetic relationships.
- **Bioinformatics:** Learn about bioinformatics tools used to analyse DNA data.
- **Conservation implications:** Discuss how DNA sequencing can be used to inform conservation efforts.
- **Communication of findings:** Create presentations or reports to communicate their findings and the importance of DNA sequencing.

Resources

- Access to DNA sequence data (e.g., online databases).
- Bioinformatics software (optional).
- Laboratory equipment for DNA extraction (if applicable).

Links to the science curriculum

- Biology
- Genetics
- Ecology

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Computer Science:** Bioinformatics, data handling.
- **Geography:** Marine environments, conservation.

Eco-Guardians Simulation (target 3.1)

Pupils will become marine protectors, learning about the importance of looking after our oceans. They will explore different marine habitats and create their own marine protected area (MPA).

For Primary Schools

Activities

- **Ocean exploration:** Learn about different marine animals and plants.
- **Marine habitat creation:** Build a model of a marine habitat using recycled materials.
- **MPA design:** Create rules for protecting the marine habitat, considering factors like fishing, pollution, and tourism.
- **Community involvement:** Discuss how to involve the local community in protecting the ocean.
- **Sharing knowledge:** Present their MPA to the class and explain the importance of marine conservation.

Resources

- Pictures and information about marine life.
- Recycled materials for building marine habitats.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Ecosystems

Cross-curricular links

- **Geography:** Maps, environment.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Community involvement, decision making.

For secondary schools

Activities

- **Marine ecosystem research:** Investigate the biodiversity and ecological importance of the chosen MPA location.
- **Interested parties and actors analysis:** Identify key interested parties and actors (e.g., fishermen, tourists, conservationists) and their interests.
- **MPA design:** Develop a management plan for the MPA, including zoning, regulations, and monitoring strategies.
- **Economic impact assessment:** Consider the economic implications of the MPA on local communities.
- **Community engagement:** Develop strategies for involving the local community in MPA management and education.
- **Presentation of findings:** Create presentations or reports to communicate the MPA management plan.

Resources

- Geographic Information Systems (GIS) software (optional).
- Data on marine ecosystems and human activities.
- Research papers on marine conservation.
- Presentation software.

Links to the science curriculum

- Ecology
- Marine biology
- Data analysis

Cross-curricular links

- **Geography:** Environmental management, coastal zones, human-environment interaction..
- **Business Studies:** Economics, stakeholder analysis.

- **Citizenship:** Community engagement, decision making.

Aquatic Ecosystem Balance (target 3.2)

Pupils will become water detectives, exploring how water is used and the importance of protecting our waterways. They will learn about the impact of taking too much water from rivers and lakes on the plants and animals that live there.

For primary schools

Activities

- **Water exploration:** Visit a local pond or river to observe the plants and animals living there.
- **Water experiment:** Create a mini-ecosystem in a jar to simulate a pond environment.
- **Water reduction:** Discuss ways to save water at home and school.
- **Creative expression:** Design posters or stories about water conservation.

Resources

- Jars, soil, plants, and water for mini-ecosystems.
- Magnifying glasses for observation.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Water

Cross-curricular links

- **Geography:** Local environment.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Water body selection:** Choose a local river or stream for study.
- **Data collection:** Collect data on water flow, water quality, and biodiversity.
- **Experimentation:** Conduct experiments to simulate different levels of water abstraction and observe the effects on aquatic organisms.
- **Data analysis:** Analyse collected data to identify patterns and trends.
- **Sustainable solutions:** Develop potential solutions to reduce water abstraction while protecting aquatic ecosystems.
- **Communication of findings:** Create presentations or reports to share findings and recommendations.

Resources

- Water quality testing kits.

- Data recording equipment.
- Laboratory equipment (for experiments).
- Statistical software (optional).
- Presentation software.

Links to the science curriculum

- Biology
- Chemistry
- Ecology

Cross-curricular links

- **Geography:** Hydrology, environmental management.
- **Mathematics:** Data analysis, statistics.
- **Design and Technology:** Data handling, modelling.

Habitat Restoration Explorers (target 4.1)

Pupils will become ocean gardeners, learning about how to help restore underwater habitats. They will explore different marine life and understand the importance of creating healthy living spaces for them.

For primary schools

Activities

- **Ocean exploration:** Learn about different marine creatures and their homes.
- **Habitat creation:** Build a model of an underwater habitat using recycled materials.
- **Plant and animal life:** Discuss the importance of plants and animals for a healthy ocean.
- **Ocean protection:** Understand the impact of human activities on the ocean and how to protect it.
- **Sharing knowledge:** Create posters or stories about ocean habitats and their restoration.

Resources

- Pictures and information about marine life.
- Recycled materials for building habitats.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Ecosystems

Cross-curricular links

- **Geography:** Maps, environment.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Marine ecosystem research:** Study the types of seabed habitats and the threats they face.
- **Restoration techniques:** Research different methods of seabed restoration (e.g., artificial reefs, oyster reef restoration, seagrass planting).
- **Project planning:** Develop a restoration project for a local coastal area, considering factors such as budget, resources, and environmental impact.
- **Data collection:** Collect data on the existing seabed habitat to inform restoration efforts.
- **Monitoring and evaluation:** Design a monitoring plan to assess the success of the restoration project.
- **Communication of findings:** Create presentations or reports to share the project with the community.

Resources

- Scientific papers and reports on seabed restoration.
- Geographic Information Systems (GIS) software (optional).
- Data collection equipment (e.g., underwater cameras, water quality testing kits).
- Presentation software.

Links to the science curriculum

- Biology
- Ecology
- Geology

Cross-curricular links

- **Geography:** Coastal management, environmental management.
- **Mathematics:** Data analysis, statistics.
- **Design and Technology:** Project planning, evaluation.

Resilient Ecosystem Explorations (target 4.2)

Pupils will become coastal protectors, learning about how nature can help us stay safe from floods and storms. They will explore different ways to protect our coastlines and understand the importance of looking after our environment.

For primary schools

Activities

- **Coastal exploration:** Visit a local beach or coastline to observe the natural features.
- **Nature's defences:** Learn about different natural features that protect the coast (e.g., sand dunes, salt marshes).
- **Model building:** Create a model coastline and experiment with different ways to protect it from waves.

- **Community action:** Discuss ways to help protect the coast, such as litter picking or planting trees.
- **Sharing knowledge:** Create posters or stories about coastal protection.

Resources

- Pictures and information about coastlines and coastal defences.
- Materials for building coastline models (e.g., sand, cardboard).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Habitats
- Weather
- Forces

Cross-curricular links

- **Geography:** Maps, coastal landscapes.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Community involvement, environmental awareness.

For secondary schools

Activities

- **Coastal ecosystem research:** Study the role of coastal ecosystems (e.g., wetlands, mangroves) in protecting coastlines.
- **Data collection:** Gather data on coastal erosion, flooding, and sea level rise in a local area.
- **Nature-based solutions:** Research different nature-based solutions (e.g., beach nourishment, dune restoration, reforestation).
- **Cost-benefit analysis:** Evaluate the economic and environmental impacts of different solutions.
- **Project design:** Develop a proposal for a nature-based solution for a specific coastal location.
- **Community engagement:** Consider the needs and perspectives of local communities in project planning.

Resources

- Scientific papers and reports on coastal protection.
- Geographic Information Systems (GIS) software (optional).
- Data on coastal erosion, flooding, and sea level rise.
- Presentation software.

Links to the science curriculum

- Biology
- Ecology

Cross-curricular links

- **Mathematics:** Data analysis, modelling.
- **Geography:** Coastal geography, environmental management.
- **Business Studies:** Cost-benefit analysis, project management.
- **Citizenship:** Community engagement, sustainability.

River Restoration Lab (target 5.1)

Pupils will become river detectives, exploring the life in a local river and understanding how dams can affect it. They will learn about the importance of healthy rivers and how to help restore them.

For primary schools

Activities

- **River exploration:** Visit a local river to observe the plants and animals living there.
- **Dam impact:** Discuss how dams can block fish from swimming upstream and change the river environment.
- **River model:** Create a simple model of a river with and without a dam to show the difference.
- **River restoration:** Explore ways to help rivers recover after a dam is removed, such as planting trees.
- **Sharing knowledge:** Create posters or stories about river life and dam removal.

Resources

- Pictures and information about river animals and plants.
- Materials for building river models (e.g., sand, water, small toys).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Water

Cross-curricular links

- **Geography:** Rivers, landscapes.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **River selection:** Choose a local river with a dam for study.
- **Data collection:** Collect data on water quality, sediment levels, and aquatic life before and after dam removal (if applicable).
- **Experimentation:** Conduct experiments to simulate the effects of dam removal on water flow and sediment transport.
- **Data analysis:** Analyse collected data to identify trends and patterns.
- **River restoration planning:** Develop a river restoration plan based on findings.

- **Community engagement:** Explore ways to involve the local community in river restoration efforts.
- **Communication of findings:** Create presentations or reports to share results and recommendations.

Resources

- Water quality testing kits.
- Sediment sampling equipment.
- Data recording sheets.
- Statistical software (optional).
- Presentation software.

Links to the science curriculum

- Biology
- Chemistry
- Physics

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Geography:** Hydrology, environmental management.
- **Design and Technology:** Data handling, modelling.

Aquatic Ecosystem Renaissance (target 5.2)

Pupils will become river detectives, exploring how rivers change over time. They will learn about the importance of healthy rivers and how to help protect them.

For primary schools

Activities

- **River exploration:** Visit a local river and observe the plants and animals living there.
- **River changes:** Discuss how rivers can change due to human activities.
- **River restoration:** Learn about ways to help restore a river, such as planting trees or cleaning up litter.
- **Creative expression:** Design posters or stories about river care.

Resources

- Pictures and information about river animals and plants.
- Litter picking equipment.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Water

Cross-curricular links

- **Geography:** Rivers, landscapes.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Community involvement, environmental awareness.

For secondary schools

Activities

- **River selection:** Choose a restored river for study.
- **Data collection:** Use FreshWater Watch kits and other methods to collect data on water quality, sediment, and aquatic life.
- **Hydro-morphological assessment:** Evaluate changes in river shape, flow, and sediment transport.
- **Biodiversity monitoring:** Assess changes in plant and animal species diversity.
- **Data analysis:** Use statistical software to analyse collected data and identify trends.
- **Communication of findings:** Create presentations or reports to share results and recommendations.

Resources

- FreshWater Watch kits or similar water quality testing equipment.
- Data recording sheets.
- Statistical software (optional).
- Digital cameras for recording river conditions.
- Presentation software.

Links to the science curriculum

- Biology
- Chemistry

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Geography:** Hydrology, environmental management.
- **Computer Science:** Data handling (optional).
- **Citizenship:** Community engagement, environmental awareness.

Ocean Conservation Research (target 6.1)

Students will investigate the impact of destructive fishing practices on seabed habitats, exploring alternative fishing methods and monitoring their effectiveness. They will develop a deeper understanding of marine ecosystems and the importance of sustainable fishing.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures and where they live.

- **Fishing methods:** Discuss different ways to catch fish and how some methods can harm the seabed.
- **Seabed models:** Create models of the seabed with and without damage.
- **Ocean protection:** Explore ways to protect the seabed, such as creating marine protected areas.
- **Sharing knowledge:** Create posters or stories about seabed life and protection.

Resources

- Pictures and information about seabed creatures.
- Materials for building seabed models (e.g., sand, pebbles, plastic animals).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Ecosystems

Cross-curricular links

- **Geography:** Maps, oceans.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, community involvement.

For secondary schools

Activities

- **Seabed research:** Explore different types of seabed habitats and their ecological importance.
- **Fishing methods:** Research various fishing techniques and their impact on the seabed.
- **Data collection:** Gather data on seabed conditions, fish populations, and fishing activities.
- **Experimentation:** Conduct simulations or experiments to test different fishing gear.
- **Monitoring and evaluation:** Develop a monitoring plan to assess the effectiveness of alternative fishing methods.
- **Communication of findings:** Create presentations, reports, or infographics to share findings and recommendations.

Resources

- Scientific papers and reports on seabed habitats and fishing practices.
- Data collection equipment (e.g., underwater cameras, sediment samplers).
- Geographical Information Systems (GIS) software (optional).
- Statistical software (optional).
- Presentation software.

Links to the science curriculum

- Biology
- Ecology

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Geography:** Marine environments, coastal management.
- **Design and Technology:** Data handling, modelling.
- **Citizenship:** Environmental awareness, sustainable development.

Ecosystem Health Monitoring (target 6.2)

Pupils will become ocean guardians, learning about the importance of protecting marine life. They will explore how reducing accidental catches can help keep our oceans healthy.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures and their habitats.
- **Fishing and the sea:** Discuss how fishing can sometimes harm sea animals.
- **Protecting our oceans:** Explore ways to reduce accidental catches, such as using different fishing gear.
- **Monitoring marine life:** Observe changes in the number of different sea creatures over time.
- **Sharing knowledge:** Create posters or stories about protecting our oceans.

Resources

- Pictures and information about marine life.
- Simple observation sheets.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Change

Cross-curricular links

- **Geography:** Oceans, maps.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Research and planning:** Research the effects of bycatch on marine ecosystems and design a monitoring plan.
- **Data collection:** Collect data on water quality, biodiversity, and habitat conditions using appropriate methods.
- **Data analysis:** Analyse collected data to identify trends and patterns.

- **Statistical analysis:** Use statistical methods to evaluate the impact of bycatch reduction.
- **Communication of findings:** Create reports, presentations, or infographics to share results.

Resources

- Water quality testing kits.
- Biodiversity monitoring equipment (e.g., underwater cameras, nets).
- Data recording sheets.
- Statistical software (optional).
- Geographic Information Systems (GIS) software (optional).

Links to the science curriculum

- Biology
- Ecology

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Geography:** Marine environments, environmental management.
- **Computer Science:** Data handling, analysis (optional).
- **Citizenship:** Environmental awareness, scientific inquiry.

Smart Surveillance Technologies (target 6.3)

Pupils will become fish detectives, learning about how to protect our oceans and the creatures that live in them. They will understand the importance of looking after fish and how technology can help us do this.

For primary schools

Activities

- **Ocean exploration:** Learn about different types of fish and their habitats.
- **Fishing and the sea:** Discuss how fishing can affect ocean life.
- **Technology helpers:** Learn about cameras and how they can help us watch over fish.
- **Creative expression:** Design posters or stories about protecting fish and using technology.
- **Sharing knowledge:** Present their findings to the class about the importance of looking after our oceans.

Resources

- Pictures and information about fish and the ocean.
- Simple cameras or video recorders.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things

- Habitats

Cross-curricular links

- **Geography:** Oceans, maps.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Fisheries management:** Research the challenges faced by the fishing industry and the role of technology in addressing them.
- **CCTV and monitoring systems:** Explore the different types of surveillance technology used in fisheries.
- **Data analysis:** Analyse data on fishing activities, catch levels, and illegal fishing.
- **Case studies:** Examine case studies of fisheries that have implemented CCTV and other monitoring systems.
- **Evaluation:** Assess the effectiveness of these systems in preventing illegal fishing and promoting sustainable practices.
- **Communication of findings:** Create presentations or reports to communicate findings and recommendations.

Resources

- Access to data on fishing activities and surveillance systems.
- Video analysis software.
- Statistical software (optional).
- Presentation software.

Links to the science curriculum

- Data analysis
- Technology
- Environmental science

Cross-curricular links

- **Geography:** Economic geography, environmental management.
- **Mathematics:** Data analysis, statistics.
- **Computer Science:** Data handling, analysis.
- **Citizenship:** Global citizenship, sustainable development.

Plastic Material Innovation (target 7.1)

Pupils will become plastic detectives, exploring the world of plastics and their impact on our planet. They will learn about different types of plastics, their uses, and how to reduce plastic waste.

For primary schools

Activities

- **Plastic Hunt:** Explore the school environment to find different plastic items.
- **Plastic Sorting:** Sort plastics into different categories (e.g., bottles, bags, food packaging).
- **Plastic Life Cycle:** Discuss where plastics come from and where they go after use.
- **Plastic Alternatives:** Explore reusable alternatives to plastic items (e.g., water bottles, shopping bags).
- **Creative Expression:** Design posters or stories about reducing plastic waste.

Resources

- A variety of plastic items for sorting.
- Information about different types of plastics.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Recycling
- Materials

Cross-curricular links

- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, responsible consumption.

For secondary schools

Activities

- **Plastic analysis:** Research the different types of plastics and their properties.
- **Plastic production:** Explore the process of plastic production and its environmental impact.
- **Plastic recycling:** Investigate the recycling process and its limitations.
- **Experimentation:** Conduct experiments to test the strength, durability, and biodegradability of different plastics.
- **Design challenge:** Design a reusable or recyclable product made from sustainable materials.
- **Communication of findings:** Create presentations, reports, or models to share findings and designs.

Resources

- Samples of different types of plastics.
- Laboratory equipment for testing plastic properties (e.g., tensile strength tester).
- Information on plastic production and recycling processes.
- Presentation software.

Links to the science curriculum

- Chemistry
- Environmental science
- Materials

Cross-curricular links

- **Design and Technology:** Product design, materials technology.
- **Mathematics:** Data analysis, measurement.
- **Citizenship:** Environmental awareness, sustainable development..

Environmental Impact Assessment (target 7.2)

Pupils will become plastic detectives, exploring the impact of plastics on our environment. They will learn about reducing, reusing, and recycling plastics to protect our planet.

For primary schools

Activities

- **Plastic hunt:** Explore the school grounds to find plastic items.
- **Plastic sorting:** Sort plastics into different types (e.g., bottles, bags, food packaging).
- **Plastic alternatives:** Discuss ways to reduce plastic use (e.g., using reusable water bottles, shopping bags).
- **Creative expression:** Design posters or stories about reducing plastic waste.

Resources

- A variety of plastic items for sorting.
- Information about plastics and recycling.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Recycling
- Materials

Cross-curricular links

- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, responsible consumption.

For secondary schools

Activities

- **Baseline data collection:** Gather data on plastic pollution, biodiversity, and water quality before the ban.
- **Monitoring and data collection:** Continue to monitor these factors after the ban to assess changes.
- **Data analysis:** Analyse collected data to identify trends and patterns.
- **Environmental impact assessment:** Evaluate the overall impact of the plastic ban on the environment.

- **Communication of findings:** Create presentations, reports, or infographics to share results and recommendations.

Resources

- Water quality testing kits (optional).
- Biodiversity monitoring equipment (e.g., litter pickers, quadrats).
- Data recording sheets.
- Statistical software (optional).
- Presentation software.

Links to the science curriculum

- Biology
- Chemistry
- Ecology

Cross-curricular links

- **Geography:** Environmental management, pollution.
- **Mathematics:** Data analysis, statistics.
- **Citizenship:** Environmental awareness, sustainable development.

Nutrient Cycling Innovations (target 8.1)

Pupils will become soil superheroes, learning about how to keep our soil healthy. They will explore the importance of nutrients for plants and how to recycle them.

For primary schools

Activities

- **Soil exploration:** Investigate different types of soil and what lives in it.
- **Plant growth:** Observe how plants grow and what they need to thrive.
- **Composting fun:** Create a mini-compost bin and observe the process.
- **Nutrient cycle:** Learn about how nutrients move between plants, soil, and water.
- **Sharing knowledge:** Create posters or stories about soil care.

Resources

- Soil samples, compost materials, and plants.
- Magnifying glasses.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Growth
- Materials

Cross-curricular links

- **Geography:** Soils, environment.

- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Nutrient cycle research:** Explore the nitrogen and phosphorus cycles in ecosystems.
- **Experiment design:** Design experiments to measure nutrient levels in soil, water runoff, and plant tissues.
- **Data collection:** Collect data on nutrient concentrations using appropriate methods.
- **Data analysis:** Analyse data to identify trends and patterns.
- **Nutrient management strategies:** Develop strategies to reduce nutrient loss, such as composting, cover crops, or bioretention.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Nutrient testing kits (e.g., for nitrogen, phosphorus).
- Soil and plant samples.
- Laboratory equipment (e.g., pH metres, conductivity metres).
- Data recording sheets.
- Statistical software (optional).

Links to the science curriculum

- Biology
- Chemistry
- Ecology

Cross-curricular links

- **Geography:** Soils, water quality.
- **Mathematics:** Data analysis, statistics.
- **Design and Technology:** Experimentation, data handling.

Nutrient Management Innovations (target 8.2)

Students will investigate the impact of nutrient management practices on soil and water quality. They will design and conduct experiments to assess the effectiveness of cover crops in reducing nutrient loss.

For primary schools

Activities

- **Soil exploration:** Investigate different types of soil and what lives in it.
- **Plant growth:** Observe how plants grow and what they need to thrive.
- **Cover crops:** Learn about plants that protect the soil (cover crops).
- **Water protection:** Understand how plants help to keep water clean.
- **Creative expression:** Design posters or stories about soil and water care.

Resources

- Soil samples, plants, and containers.
- Watering cans and measuring tools.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Materials

Cross-curricular links

- **Geography:** Soils, water, environment.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- **Nutrient cycle:** Research the nitrogen and phosphorus cycles.
- **Experiment design:** Set up experimental plots with and without cover crops.
- **Data collection:** Collect data on soil nutrient levels, water runoff, and plant growth.
- **Data analysis:** Analyse data to determine the impact of cover crops on nutrient retention.
- **Communication of findings:** Create presentations or reports to share results and recommendations.

Resources

- Soil testing kits.
- Water quality testing kits.
- Plants, seeds, and containers for experimental plots.
- Data recording sheets.
- Statistical software (optional).

Links to the science curriculum

- Biology
- Chemistry
- Ecology

Cross-curricular links

- **Geography:** Soils, water quality, land use.
- **Mathematics:** Data analysis, statistics.
- **Design and Technology:** Experiment design, data collection.

Advanced Wastewater Treatment Innovations (target 8.3)

Pupils will learn about water cleaners, learning about how to make dirty water clean. They will explore different ways to clean water and understand the importance of clean water for plants and animals.

For primary schools

Activities

- **Water exploration:** Investigate different types of water (e.g., tap water, pond water).
- **Water filtration:** Create simple water filters using materials like sand, gravel, and cloth.
- **Water testing:** Observe the water before and after filtration.
- **Water conservation:** Discuss ways to save water and protect water resources.
- **Creative expression:** Design posters or stories about clean water.

Resources

- Different types of water samples.
- Materials for building water filters (e.g., bottles, sand, gravel, cloth).
- Magnifying glasses.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Water
- Materials

Cross-curricular links

- **Geography:** Water cycle, pollution.
- **Art and Design:** Creative expression, communication.

For secondary schools

Activities

- Visit a wastewater treatment plant.
- **Treatment process design:** Research and select appropriate treatment technologies (e.g., membrane filtration, UV disinfection, advanced oxidation).
- **Treatment system construction:** Build a small-scale wastewater treatment system using available materials or equipment.
- **Water quality monitoring:** Collect and analyse water samples before and after treatment to assess the removal of contaminants.
- **Data analysis:** Use statistical methods to evaluate the effectiveness of the treatment system.
- **Communication of findings:** Create reports, presentations, or models to share results.

Resources

- Wastewater samples.

ProBleu - Templates and guidance to develop projects

- Water quality testing kits.
- Materials for building a treatment system (e.g., pumps, filters, UV lamps).
- Laboratory equipment (e.g., pH metres, conductivity metres).
- Data recording sheets.
- Statistical software (optional).

Links to the science curriculum

- Chemistry
- Biology
- Physics

Cross-curricular links

- **Geography:** Water resources, pollution.
- **Mathematics:** Data analysis, statistics.
- **Design and Technology:** Design, engineering, problem-solving.

Marine Water Quality Monitoring (target 8.4)

Students will investigate the impact of ship wastewater on marine environments. They will collect and analyse water samples to assess the effectiveness of the new policy requiring treatment of ship waste on land.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures and their habitats.
- **Boat pollution:** Discuss how boats can pollute the sea with dirty water.
- **Water testing:** Simulate water testing by looking for signs of pollution in water samples.
- **Clean seas:** Understand the importance of clean seas for marine life.
- **Creative expression:** Design posters or stories about protecting the ocean.

Resources

- Pictures and information about marine life.
- Water samples (clean and with added pollutants).
- Magnifying glasses.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Water

Cross-curricular links

- **Geography:** Oceans, pollution.
- **Art and Design:** Creative expression, communication.

- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Water quality parameters:** Research the types of pollutants found in ship waste water.
- **Sampling locations:** Identify suitable locations for water sampling (e.g., near ports, shipping lanes).
- **Data collection:** Collect water samples before and after the policy implementation.
- **Water analysis:** Analyse samples for nutrient levels, pollutants, and microbial content.
- **Data analysis:** Compare water quality data before and after the policy change.
- **Communication of findings:** Create reports, presentations, or infographics to share results.

Resources

- Water sampling equipment.
- Water quality testing kits.
- Laboratory equipment for analysis.
- Data recording sheets.
- Statistical software (optional).
- Geographic Information Systems (GIS) software (optional).

Links to the science curriculum

- Biology
- Chemistry

Cross-curricular links

- **Mathematics:** Data analysis, statistics.
- **Geography:** Oceans, pollution, environmental management.
- **Computer Science:** Data handling, analysis (optional).
- **Citizenship:** Environmental awareness, sustainable development.

Eco-Friendly Ship Technologies (target 9.1)

Students will investigate the application of renewable energy technologies to ships. They will design and model different systems, assessing their potential impact on fuel consumption and emissions.

For primary schools

Activities

- **Ship exploration:** Learn about different types of ships and how they move.
- **Green energy:** Discuss the importance of using clean energy to protect the environment.
- **Wind and solar power:** Explore how wind and sun can be used to power ships.
- **Ship design:** Create models of ships with windmills or solar panels.
- **Sharing knowledge:** Design posters or stories about green ships.

Resources

- Pictures and information about ships.
- Materials for building ship models (e.g., cardboard, paper, sticks).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Energy
- Forces
- Materials

Cross-curricular links

- **Geography:** Transport, environment.
- **Art and Design:** Creative expression, design.

For secondary schools

Activities

- **Ship design and analysis:** Research ship design and energy consumption patterns.
- **Renewable energy technology:** Explore solar and wind power systems for marine applications.
- **System modelling:** Create models or simulations of different energy systems.
- **Environmental impact assessment:** Evaluate the potential environmental impact of the proposed technologies.
- **Economic analysis:** Consider the cost-effectiveness of the proposed systems.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Ship design software (optional).
- Energy modelling software (optional).
- Materials for building ship models (e.g., cardboard, wood).
- Data collection and analysis tools.
- Presentation software.

Links to the science curriculum

- Physics
- Engineering
- Environmental science

Cross-curricular links

- **Mathematics:** Data analysis, modelling.
- **Design and Technology:** Product design, engineering.
- **Geography:** Transport, environment.

Smart Packaging Solutions (target 9.2)

Pupils will become packaging detectives, exploring how to protect products while being kind to the planet. They will learn about different packaging materials and design their own eco-friendly packaging.

For primary schools

Activities

- **Packaging exploration:** Look at different types of packaging and discuss their uses.
- **Packaging problems:** Discuss the problems caused by packaging waste.
- **Eco-friendly design:** Create packaging designs using recycled materials.
- **Testing time:** Test the packaging designs to see how well they protect items.
- **Sharing knowledge:** Create posters or stories about packaging and the environment.

Resources

- A variety of packaging materials (e.g., cardboard, paper, plastic).
- Recycling bins.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Recycling
- Materials

Cross-curricular links

- **Art and Design:** Design, creativity.
- **Citizenship:** Environmental awareness, responsible consumption.

For secondary schools

Activities

- **Packaging analysis:** Research different packaging materials and their environmental impact.
- **Design and prototyping:** Design and create prototypes of eco-friendly packaging materials.
- **Testing and evaluation:** Conduct tests to assess the durability, protection, and recyclability of the packaging.
- **Life cycle assessment:** Evaluate the environmental impact of the packaging materials throughout their lifecycle.
- **Cost-benefit analysis:** Consider the economic viability of the proposed packaging solutions.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- A variety of packaging materials (e.g., cardboard, bioplastics, recycled materials).

- Testing equipment (e.g., compression testers, drop testers).
- Data recording sheets.
- Computer-aided design (CAD) software (optional).
- Presentation software.

Links to the science curriculum

- Chemistry
- Environmental science
- Materials

Cross-curricular links

- **Design and Technology:** Product design, materials technology.
- **Mathematics:** Data analysis, cost-benefit analysis.
- **Business Studies:** Economics, sustainability.

Port Waste Management Systems (target 9.3)

Students will investigate waste management systems in ports, analysing their effectiveness in preventing marine pollution. They will explore different treatment technologies and assess their impact on the environment.

For primary schools

Activities

- **Port exploration:** Discuss the different types of ships that visit ports.
- **Ship waste:** Learn about the different types of waste produced by ships.
- **Waste management:** Explore different ways to manage waste (e.g., recycling, composting).
- **Clean seas:** Understand the importance of clean seas for marine life.
- **Creative expression:** Design posters or stories about clean ports and seas.

Resources

- Pictures and information about ships and ports.
- Different types of waste materials (e.g., paper, plastic, food scraps).
- Recycling bins.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Recycling
- Pollution
- Materials

Cross-curricular links

- **Geography:** Ports, transportation.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Port waste analysis:** Research the types of waste generated by ships.
- **Waste treatment technologies:** Explore different waste treatment methods (e.g., incineration, recycling, composting).
- **Environmental impact assessment:** Evaluate the environmental impact of different waste management options.
- **Data analysis:** Collect and analyse data on waste quantities and treatment efficiency.
- **Cost-benefit analysis:** Compare the costs and benefits of different waste management systems.
- **Communication of findings:** Create presentations or reports to share findings and recommendations.

Resources

- Information on port waste management systems.
- Data on ship waste generation.
- Water quality testing kits (for wastewater analysis).
- Laboratory equipment (for chemical analysis).
- Data analysis software.
- Presentation software.

Links to the science curriculum

- Chemistry
- Biology
- Environmental science

Cross-curricular links

- **Geography:** Ports, transportation, pollution.
- **Mathematics:** Data analysis, cost-benefit analysis.
- **Design and Technology:** Systems design, problem-solving.
- **Business Studies:** Economics, environmental management.

Micro-Pollutant Reduction Strategies (target 9.4)

Pupils will become water protectors, learning about tiny pieces of plastic called microfibres and how they can harm our waterways. They will design simple filters to catch these tiny fibres.

For primary schools

Activities

- **Water exploration:** Discuss the importance of clean water for plants and animals.
- **Microfibre mystery:** Learn about tiny pieces of plastic called microfibres.
- **Filter design:** Create simple filters using materials like tights or old clothes.
- **Water testing:** Test the filters to see how well they catch tiny particles.
- **Sharing knowledge:** Create posters or stories about protecting our water from microfibres.

Resources

- Different types of fabric (e.g., cotton, polyester).
- Water and containers.
- Magnifying glasses.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Water
- Materials

Cross-curricular links

- **Geography:** Water cycle, pollution.
- **Art and Design:** Design, creativity.
- **Citizenship:** Environmental awareness, responsible consumption.

For secondary schools

Activities

- **Microfibre research:** Research the sources and impacts of microfiber pollution.
- **Filter design:** Design and construct filters using different materials (e.g., mesh, activated carbon).
- **Experimentation:** Test filter efficiency under different washing conditions.
- **Data collection:** Collect and analyse data on microfibre capture rates.
- **Evaluation:** Assess the effectiveness of different filter designs.
- **Communication of findings:** Create presentations or reports to share results and recommendations.

Resources

- Different types of fabric (e.g., cotton, polyester, fleece).
- Washing machines or washing machine simulators.
- Water quality testing equipment (e.g., microscopes).
- Data recording sheets.
- Presentation software.

Links to the science curriculum

- Chemistry
- Biology
- Materials science

Cross-curricular links

- **Geography:** Water pollution, environmental management.
- **Mathematics:** Data analysis, statistics.
- **Design and Technology:** Product design, testing.
- **Citizenship:** Environmental awareness, problem-solving.

Innovations in Underwater Acoustic Emission Reduction (target 10.1)

Students will investigate the impact of underwater noise pollution and explore potential solutions. They will design and test materials and structures to reduce acoustic emissions.

For primary schools

Activities

- **Ocean sounds:** Listen to different ocean sounds and identify the creatures that make them.
- **Noise pollution:** Discuss how human-made noise can harm marine animals.
- **Quiet creations:** Design and build models of objects that make less noise underwater.
- **Ocean protection:** Understand the importance of quiet oceans for marine life.
- **Sharing knowledge:** Create posters or stories about ocean noise and protection.

Resources

- Recordings of ocean sounds.
- Materials for building underwater models (e.g., cardboard, plastic containers).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Sound
- Habitats

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Underwater noise research:** Research the sources and impacts of underwater noise.
- **Material testing:** Experiment with different materials (e.g., rubber, foam) to absorb sound.
- **Design and prototyping:** Design and build models of noise-reducing structures (e.g., sound barriers, coatings).
- **Acoustic measurements:** Use sound level metres to measure the effectiveness of different designs.
- **Data analysis:** Analyse data to identify the best performing designs.
- **Communication of findings:** Create presentations or reports to share results and recommendations.

Resources

- Hydrophones or underwater microphones.

- Sound level metres.
- Materials for building models (e.g., wood, metal, rubber).
- Data recording equipment.
- Computer software for data analysis (optional).

Links to the science curriculum

- Physics
- Acoustics
- Environmental science

Cross-curricular links

- **Design and Technology:** Product design, materials technology.
- **Mathematics:** Data analysis, measurement.
- **Geography:** Oceans, environmental management.

Science Project Example: Underwater Acoustic Emission Reduction Experiment (10.2)

Pupils will become ocean sound engineers, learning about how to protect marine life from noise pollution. They will explore different ways to reduce underwater noise and create a quieter ocean.

For primary schools

Activities

- **Ocean sounds:** Listen to different ocean sounds and discuss how noise affects marine animals.
- **Quiet materials:** Experiment with different materials to see which ones absorb sound.
- **Sound barriers:** Create simple models of sound barriers to protect underwater creatures.
- **Ocean protection:** Discuss the importance of a quiet ocean for marine life.
- **Creative expression:** Design posters or stories about quiet oceans.

Resources

- Recordings of ocean sounds.
- Various materials for sound experiments (e.g., fabrics, foam, water).
- Containers for water experiments.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Sound
- Materials
- Living things

Cross-curricular links

- **Geography:** Oceans, environment.

- **Art and Design:** Creative expression, design.

The secondary schools

Activities

- **Sound in water:** Research the properties of sound in water and its impact on marine life.
- **Material testing:** Experiment with different materials (e.g., rubber, foam, glass) to measure sound absorption.
- **Structure design:** Design and build models of sound-absorbing structures (e.g., acoustic panels, barriers).
- **Data collection:** Collect data on sound levels before and after using sound-absorbing materials.
- **Analysis and evaluation:** Analyse data to determine the effectiveness of different materials and structures.
- **Communication of findings:** Create reports, presentations, or models to share results and recommendations.

Resources

- Underwater microphones or hydrophones.
- Sound level metres.
- Materials for building models and testing (e.g., wood, metal, rubber, foam).
- Data recording equipment.
- Computer software for data analysis (optional).

Links to the science curriculum

- Physics
- Acoustics
- Environmental science

Cross-curricular links

- **Design and Technology:** Product design, materials technology.
- **Mathematics:** Data analysis, measurement.
- **Geography:** Oceans, environmental management.

Clean Propulsion Technologies for Maritime Vessels (target 11.1)

Students will investigate clean propulsion technologies for marine vessels. They will design and evaluate different propulsion systems, considering factors such as efficiency, cost, and environmental impact.

For primary schools

Activities

- **Boat exploration:** Learn about different types of boats and how they are powered.
- **Green energy:** Discuss the importance of using clean energy to protect the environment.

- **Boat design:** Create models of boats with wind or solar power.
- **Water protection:** Understand how clean boats help to protect marine life.
- **Sharing knowledge:** Design posters or stories about green boats.

Resources

- Pictures and information about boats.
- Materials for building boat models (e.g., cardboard, paper, sticks).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Energy
- Forces
- Materials

Cross-curricular links

- **Geography:** Transport, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Marine propulsion research:** Explore traditional and alternative propulsion methods.
- **Energy system design:** Design and model electric, hydrogen fuel cell, or hybrid propulsion systems for different vessel types.
- **Performance analysis:** Evaluate the performance of different propulsion systems in terms of efficiency, range, and emissions.
- **Economic analysis:** Assess the cost-effectiveness of various propulsion technologies.
- **Environmental impact assessment:** Evaluate the environmental impact of different propulsion options.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Marine engineering software (optional).
- Energy modelling software (optional).
- Materials for building ship models (e.g., cardboard, wood).
- Data recording equipment.
- Presentation software.

Links to the science curriculum

- Physics
- Engineering
- Environmental science

Cross-curricular links

- **Mathematics:** Data analysis, modelling.
- **Design and Technology:** Product design, engineering.
- **Geography:** Transport, environment.
- **Business Studies:** Economics, environmental management.

Greening the Seas - Mitigating CO2 Emissions in the Shipping Sector (target 11.2)

For Primary Schools

Activities

- **Ship exploration:** Learn about different types of ships and how they are powered.
- **Clean energy:** Discuss the importance of using clean energy to protect the environment.
- **Ship design:** Create models of ships with different power sources (e.g., wind, solar, magic clean energy).
- **Pollution reduction:** Understand how cleaner ships help protect the air and water.
- **Sharing knowledge:** Design posters or stories about green ships.

Resources

- Pictures and information about ships.
- Materials for building ship models (e.g., cardboard, paper, sticks).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Energy
- Forces
- Materials

Cross-curricular links

- **Geography:** Transport, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Ship design and analysis:** Research ship design and energy consumption.
- **Propulsion system design:** Explore alternative fuels (e.g., hydrogen, biofuels) and propulsion systems (e.g., electric, hybrid).
- **Model building:** Construct model ships with different propulsion systems.
- **Performance testing:** Measure fuel consumption, speed, and emissions of model ships.
- **Data analysis:** Analyse data to compare the performance of different propulsion systems.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Ship design software (optional).
- Energy modelling software (optional).
- Materials for building ship models (e.g., cardboard, wood).
- Fuel sources (e.g., small electric motors, batteries).
- Data recording equipment.
- Presentation software.

Links to the science curriculum

- Physics
- Engineering
- Environmental science

Cross-curricular links

- **Mathematics:** Data analysis, modelling.
- **Design and Technology:** Product design, engineering.
- **Geography:** Transport, environment.
- **Business Studies:** Economics, environmental management.

Evaluating Materials for Sustainable Shipbuilding (target 11.3)

Students will investigate sustainable materials for shipbuilding, assessing their properties and environmental impact. They will design and test materials to identify suitable alternatives to traditional shipbuilding materials.

For primary schools

Activities

- **Ship Exploration:** Learn about different types of ships and the materials used to build them.
- **Recycling and Reuse:** Discuss the importance of recycling and using old materials.
- **Material Testing:** Experiment with different materials to see which ones are strong and durable.
- **Green Ship Design:** Create models of ships using recycled or sustainable materials.
- **Sharing Knowledge:** Design posters or stories about green shipbuilding.

Resources

- Recycled materials (e.g., cardboard, plastic bottles, fabric).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Recycling
- Materials

Cross-curricular links

- **Geography:** Transport, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible consumption.

For secondary schools

Activities

- **Material research:** Explore different sustainable materials (e.g., recycled metals, composites, bio-based materials).
- **Material testing:** Conduct experiments to test the strength, durability, and weight of materials.
- **Environmental impact assessment:** Evaluate the environmental impact of different materials throughout their lifecycle.
- **Cost-benefit analysis:** Compare the cost-effectiveness of sustainable materials with traditional materials.
- **Design and prototyping:** Create prototypes of ship components using sustainable materials.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Samples of different materials (e.g., recycled metals, composites, bio-based materials).
- Material testing equipment (e.g., tensile strength tester, flexural strength tester).
- Data recording sheets.
- Computer-aided design (CAD) software (optional).
- Presentation software.

Links to the science curriculum

- Chemistry
- Environmental science
- Materials science

Cross-curricular links

- **Design and Technology:** Product design, materials technology.
- **Mathematics:** Data analysis, cost-benefit analysis.
- **Geography:** Transport, environment.
- **Business Studies:** Economics, sustainability.

Carbon Neutrality in Port Operations (target 11.4)

Students will investigate carbon reduction strategies for port operations. They will explore renewable energy sources, energy efficiency measures, and emission reduction technologies.

For primary schools

Activities

- **Port exploration:** Learn about different types of ships and port activities.

- **Pollution problems:** Discuss how ships and ports can pollute the air and water.
- **Clean energy:** Explore different types of clean energy (e.g., wind, solar).
- **Green port design:** Create models of green ports with clean energy sources.
- **Sharing knowledge:** Design posters or stories about green ports.

Resources

- Pictures and information about ports and ships.
- Materials for building models (e.g., cardboard, paper, sticks).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Energy
- Pollution
- Environment

Cross-curricular links

- **Geography:** Transport, ports.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Port carbon footprint:** Research the carbon footprint of port activities.
- **Renewable energy assessment:** Evaluate the potential of solar, wind, and other renewable energy sources for ports.
- **Energy efficiency measures:** Identify opportunities to reduce energy consumption in port operations.
- **Emission reduction technologies:** Explore technologies for capturing and storing carbon emissions.
- **Cost-benefit analysis:** Assess the economic viability of different carbon reduction strategies.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Data on port emissions and energy consumption.
- Renewable energy simulation software (optional).
- Energy auditing tools (optional).
- Data recording sheets.
- Presentation software.

Links to the science curriculum

- Physics
- Energy
- Environmental science

Cross-curricular links

- **Mathematics:** Data analysis, cost-benefit analysis.
- **Geography:** Transport, environmental management.
- **Design and Technology:** Engineering, systems design.
- **Business Studies:** Economics, sustainability.

Harnessing Ocean Energy for a Sustainable Future (target 12.1)

Pupils will become ocean energy experts, discovering how to harness the power of the sea. They will learn about different types of ocean energy and create models of energy-generating devices.

For primary schools

Activities

- **Ocean exploration:** Discuss the power of the ocean and how it can be used.
- **Energy sources:** Learn about different types of ocean energy (e.g., waves, tides, wind).
- **Model making:** Create simple models of energy-generating devices (e.g., windmills, water wheels).
- **Energy and environment:** Understand how using ocean energy can help protect the planet.
- **Sharing knowledge:** Design posters or stories about ocean energy.

Resources

- Pictures and information about the ocean and energy.
- Materials for building models (e.g., cardboard, paper, sticks).
- Art materials (paper, crayons, markers).

   Links to the science curriculum

- Energy
- Forces
- Materials

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Ocean energy research:** Research different forms of ocean energy (wave, tidal, current, thermal, salinity gradient).
- **Energy conversion:** Explore the scientific principles behind energy conversion technologies.
- **Model building:** Create models or simulations of energy conversion devices.

- **Data collection and analysis:** Collect data on energy output, efficiency, and environmental impact.
- **Cost-benefit analysis:** Evaluate the economic feasibility of different ocean energy technologies.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Oceanographic data (e.g., wave height, tidal currents).
- Energy modelling software (optional).
- Materials for building models (e.g., wood, plastic).
- Data recording equipment.
- Presentation software.

Links to the science curriculum

- Physics
- Engineering
- Environmental science

Cross-curricular links

- **Mathematics:** Data analysis, modelling.
- **Design and Technology:** Product design, engineering.
- **Geography:** Oceans, environmental management.
- **Business Studies:** Economics, sustainability.

Investigating the Rise of Low Trophic Aquaculture in European Waters (target 13.1)

Students will investigate the principles of low trophic aquaculture, focusing on the cultivation of algae, shellfish, and invertebrates. They will explore the environmental benefits and economic potential of this form of aquaculture.

For primary Schools

Activities

- **Ocean exploration:** Learn about different sea creatures and plants.
- **Sea farming:** Discuss how people can grow food in the ocean.
- **Miniature ocean farm:** Create a small-scale model of an ocean farm using recycled materials.
- **Caring for sea life:** Understand the importance of clean water and healthy habitats for sea creatures.
- **Sharing knowledge:** Design posters or stories about ocean farming.

Resources

- Pictures and information about marine life.
- Recycled materials for creating ocean farm models.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Growth

Cross-curricular links

- **Geography:** Oceans, food production.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, sustainable living.

For secondary schools

Activities

- **Aquaculture research:** Research different types of aquaculture and their environmental impacts.
- **Species selection:** Select suitable species for cultivation based on local conditions and market demand.
- **Water quality analysis:** Monitor water parameters (e.g., temperature, salinity, nutrient levels) for optimal growth conditions.
- **Harvesting and processing:** Explore methods for harvesting and processing aquaculture products.
- **Economic analysis:** Assess the economic viability of the chosen aquaculture system.
- **Environmental impact assessment:** Evaluate the environmental benefits and potential impacts of the aquaculture project.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Aquarium equipment (tanks, filters, pumps).
- Water quality testing kits.
- Aquaculture species (e.g., algae, shellfish).
- Data recording equipment.
- Statistical software (optional).
- Presentation software.

Links to the science curriculum

- Biology
- Chemistry
- Ecology

Cross-curricular links

- **Geography:** Food production, environmental management.
- **Mathematics:** Data analysis, statistics.
- **Business Studies:** Economics, entrepreneurship.
- **Design and Technology:** Design, engineering.

Exploring Blue Biotechnology Advancements in the EU (target 14.1)

Pupils will become ocean scientists, learning about amazing discoveries from the sea. They will explore how scientists use the ocean to create new and helpful things.

For primary schools

Activities

- **Ocean exploration:** Discuss different sea creatures and plants.
- **Ocean treasures:** Learn about special things found in the ocean that can be used to make useful products.
- **Creative creations:** Design products made from ocean-inspired materials (e.g., seaweed paper, shell jewellery).
- **Sharing knowledge:** Create posters or stories about ocean discoveries.

Resources

- Pictures and information about marine life.
- Recycled materials (e.g., shells, seaweed).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Change
- Materials

Cross-curricular links

- **Geography:** Oceans, resources.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, innovation.

For secondary schools

Activities

- **Marine biotechnology research:** Explore the concept of blue biotechnology and its applications.
- **Case studies:** Analyse successful examples of marine biotechnology products.
- **Product development:** Develop ideas for new products based on marine organisms or their derived compounds.
- **Market analysis:** Assess the potential market for these products.
- **Environmental impact assessment:** Evaluate the environmental benefits and risks of marine biotechnology.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Scientific papers and articles on marine biotechnology.

- Laboratory equipment (for potential experiments)
- Market research data
- Presentation software

Links to the science curriculum

- Biology
- Chemistry
- Biotechnology

Cross-curricular links

- **Geography:** Oceans, resources, environmental management.
- **Business Studies:** Market research, business planning.
- **Design and Technology:** Product design, innovation.
- **Citizenship:** Environmental awareness, sustainable development.

Innovations in Blue Biotechnology: From Lab to Market (target 14.2)

Students will investigate recent breakthroughs in blue biotechnology, exploring the potential of marine organisms for developing new products and processes. They will design and conduct experiments to understand the underlying scientific principles.

For primary schools

Activities

- **Ocean exploration:** Discuss different sea creatures and plants.
- **Ocean magic:** Learn about special things found in the ocean that can be used to make useful products.
- **Creative creations:** Design products inspired by ocean creatures or materials.
- **Sharing knowledge:** Create posters or stories about ocean discoveries.

Resources

- Pictures and information about marine life.
- Recycled materials (e.g., shells, seaweed).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Change
- Materials

Cross-curricular links

- **Geography:** Oceans, resources.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, innovation.

For secondary schools

Activities

- **Blue biotechnology research:** Research recent advancements in marine biotechnology.
- **Case study analysis:** Study successful examples of marine biotechnology products.
- **Experiment design:** Design experiments to replicate key aspects of these breakthroughs.
- **Data collection and analysis:** Collect and analyse data from experiments to understand the scientific principles.
- **Product development:** Develop ideas for new products based on the findings.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Scientific papers and articles on marine biotechnology.
- Laboratory equipment (if applicable for experiments).
- Data recording sheets.
- Presentation software.

Links to the science curriculum

- Biology
- Chemistry
- Biotechnology

Cross-curricular links

- **Geography:** Oceans, resources, environmental management.
- **Business Studies:** Market research, business planning.
- **Design and Technology:** Product design, innovation.
- **Citizenship:** Environmental awareness, sustainable development.

Sustainable Solutions for Carbon-Neutral Marinas (target 15.1)

Students will investigate sustainable practices for marinas to achieve carbon neutrality. They will explore renewable energy sources, waste management strategies, and ecosystem protection measures.

For primary schools

Activities

- **Marina exploration:** Learn about different types of boats and port activities.
- **Pollution problems:** Discuss how marinas can pollute the water and air.
- **Green solutions:** Explore ways to make marinas cleaner (e.g., recycling, using less water).
- **Creative designs:** Design a green marina using recycled materials.
- **Sharing knowledge:** Create posters or stories about green marinas.

Resources

- Pictures and information about marinas and boats.

- Recycled materials for building marina models.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Recycling
- Pollution
- Materials

Cross-curricular links

- **Geography:** Coasts, harbours, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Marina assessment:** Conduct a carbon footprint analysis of a local marina.
- **Renewable energy exploration:** Research and evaluate renewable energy options for marinas (e.g., solar, wind, wave).
- **Waste management strategies:** Develop waste management plans for different types of waste generated by marinas.
- **Ecosystem protection:** Explore ways to protect marine life and habitats within marinas.
- **Cost-benefit analysis:** Assess the economic viability of different sustainability measures.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Data on marina energy consumption and waste generation.
- Renewable energy simulation software (optional).
- Waste management data.
- Environmental impact assessment tools (optional).
- Presentation software.

Links to the science curriculum

- Energy
- Ecology
- Environmental science

Cross-curricular links

- **Mathematics:** Data analysis, cost-benefit analysis.
- **Geography:** Coasts, harbours, environmental management.
- **Design and Technology:** Systems design, engineering.
- **Business Studies:** Economics, sustainability.

Measuring and Reducing Carbon Footprint in Tourism Resorts (target 15.2)

Students will investigate the carbon footprint of tourism resorts and develop strategies to reduce emissions. They will explore renewable energy options, waste management practices, and transportation alternatives.

For primary schools

Activities

- **Holiday exploration:** Discuss different types of holidays and the places people visit.
- **Holiday footprint:** Learn about how holidays can impact the environment.
- **Green holiday ideas:** Explore ways to reduce waste and save energy on holiday.
- **Creative expression:** Design posters or stories about eco-friendly holidays.

Resources

- Pictures and information about different holiday destinations.
- Recycled materials for creating models (e.g., cardboard, paper).
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Energy
- Waste
- Environment

Cross-curricular links

- **Geography:** Tourism, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible consumption.

For secondary schools

Activities

- **Resort carbon footprint:** Research the carbon footprint of different types of resorts.
- **Energy audit:** Conduct an energy audit of a local resort or hotel.
- **Renewable energy assessment:** Evaluate the potential for solar, wind, or other renewable energy sources.
- **Waste management strategies:** Develop a waste management plan for a resort, including recycling and composting.
- **Transportation analysis:** Explore options for reducing transportation emissions (e.g., electric vehicles, public transport).
- **Cost-benefit analysis:** Assess the economic viability of different sustainability measures.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Data on energy consumption and waste generation in the tourism industry.
- Renewable energy simulation software (optional).
- Waste management data.
- Presentation software.

Links to the science curriculum

- Energy
- Environment
- Climate change

Cross-curricular links

- **Mathematics:** Data analysis, cost-benefit analysis.
- **Geography:** Tourism, environmental management.
- **Business Studies:** Economics, sustainability.
- **Design and Technology:** Systems design, engineering.

Ecological Impact Assessment of the European Ocean and Water Agency (target 16.1)

For primary schools

Pupils will become ocean and river protectors, learning about the importance of caring for our water bodies. They will explore how a special group of people can help keep our waters clean and healthy.

Activities

- **Water world:** Discuss different types of water bodies (rivers, lakes, oceans).
- **Water problems:** Learn about problems facing our waters (pollution, litter).
- **Water heroes:** Introduce the idea of a special group of people who help protect water.
- **Creative expression:** Design posters or stories about water heroes.

Resources

- Pictures of water bodies and marine life.
- Information about water pollution.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Water

Cross-curricular links

- **Geography:** Water bodies, environment.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, community involvement.

For secondary schools

Activities

- **Agency research:** Investigate the establishment and mandate of the European Ocean and Water Agency.
- **Policy analysis:** Analyse key policies and initiatives of the agency.
- **Environmental impact assessment:** Assess the potential ecological impacts of the agency's work, including positive and negative effects.
- **Case studies:** Examine specific case studies of the agency's involvement in marine and freshwater projects.
- **Public awareness:** Develop strategies to communicate the agency's work to the public.
- **Communication of findings:** Create presentations, reports, or multimedia products to share results.

Resources

- Reports and publications from the European Ocean and Water Agency.
- Scientific articles and research papers on marine and freshwater ecosystems.
- Data on water quality and biodiversity.
- Presentation software.

Links to the science curriculum

- Biology
- Ecology
- Environmental science

Cross-curricular links

- **Geography:** Oceans, rivers, environmental management.
- **Politics:** Governance, policy analysis.
- **Citizenship:** Global citizenship, environmental awareness.

Monitoring Biodiversity Changes Post-BBNJ Treaty (target 17.1)

Students will investigate the impact of the BBNJ Treaty on marine biodiversity. They will collect and analyse data to assess the effectiveness of conservation measures.

For primary schools

Activities

- **Ocean life:** Learn about different sea animals and plants.
- **Ocean homes:** Discuss the importance of healthy oceans for marine life.
- **Ocean changes:** Talk about how human activities can affect ocean life.
- **Protecting our oceans:** Explore ways to help protect marine animals and their homes.
- **Creative expression:** Design posters or stories about ocean conservation.

Resources

- Pictures and information about marine life.

- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Change

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, global citizenship.

Secondary School Version

Activities

- **Biodiversity research:** Research marine biodiversity and the threats facing ocean ecosystems.
- **BBNJ treaty analysis:** Study the key provisions of the BBNJ Treaty.
- **Data collection:** Gather data on marine species distribution and abundance.
- **Data analysis:** Use statistical methods to analyse changes in biodiversity over time.
- **Impact assessment:** Evaluate the effectiveness of conservation measures in protecting marine ecosystems.
- **Communication of findings:** Create presentations, reports, or infographics to share results and recommendations.

Resources

- Marine biodiversity databases and datasets.
- Geographic Information Systems (GIS) software.
- Statistical software.
- Presentation software.

Links to the science curriculum

- Biology
- Ecology
- Environmental science

Cross-curricular links

- **Geography:** Oceans, marine ecosystems.
- **Mathematics:** Data analysis, statistics.
- **Citizenship:** Global citizenship, environmental awareness.

Evaluating the Ecological Impact of IUU Fishing Eradication (target 17.2)

Pupils will become ocean heroes, learning about the importance of protecting marine life. They will explore the problem of overfishing and how stopping illegal fishing can help our oceans.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures and their habitats.
- **Overfishing:** Discuss how catching too many fish can harm the ocean.
- **Illegal fishing:** Understand what illegal fishing is and why it's bad.
- **Protecting our oceans:** Explore ways to help stop illegal fishing and protect marine life.
- **Creative expression:** Design posters or stories about ocean conservation.

Resources

- Pictures and information about marine life.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Change

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Global citizenship, environmental awareness.

For secondary schools

Activities

- **IUU fishing research:** Explore the scale and impacts of IUU fishing globally.
- **Data collection:** Gather data on fish populations, marine ecosystems, and fishing activities.
- **Data analysis:** Use statistical methods to analyse changes in fish populations and biodiversity.
- **Impact assessment:** Evaluate the potential ecological benefits of eradicating IUU fishing.
- **Policy analysis:** Research international efforts to combat IUU fishing.
- **Communication of findings:** Create presentations, reports, or infographics to share results and recommendations.

Resources

- Marine biodiversity databases and datasets.
- Fisheries data.
- Statistical software.
- Geographic Information Systems (GIS) software (optional).
- Presentation software.

Links to the science curriculum

- Biology
- Ecology
- Environmental science

Cross-curricular links

- **Geography:** Oceans, marine ecosystems.
- **Mathematics:** Data analysis, statistics.
- **Citizenship:** Global citizenship, environmental awareness.

Monitoring Seabed Recovery Post-Ban (target 17.3)

Students will investigate the recovery of seabed habitats following a global ban on destructive fishing practices. They will analyse data on marine life and ecosystem health to assess the effectiveness of the ban.

For primary schools

Activities

- **Ocean Floor Exploration:** Learn about different creatures that live on the seabed.
- **Seabed Treasures:** Discuss the importance of the seabed for ocean life.
- **Protecting the Seabed:** Understand how human activities can harm the seabed.
- **Seabed Recovery:** Explore ways to help the seabed heal and recover.
- **Creative Expression:** Design posters or stories about seabed protection.

Resources

- Pictures and information about seabed creatures.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats
- Change

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, global citizenship.

For secondary schools

Activities

- **Seabed habitat research:** Study different types of seabed habitats and their ecological importance.
- **Data collection:** Gather data on marine species, habitat conditions, and fishing activities.

- **Data analysis:** Use statistical methods to analyse changes in seabed biodiversity and ecosystem health.
- **Impact assessment:** Evaluate the effectiveness of the ban in protecting seabed habitats.
- **Case studies:** Examine case studies of seabed recovery in different regions.
- **Communication of findings:** Create presentations, reports, or infographics to share results and recommendations.

Resources

- Marine biodiversity databases and datasets.
- Geographic Information Systems (GIS) software.
- Statistical software.
- Presentation software.

Links to the science curriculum

- Biology
- Ecology
- Environmental science

Cross-curricular links

- **Geography:** Oceans, marine ecosystems.
- **Mathematics:** Data analysis, statistics.
- **Citizenship:** Global citizenship, environmental awareness.

Scientific Assessment of River Ecosystems Post-Management Implementation (target 17.4)

Students will investigate the recovery of seabed habitats following a global ban on destructive fishing practices. They will analyse data on marine life and ecosystem health to assess the effectiveness of the ban.

For primary schools

Activities

- **Ocean floor exploration:** Learn about different creatures that live on the seabed.
- **Seabed treasures:** Discuss the importance of the seabed for ocean life.
- **Protecting the seabed:** Understand how human activities can harm the seabed.
- **Seabed recovery:** Explore ways to help the seabed heal and recover.
- **Creative expression:** Design posters or stories about seabed protection.

Resources

- Pictures and information about seabed creatures.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things

- Habitats
- Change

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Environmental awareness, global citizenship.

For secondary schools

Activities

- **Seabed habitat research:** Study different types of seabed habitats and their ecological importance.
- **Data collection:** Gather data on marine species, habitat conditions, and fishing activities.
- **Data analysis:** Use statistical methods to analyse changes in seabed biodiversity and ecosystem health.
- **Impact assessment:** Evaluate the effectiveness of the ban in protecting seabed habitats.
- **Case studies:** Examine case studies of seabed recovery in different regions.
- **Communication of findings:** Create presentations, reports, or infographics to share results and recommendations.

Resources

- Marine biodiversity databases and datasets.
- Geographic Information Systems (GIS) software.
- Statistical software.
- Presentation software.

Links to the science curriculum

- Biology
- Ecology
- Environmental science

Cross-curricular links

- **Geography:** Oceans, marine ecosystems.
- **Mathematics:** Data analysis, statistics.
- **Citizenship:** Global citizenship, environmental awareness.

Technological Innovations for Safe and Sustainable Shipping (target 17.5)

Students will investigate innovative technologies to improve the sustainability of the shipping industry. They will explore new propulsion systems, navigation methods, and energy efficiency measures.

For primary schools

Activities

- **Ship exploration:** Learn about different types of ships and how they travel.
- **Ship problems:** Discuss how ships can pollute the air and water.
- **Green ship design:** Create models of ships with special features to help the environment.
- **Sharing knowledge:** Design posters or stories about green ships.

Resources

- Pictures and information about ships.
- Recycled materials for building ship models.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Energy
- Pollution
- Materials

Cross-curricular links

- **Geography:** Transport, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Shipping industry analysis:** Research the environmental impact of the shipping industry.
- **Technology exploration:** Investigate new technologies in areas such as propulsion, navigation, and hull design.
- **Ship design:** Design a concept ship incorporating sustainable technologies.
- **Performance analysis:** Evaluate the potential environmental benefits and economic feasibility of the ship design.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Information on the shipping industry and its environmental impact.
- Scientific papers on marine technology.
- Computer-aided design (CAD) software.
- Energy modelling software (optional).
- Presentation software.

Links to the science curriculum

- Physics
- Engineering
- Environmental science

Cross-curricular links

- **Mathematics:** Data analysis, modelling.
- **Design and Technology:** Product design, engineering.
- **Geography:** Transport, environment.
- **Business Studies:** Economics, sustainability.

Monitoring Sustainable Fisheries Compliance (target 17.6)

Students will investigate the compliance of fisheries with EU bilateral trade agreements. They will collect and analyse data on fishing practices and their impact on marine ecosystems.

For primary schools

Activities

- **Ocean Exploration:** Learn about different sea creatures and their homes.
- **Fishing and the Sea:** Discuss how fishing can affect ocean life.
- **Fair Fishing:** Understand the idea of fishing in a way that protects the ocean.
- **Sharing Knowledge:** Create posters or stories about fair fishing.

Resources:

- Pictures and information about marine life.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Habitats

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Global citizenship, environmental awareness.

For secondary school

Activities

- **Trade agreement analysis:** Study relevant EU bilateral trade agreements and their fisheries provisions.
- **Data collection:** Gather data on fish populations, fishing methods, and environmental indicators.
- **Data analysis:** Use statistical methods to assess compliance with trade agreement conditions.
- **Case studies:** Examine specific fisheries and their adherence to sustainable practices.

- **Policy recommendations:** Develop recommendations for improving fisheries management and compliance.
- **Communication of findings:** Create reports, presentations, or infographics to share results and recommendations.

Resources

- Access to EU bilateral trade agreements.
- Fisheries data and statistics.
- Geographic Information Systems (GIS) software (optional).
- Statistical software.
- Presentation software.

Links to the science curriculum

- Biology
- Ecology
- Environmental science

Cross-curricular links

- **Geography:** Oceans, fisheries, globalisation.
- **Mathematics:** Data analysis, statistics.
- **Economics:** Trade, international relations.
- **Citizenship:** Global citizenship, sustainable development.

Enhancing maritime surveillance technologies (target 17.7)

Students will investigate the potential of advanced technologies for maritime surveillance. They will explore the use of artificial intelligence, satellite imagery, and underwater sensors to enhance monitoring and protection of marine environments.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures and their habitats.
- **Ocean problems:** Discuss threats to the ocean, such as pollution and overfishing.
- **Technology helpers:** Explore how technology can help us monitor the ocean.
- **Creative expression:** Design inventions to help protect the ocean.
- **Sharing knowledge:** Create posters or stories about ocean technology.

Resources

- Pictures and information about marine life and ocean technology.
- Art materials (paper, crayons, markers).

Links to the science curriculum

- Living things
- Technology
- Change

Cross-curricular links

- **Geography:** Oceans, environment.
- **Art and Design:** Creative expression, design.
- **Citizenship:** Global citizenship, environmental awareness.

For secondary schools

Activities

- **Maritime surveillance challenges:** Research the challenges faced in monitoring marine activities.
- **Technology exploration:** Investigate existing and emerging technologies for maritime surveillance.
- **System design:** Design a surveillance system incorporating AI, satellite imagery, and underwater sensors.
- **Data analysis:** Explore methods for collecting, processing, and analysing data from surveillance systems.
- **Environmental impact assessment:** Consider the environmental impact of the surveillance system.
- **Communication of findings:** Create presentations, reports, or models to share results and recommendations.

Resources

- Satellite imagery data (if available).
- Oceanographic data (if available).
- Artificial intelligence software (if available).
- Data analysis software.
- Presentation software.

Links to the science curriculum

- Physics
- Environmental science
- Computer science

Cross-curricular links

- **Geography:** Oceans, remote sensing.
- **Mathematics:** Data analysis, modelling.
- **Design and Technology:** Systems design, engineering.
- **Citizenship:** Global citizenship, environmental awareness.

History

Ocean Time Travellers (target 1.2)

Students will embark on a journey through time to discover how societies have interacted with the ocean. By creating a visually engaging timeline, they will explore key historical events, from early exploration to modern-day environmental challenges. The project culminates in a school event combining storytelling, art, and drama to share their findings and inspire ocean conservation.

For primary schools

Activities

- **Historical exploration:** Research and identify key historical figures and events related to the ocean, such as explorers, pirates, fishing communities, and marine discoveries.
- **Timeline creation:** Design and create a visually appealing timeline showcasing the chosen historical events. Students can use various art materials and digital tools.
- **Ocean literacy:** Learn about marine ecosystems, biodiversity, and the importance of ocean conservation.
- **Storytelling and performance:** Develop short stories or plays based on historical research. Students can incorporate drama, puppetry, or costumes to bring their stories to life.
- **Community engagement:** Plan and organise a school event to share their findings with the wider school community. This might include displays, performances, and interactive activities.

Links to the history curriculum

- Timelines
- Historical figures
- Research and presentation skills

Cross-curricular links

- **Art and Design:** Visual communication, creativity, and collaboration.
- **Language:** Storytelling, scriptwriting, and performance.
- **Science:** Basic oceanography, ecosystems, and environmental awareness.

For secondary schools

Activities

- **Historical research:** Conduct in-depth research on specific historical periods, focusing on themes such as exploration, trade, colonisation, and industrialisation. Analyse primary and secondary sources.
- **Timeline development:** Create a detailed timeline incorporating key events, people, and turning points in European ocean history. Consider using digital tools for interactive elements.

- **Ocean literacy:** Explore contemporary ocean challenges, such as overfishing, pollution, and marine protected areas. Develop a strong understanding of ocean ecosystems and their importance.
- **Event planning and execution:** Organise a public event showcasing historical findings and raising awareness about ocean issues. Consider inviting external experts, such as marine biologists or historians, to participate.
- **Public engagement:** Develop engaging presentations, displays, or interactive exhibits to communicate research findings to a diverse audience. Explore digital media options for broader reach.

Links to the history curriculum

- Historical enquiry
- Research, analysis and presentation skills

Cross-curricular links

- **Geography:** Global patterns, environmental issues, and human-environment interaction.
- **Science:** Marine biology, ecology, and environmental science.
- **Language:** Communication, research, and public speaking.
- **Citizenship:** Community engagement, problem-solving, and critical thinking.

Flow of Progress: Water Conservation Through Time (target 3.2)

Students will investigate the historical evolution of water management, analysing the social, economic, and environmental factors that shaped these practices. By constructing a detailed timeline and conducting in-depth research, they will contextualise contemporary water challenges within a broader historical perspective.

For primary schools

Activities

- **Historical research:** Learn about how people obtained water in the past, such as from rivers, wells, and rainwater collection.
- **Timeline creation:** Develop a timeline showcasing key moments in water history, including inventions like the wheel, the Roman aqueducts, and modern plumbing.
- **Water conservation:** Understand the challenges of water scarcity and the importance of conserving water.
- **Creative expression:** Create artwork, stories, or poems that reflect the historical and contemporary significance of water.
- **Community engagement:** Share their findings with the school community through presentations, displays, or water-saving initiatives.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- **Art and Design:** Visual communication and creativity.
- **Language:** Storytelling, writing, and presentation.
- **Science:** Water cycle, water properties, and conservation.

For secondary schools

Activities

- **Historical research:** Explore different periods in history, focusing on water management practices, technologies, and policies. Analyse primary and secondary sources.
- **Timeline development:** Create a comprehensive timeline highlighting key milestones in water management, from ancient civilizations to the present day.
- **Case studies:** Examine specific case studies of water management challenges and successes, both historical and contemporary.
- **Data analysis:** Analyse water consumption data and identify trends over time. Consider using statistical analysis and data visualisation tools.
- **Policy evaluation:** Evaluate current water management policies and propose potential solutions based on historical insights.

Links to the history curriculum

- Historical interpretation
- Research and analysis skills

Cross-curricular links

- **Geography:** Water resources, human-environment interaction, and global issues.
- **Science:** Hydrology, water quality, and environmental science.
- **Mathematics:** Data analysis, statistics, and graphing.
- **Citizenship:** Critical thinking, problem-solving, and civic engagement.

Evolution of Fishing Practices (target 6.1)

Students will delve into the history of fishing practices, examining the social, economic, and environmental impacts of different methods. Through research and interviews, they will explore the evolution of fishing regulations and the role of societal attitudes in shaping sustainable fishing practices.

For primary schools

Activities

- **Historical exploration:** Discover different fishing methods used in the past, such as traditional hand lines and nets.
- **Timeline creation:** Create a visual timeline showing how fishing has changed over time, including the introduction of modern technology and the rise of overfishing.
- **Ocean life:** Learn about different types of fish and marine creatures, and understand the importance of healthy ocean ecosystems.
- **Sustainable fishing:** Explore the concept of sustainable fishing and how it helps protect our oceans.

- **Creative expression:** Write stories, poems, or create artwork about fish, fishing, and ocean conservation.

Links to the history curriculum

- Timelines
- Historical change
- Research skills

Cross-curricular links

- **Science:** Marine life, ecosystems, and environmental awareness.
- **Art and Design:** Creativity and communication.
- **Language:** Storytelling, writing, and presentation.

For secondary schools

Activities

- **Research:** Investigate the history of fishing, including overfishing, bycatch, and habitat destruction. Analyse primary and secondary sources.
- **Timeline development:** Create a detailed timeline outlining key events in the history of fishing regulations and conservation efforts.
- **Interviews:** Conduct interviews with local fishermen, fishery managers, or marine biologists to gather firsthand accounts of changes in the fishing industry.
- **Data analysis:** Analyse fishing data, such as catch statistics and population trends, to understand the impact of different fishing practices.
- **Policy evaluation:** Evaluate the effectiveness of current fishing regulations and propose potential improvements.

Links to the history curriculum

- Historical interpretation
- Research and analysis skills

Cross-curricular links

- **Geography:** Oceans, marine ecosystems, and human-environment interaction.
- **Science:** Marine biology, ecology, and environmental science.
- **Citizenship:** Civic engagement, problem-solving, and critical thinking.
- **Language:** Research, interviewing, and writing.

Evolution of Maritime Regulations (target 9.1)

Students will delve into the complex history of maritime law, exploring the interplay of economic, political, and environmental factors. Through in-depth research, they will construct a detailed timeline of key events, treaties, and legal developments, analysing the motivations behind these changes.

For primary schools

Activities

- **Historical exploration:** Learn about famous explorers and pirates, and discuss the challenges they faced on the open sea.
- **Timeline creation:** Create a visual timeline showing key events in maritime history, such as the invention of the compass and the first international maritime agreements.
- **Ocean safety:** Understand the importance of maritime rules for safety at sea and protecting marine life.
- **Creative expression:** Write stories or poems about life on the sea, or create artwork related to maritime themes.
- **Community engagement:** Share their findings with the school community through presentations, displays, or role-playing activities.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- **Geography:** Maps, location, and the importance of water.
- **Art and Design:** Creativity and communication.
- **Language:** Storytelling, writing, and presentation.

For secondary schools

Activities

- **Historical research:** Investigate the development of maritime law, from ancient seafaring customs to modern international agreements.
- **Timeline development:** Create a comprehensive timeline highlighting key milestones in maritime law, including territorial waters, exclusive economic zones, and marine pollution.
- **Case studies:** Analyse specific case studies of maritime disputes and legal challenges.
- **International relations:** Explore the role of international organisations, such as the International Maritime Organisation, in shaping maritime law.
- **Policy analysis:** Evaluate the effectiveness of current maritime regulations and propose potential improvements.

Links to the history curriculum

- Historical interpretation
- Research and analysis skills

Cross-curricular links

- **Geography:** Oceans, maritime boundaries, and global issues.
- **Politics:** International relations, diplomacy, and governance.
- **Law:** Legal systems, international law, and human rights.
- **Language:** Research, writing, and presentation.

Evolution of Wastewater Treatment Practices (target 9.4)

Students will delve into the complex history of wastewater treatment, examining the challenges posed by emerging pollutants. Through research, they will construct a detailed timeline of key events, technological advancements, and policy changes that shape the development of wastewater treatment.

For primary schools

Activities

- **Historical exploration:** Learn about how people disposed of waste in the past, such as throwing it in rivers or burying it.
- **Timeline creation:** Create a visual timeline showing key events in wastewater treatment, such as the invention of the sewer system and the development of modern treatment plants.
- **Water pollution:** Understand the impact of pollution on water and the importance of clean water for plants, animals, and humans.
- **Creative expression:** Write stories or poems about water pollution and its solutions, or create artwork related to water conservation.
- **Community engagement:** Share their findings with the school community through presentations, displays, or water-saving activities.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- **Science:** Water cycle, pollution, and environmental awareness.
- **Art and Design:** Creativity and communication.
- **Language:** Storytelling, writing, and presentation.

For secondary schools

Activities

- **Historical research:** Investigate the evolution of wastewater treatment, from early sewer systems to modern treatment plants.
- **Timeline development:** Create a comprehensive timeline highlighting key milestones in wastewater treatment, including the discovery of microorganisms, the development of disinfection techniques, and the emergence of micropollutants.
- **Case studies:** Analyse specific case studies of water pollution incidents and the resulting policy changes.
- **Investigation:** Explore the chemistry and environmental impact of micropollutants, such as pesticides, pharmaceuticals, and PHASes.
- **Policy analysis:** Evaluate the effectiveness of current wastewater treatment regulations and propose potential improvements.

Links to the history curriculum

- Historical interpretation
- Research and analysis skills

Cross-curricular links

- **Science:** Chemistry, biology, environmental science, and technology.
- **Geography:** Water resources, pollution, and human-environment interaction.
- **Citizenship:** Civic engagement, problem-solving, and critical thinking.

Historical Perspectives on Underwater Acoustic Emissions (target 10.1)

Students will delve into the historical development of underwater noise pollution, examining the technological advancements and human activities that contributed to this growing issue. Through research and analysis, they will explore the ecological consequences and potential solutions.

For primary schools

Activities

- **Ocean sounds:** Listen to recordings of ocean sounds and identify different marine creatures.
- **Human impact:** Explore how human activities, such as boats and ships, create noise pollution in the ocean.
- **Animal impact:** Learn about how noise pollution affects marine animals, such as whales, dolphins, and fish.
- **Creative expression:** Create artwork or stories about ocean sounds and the importance of quiet seas.
- **Community engagement:** Share their findings with the school community through presentations, displays, or noise reduction campaigns.

Links to the history curriculum

- Timelines
- Research skills

Cross-curricular links

- Science: Sound, marine life, and environmental impact.
- Art and Design: Creativity and communication.
- Language: Storytelling, writing, and presentation.

For secondary schools

Activities

- **Historical research:** Investigate the history of underwater sound, from early maritime exploration to modern shipping and offshore industries.
- **Technological analysis:** Explore the development of sonar, seismic surveys, and other technologies that generate underwater noise.
- **Environmental impact:** Study the effects of underwater noise on marine mammals, fish, and other marine organisms.

- **Data analysis:** Analyse data on underwater noise levels and their correlation with marine population declines.
- **Policy evaluation:** Examine existing regulations and policies aimed at reducing underwater noise and propose potential improvements.

Links to the history curriculum

- Historical interpretation
- Research and analysis skills

Cross-curricular links

- **Science:** Acoustics, marine biology, ecology, and environmental science.
- **Geography:** Oceans, marine ecosystems, and human-environment interaction.
- **Technology:** Technological development and its impact on society.
- **Citizenship:** Civic engagement, problem-solving, and critical thinking.

Evolution of Maritime Propulsion (target 11.1)

Pupils will explore how boats have moved through water over time. They will learn about different types of boats and the engines that power them. Through creative activities, they will understand the impact of different propulsion methods on the environment.

For primary schools

Activities

- **Historical exploration:** Learn about traditional boats and how they were powered (e.g., oars, sails, wind).
- **Modern marvels:** Explore different types of boat engines (e.g., outboard, inboard, diesel, electric).
- **Design and make:** Create simple boat models using recycled materials and different propulsion methods (e.g., wind, water, rubber band).
- **Environmental impact:** Discuss the impact of different fuels on the environment and the importance of clean energy.
- **Creative expression:** Design posters or create stories about boats and their engines.

Links to the history curriculum

- Timelines
- Historical change
- Research skills

Cross-curricular links

- **Design and Technology:** Design, make, evaluate.
- **Science:** Forces, energy, materials.
- **Art and Design:** Creative expression.

For secondary schools

Activities

- **Historical research:** Explore the evolution of marine propulsion from steam engines to modern diesel and electric systems.
- **Technological analysis:** Investigate key innovations in engine design and their impact on boat performance and efficiency.
- **Environmental impact:** Research the environmental consequences of different propulsion methods, including fuel consumption, emissions, and noise pollution.
- **Design challenge:** Design a concept for a sustainable propulsion system for a specific type of boat, considering factors such as efficiency, cost, and environmental impact.
- **Presentation:** Create a presentation or report to communicate findings and design concepts to the class.

Links to the history curriculum

- Technological change
- Research skills

Cross-curricular links

- **Design and Technology:** Research, design, develop, evaluate.
- **Science:** Physics, chemistry, environmental science.
- **Mathematics:** Data analysis, calculations.
- **Geography:** Maritime industry, environmental impact.

Navigating the Evolution of European Ports (target 11.4)

Pupils will explore how ports have changed over time. They will learn about different types of ships, the goods they carried, and the people who worked in ports. Through creative activities, they will understand the importance of ports and the need to protect our environment.

For primary schools

Activities:

- **Historical exploration:** Learn about early trading posts and the goods they traded.
- **Port life:** Explore the different roles of people who work in ports (e.g., sailors, dockworkers, customs officers).
- **Model making:** Create a model of a historical port using recycled materials.
- **Green ports:** Discuss the importance of clean ports and how to protect the environment.
- **Creative expression:** Design posters or create stories about life in a port.

Links to the history curriculum

- Historical change, people and places
- Research skills

Cross-curricular links

- **Geography:** Maps, trade, location.
- **Art and Design:** Creative expression, design.
- **Language:** Storytelling, writing.

For secondary schools

Activities

- **Historical research:** Explore the evolution of European ports from mediaeval trading centres to modern commercial hubs.
- **Case studies:** Analyse specific examples of successful and unsuccessful port development.
- **Design challenge:** Develop a design proposal for a sustainable port, considering factors such as energy efficiency, waste management, and biodiversity.
- **Presentation:** Create a presentation or report to communicate findings and design concepts to the class.
- **Economic impact:** Investigate the economic importance of ports and their role in global trade.

Links to the history curriculum

- Economic history
- Technological change

Cross-curricular links

- **Geography:** Economic geography, trade, urbanisation.
- **Design and Technology:** Research, design, develop, evaluate.
- **Business Studies:** Economics, business operations.
- **Mathematics:** Data analysis, statistics.

Evolution of International Ocean Governance with the BBNJ Treaty (target 17.1)

Pupils will learn about the importance of protecting our oceans. They will discover that many animals live in the big blue sea far away from land and that we need to look after them. They will understand that people from all over the world work together to protect our planet.

For primary schools

Activities

- **Ocean exploration:** Learn about different marine animals and their habitats.
- **Global citizens:** Discuss the idea of sharing our planet with others and the importance of looking after it together.
- **Creative expression:** Design posters or create stories about ocean creatures and protecting the sea.
- **Role-play:** Act out different roles (e.g., scientists, politicians) discussing how to protect the ocean.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- Geography: World map, different countries.
- Science: Animals, habitats.
- Art and Design: Creative expression, communication.
- Citizenship: Global citizenship, cooperation.

For secondary schools

Activities

- **Historical research:** Investigate the history of ocean governance and the challenges faced by the international community.
- **Case studies:** Analyse specific examples of marine environmental issues, such as overfishing, pollution, and climate change.
- **Legal analysis:** Explore the key provisions of the BBNJ Treaty and its implications for marine conservation.
- **Global cooperation:** Examine the role of international organisations and states in implementing the treaty.
- **Presentation:** Create a presentation or report to communicate findings and analysis to the class.

Links to the history curriculum

- International relations
- Globalisation

Cross-curricular links

- **Geography:** Global issues, environmental management.
- **Politics:** Governance, international law.
- **Science:** Marine biology, ecology.
- **Language:** Research, writing, presentation.

The Global Journey to Eradicate IUU Fishing (target 17.2)

Pupils will learn about the importance of looking after our oceans and the creatures that live there. They will discover that some people fish in a way that harms the sea and its inhabitants. They will understand how people have worked together to stop this from happening.

For primary schools

Activities

- **Ocean life:** Learn about different sea creatures and their importance to the ocean ecosystem.
- **Fishing methods:** Explore different fishing methods, both good and bad.
- **Global cooperation:** Discuss the idea of working together to protect our planet.
- **Creative expression:** Design posters or create stories about ocean creatures and sustainable fishing.
- **Role-play:** Act out different roles (e.g., fishermen, scientists, politicians) discussing how to protect the ocean.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- **Science:** Animals, habitats, ecosystems.
- **Geography:** World map, different countries.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Global citizenship, cooperation.

For secondary schools

Activities

- **Historical research:** Investigate the history of fishing and the emergence of IUU fishing as a global problem.
- **Case studies:** Analyse specific examples of IUU fishing and its impact on marine ecosystems.
- **Economic analysis:** Explore the economic consequences of IUU fishing and the benefits of sustainable fishing practices.
- **Global cooperation:** Examine the role of international organisations and states in combating IUU fishing.
- **Policy analysis:** Evaluate the effectiveness of existing anti-IUU fishing measures and propose potential improvements.

Links to the history curriculum

- International relations
- Globalisation

Cross-curricular links

- **Geography:** Global issues, environmental management, economic geography.
- **Business Studies:** Economics, business ethics.
- **Science:** Marine biology, ecology.
- **Language:** Research, writing, presentation.

The Road to a Global Ban on Seabed Habitat Destruction (target 17.3)

Pupils will learn about the importance of protecting the ocean floor. They will discover that many amazing creatures live on the seabed and that we need to look after their homes. They will understand that people from all over the world work together to protect our planet.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures that live on the seabed.

- **Seabed protection:** Discuss the importance of protecting the ocean floor and why it is important for marine life.
- **Global cooperation:** Understand that people from different countries work together to protect the environment.
- **Creative expression:** Design posters or create stories about seabed creatures and their homes.
- **Role-play:** Act out different roles (e.g., scientists, politicians) discussing how to protect the seabed.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- **Science:** Animals, habitats, ecosystems.
- **Geography:** World map, different countries.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Global citizenship, cooperation.

For secondary schools

Activities

- **Historical research:** Explore the history of human activities impacting the seabed, from fishing to deep-sea mining.
- **Scientific investigation:** Investigate the ecological importance of seabed habitats and the consequences of their destruction.
- **Global cooperation:** Examine the role of international organisations and states in addressing seabed issues.
- **Legal analysis:** Explore the key provisions of the global ban and the challenges of enforcement.
- **Case studies:** Analyse specific examples of seabed habitat loss and restoration efforts.

Links to the history curriculum

- International relations
- Globalisation

Cross-curricular links

- **Geography:** Global issues, environmental management, marine geography.
- **Science:** Marine biology, ecology, geology.
- **Law:** International law, environmental law.
- **Language:** Research, writing, presentation.

Evolution of International Maritime Standards (target 17.5)

For primary schools

Pupils will learn about how ships travel safely and how important it is to protect the sea. They will discover that people from different countries work together to make sure ships are safe and don't harm the environment.

Activities

- **Ship safety:** Learn about different types of ships and the people who work on them.
- **Sea protection:** Discuss the importance of keeping the sea clean and safe for animals.
- **Global cooperation:** Understand that people from different countries work together to make rules for ships.
- **Creative expression:** Design posters or create stories about ships and the sea.
- **Role-play:** Act out different roles (e.g., ship captain, harbour master, scientist) discussing ship safety.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- **Science:** Habitats, pollution.
- **Geography:** Maps, different countries.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Global citizenship, cooperation.

For secondary schools

Activities

- **Historical research:** Explore the history of maritime transport and the emergence of international regulations.
- **Case studies:** Analyse specific examples of maritime accidents and the resulting policy changes.
- **Economic analysis:** Examine the economic impact of maritime regulations on the shipping industry and global trade.
- **Global cooperation:** Investigate the role of the IMO and other international organisations in developing and enforcing standards.
- **Policy analysis:** Evaluate the effectiveness of current maritime standards and propose potential improvements.

Links to the history curriculum

- International relations
- Technological change

Cross-curricular links

- **Geography:** Globalisation, trade, transport.
- **Business Studies:** Economics, international business.
- **Science:** Environmental science, technology.
- **Language:** Research, writing, presentation.

Evolution of Fisheries Conditions in Trade Agreements (target 17.6)

Pupils will learn about fishing and how important it is to protect our oceans. They will discover that different countries have rules about fishing and that these rules have changed over time. Through creative activities, they will understand the importance of fair play and protecting our planet.

For primary schools

Activities

- **Ocean life:** Learn about different fish and the importance of healthy oceans.
- **Fishing and trade:** Explore how fish are caught and sold around the world.
- **Fairness and sharing:** Discuss the importance of sharing resources and being fair to others.
- **Creative expression:** Design posters or create stories about fish, fishing, and fair trade.
- **Role-play:** Act out different roles (e.g., fisherman, market trader, government official) discussing fishing rules.

Links to the history curriculum

- Timelines
- Historical figures
- Research skills

Cross-curricular links

- **Science:** Animals, habitats, food chains.
- **Geography:** Maps, trade, globalisation.
- **Art and Design:** Creative expression, communication.
- **Citizenship:** Fair play, cooperation.

For secondary schools

Activities:

- **Historical research:** Explore the history of European fisheries and the development of EU trade policies.
- **Case studies:** Analyse specific examples of EU trade agreements and their impact on fisheries.
- **Economic analysis:** Examine the economic implications of different fisheries policies, including impacts on coastal communities and consumers.
- **Environmental impact:** Assess the environmental consequences of overfishing and the role of trade agreements in promoting sustainable fishing.
- **Policy analysis:** Evaluate the effectiveness of current EU fisheries policies and propose potential improvements.

Links to the history curriculum

- Economic history
- International relations

Cross-curricular links

- **Geography:** Globalisation, trade, environmental management.
- **Business Studies:** Economics, international trade.
- **Science:** Marine biology, ecology.
- **Language:** Research, writing, presentation.

Art and design

Immersive art installation (target 1.2)

Students will collaborate to create an immersive art installation that visually represents the impact of human activities on aquatic environments. This project aims to foster a deep understanding of water's importance, its challenges, and the potential for positive change. Through artistic expression, students will explore water-related issues, develop critical thinking skills, and inspire action within their communities.

For primary schools

Activities

- **Water exploration:** Students will research local water sources, their importance, and their challenges. They will collect water samples, observe aquatic life, and learn about water cycles.
- **Artistic expression:** Students will use various art materials (e.g., clay, paint, recycled materials) to create individual and group artworks representing different aspects of water. These might include sculptures of water creatures, paintings of water pollution, or sound installations representing water sounds.
- **Collaboration and installation:** Students will work together to combine their artworks into a cohesive installation, discussing how their pieces connect and contribute to the overall message.
- **Reflection and sharing:** Students will reflect on their learning journey and share their artwork with the school community through presentations, exhibitions, and performances.

Links to the art and design curriculum

- Sculpture
- Painting
- Sound art
- Collaboration

Cross-curricular links

- **Science:** Water cycle, ecosystems, pollution, conservation.
- **Language:** Descriptive writing, storytelling, and presentation skills.
- **Citizenship:** Environmental awareness, community engagement.

For secondary schools

Activities

- **Research:** Students will research specific water-related issues (e.g., water scarcity, pollution) and analyse their impact on local, national, and global communities.
- **Data collection:** Students may gather data on water quality, consumption, or related environmental factors to inform their artistic expressions.
- **Conceptualisation and design:** Students will develop a concept for their artistic contribution, considering the overall message of the installation. They will experiment with various creative techniques and media to create impactful pieces.
- **Collaboration and curation:** Students will collaborate to curate the installation, considering the arrangement, lighting, and overall aesthetic.
- **Public engagement:** Students will develop strategies to engage the community with their artwork, such as guided tours, workshops, or social media campaigns.

Links to the art and design curriculum

- Conceptual art
- Installation art
- Media arts

Cross-curricular links

- **Science:** Ecology, environmental science, data analysis.
- **Geography:** Water resources, environmental management.
- **Language:** Research, writing, public speaking.
- **Mathematics:** Data analysis, statistics.

Mapping the seabed through art (target 2.4)

Students will explore the hidden beauty of the seabed by creating artistic representations inspired by real-world marine maps. Through this project, students will develop a deeper understanding of marine ecosystems, the importance of oceanography, and the power of artistic expression.

For primary schools

Activities

- **Seabed exploration:** Students will learn about different marine environments, such as coral reefs, deep-sea trenches, and kelp forests. They can use books, videos, and online resources to explore these underwater worlds.
- **Map study:** Students will examine simple maps of the seabed, focusing on key features like depth, landforms, and marine life.
- **Artistic interpretation:** Students will create two-dimensional or three-dimensional artworks inspired by their seabed research. They can use a variety of materials like

paints, clay, or recycled materials to express their interpretation of the underwater world.

- **Sharing and reflection:** Students will share their artwork with classmates, explaining their inspiration and the marine features they represented.

Links to the art and design curriculum

- Sculpture
- Painting
- Mixed media

Cross-curricular links

- **Science:** Marine habitats, ecosystems, map reading.
- **Geography:** Maps, location, physical geography.

For secondary schools

Activities

- **Research:** Students will explore specific seabed features like hydrothermal vents, ocean trenches, or continental shelves. They can use scientific data and imagery to inform their artistic concepts.
- **Map analysis:** Students will analyse detailed marine maps, focusing on contour lines, bathymetry, and geological features. They can use digital tools to manipulate and visualise map data.
- **Artistic exploration:** Students can choose from a variety of art forms, including painting, sculpture, digital art, or installation art. They will experiment with different techniques and materials to represent the complex underwater world.
- **Collaboration and exhibition:** Students can collaborate on a large-scale art installation that represents a specific marine region. They can also curate an exhibition of their artworks, including informative labels and explanations.
- **Public engagement:** Students can create educational materials or presentations to share their knowledge and artwork with the wider community.

Links to the art and design curriculum

- Conceptual art
- Installation art
- Digital media

Cross-curricular links

- **Science:** Oceanography, marine biology, geology.
- **Geography:** Map analysis, GIS, environmental science.
- **Mathematics:** Data analysis, spatial reasoning.

Resilience through art (target 4.2)

Students will explore the concept of resilience in the face of floods and coastal erosion through artistic expression. By creating visual representations of nature-based solutions, students will

develop a deeper understanding of environmental challenges and the importance of human-nature interactions.

For primary schools

Activities

- **Understanding floods and erosion:** Students will learn about the causes and impacts of floods and coastal erosion through stories, pictures, and simple experiments.
- **Nature-based solutions:** Students will be introduced to concepts like wetlands, mangroves, and reforestation as ways to protect against floods and erosion.
- **Art exploration:** Students will use a variety of art materials (e.g., clay, paint, recycled materials) to create artworks representing nature-based solutions. They can create sculptures of animals that live in wetlands, paintings of lush green forests, or models of coastal defences.
- **Community sharing:** Students will share their artworks with the school community, explaining the importance of nature-based solutions.

Links to the art and design curriculum

- Sculpture
- Painting
- Mixed media

Cross-curricular links

- **Science:** Weather, water cycle, ecosystems.
- **Geography:** Physical geography, human-environment interaction.

For secondary schools

Activities

- **Research and analysis:** Students will research specific case studies of floods and coastal erosion, analysing their causes, impacts, and existing solutions.
- **Design thinking:** Students will apply design thinking principles to analyse innovative nature-based solutions to address local challenges.
- **Art and technology:** Students can use a variety of art forms, including digital media, to create visually compelling representations of their proposed solutions. They can develop animations, interactive installations, or virtual reality experiences.
- **Community engagement:** Students will collaborate with local communities to identify their needs and concerns related to floods and coastal erosion. They can present their project findings and design proposals to the community.
- **Evaluation and reflection:** Students will assess the effectiveness of their artistic expressions in raising awareness and inspiring action.

Links to the art and design curriculum

- Digital media
- Installation art
- Design thinking

Cross-curricular links

- **Science:** Environmental science, geography, ecology.
- **Geography:** Coastal processes, hazards, environmental management.
- **Mathematics:** Data analysis, modelling.

Plastic transformation (target 7.1)

Students will explore the issue of plastic pollution through artistic expression, focusing on the transition from traditional to sustainable plastics. By creating artworks that highlight the impact of plastic on the environment and the potential for positive change, students will develop a deeper understanding of sustainability and the circular economy.

For primary schools

Activities

- **Plastic awareness:** Students will learn about different types of plastics, their uses, and the environmental impact of plastic waste. They can collect plastic items for observation and discussion.
- **Recycling exploration:** Students will explore recycling processes and the importance of reducing plastic consumption. They can visit a local recycling facility or invite a guest speaker to explain recycling.
- **Art creation:** Students will create artworks using recycled plastic materials or materials that represent sustainable alternatives. They can create sculptures, paintings, or collages that depict plastic's transformation from harmful to helpful.
- **Sharing and reflection:** Students will share their artwork with classmates, discussing the message they want to convey and the importance of reducing plastic waste.

Links to the art and design curriculum

- Sculpture
- Painting
- Mixed media

Cross-curricular links

- **Science:** Materials, recycling, pollution.
- **Citizenship:** Environmental responsibility, sustainability.

For secondary schools

Activities

- **Research:** Students will research the plastic life-cycle, from production to disposal. They will investigate the impact of plastic pollution on marine ecosystems and human health.
- **Design thinking:** Students will study innovative ideas for reducing plastic waste and promoting sustainable alternatives. They can focus on product design, packaging, or waste management solutions.

- **Art and technology:** Students will use a variety of art forms to express their ideas, including sculpture, painting, digital art, or installation art. They can incorporate technology to create interactive or immersive experiences.
- **Community engagement:** Students can collaborate with local businesses or organisations to promote plastic reduction and recycling. They can organise awareness campaigns or create public art installations.
- **Evaluation and reflection:** Students will assess the effectiveness of their artworks in raising awareness and inspiring change.

Links to the art and design curriculum

- Product design
- Digital media
- Installation art

Cross-curricular links

- **Science:** Chemistry, materials science, environmental science.
- **Geography:** Environmental management, global issues.
- **Business studies:** Entrepreneurship, sustainability.

Exhibition on nutrient excess in water (target 8.1)

Students will explore the complex issue of agriculture runoff and nutrient management through artistic expression. By creating visual representations of the relationship between agriculture and water quality, students will develop a deeper understanding of the importance of sustainable practices and the impact of human activities on ecosystems.

For primary schools

Activities

- **Nutrient cycle:** Students will learn about the natural movement of nutrients in the environment, including how plants use nutrients and how nutrients return to the soil.
- **Farm visits:** If possible, arrange a visit to a local farm to observe farming practices. Students can learn about how farmers manage nutrients and protect water quality.
- **Art creation:** Students will create artworks that represent the flow of nutrients through the environment. They can use a variety of materials, such as clay, paint, or recycled materials, to create sculptures, paintings, or collages.
- **Sharing and reflection:** Students will share their artworks with the school community and explain the importance of nutrient management for healthy ecosystems.

Resources

- Art supplies (paint, brushes, clay, recycled materials)
- Science equipment for simple experiments (e.g., soil samples, water testing kits such as [https://www.freshwaterwatch.org/])
- Access to information about nutrient cycles and agriculture
- Potential transportation for a farm visit

Links to the art and design curriculum

- Sculpture
- Painting
- Mixed media

Cross-curricular links

- **Science:** Plants, ecosystems, water cycle.
- **Geography:** Agriculture, land use, environmental impact.

For secondary schools

Activities

- **Nutrient dynamics:** Students will research the nutrient cycle in detail, including the roles of nitrogen and phosphorus. They will explore how agricultural practices can influence nutrient levels in soil and water.
- **Sustainable agriculture:** Students will investigate sustainable farming techniques that help to maintain nutrient balance, such as crop rotation, cover crops, and precision agriculture.
- **Art and technology:** Students can use a variety of art forms, including digital media, to create visual representations of nutrient flow. They can develop animations, interactive installations, or data visualisations.
- **Community engagement:** Students can collaborate with local farmers or environmental organisations to study solutions for nutrient management. They can organise workshops or create public awareness campaigns.
- **Evaluation and reflection:** Students will assess the effectiveness of their artworks in raising awareness and inspiring action.

Resources

- Access to scientific data and research
- Art supplies and technology equipment
- Potential field trips to farms or research facilities
- Expert guest speakers (farmers, scientists, environmentalists)

Links to the art and design curriculum

- Digital media
- Installation art
- Design thinking

Cross-curricular links

- **Science:** Chemistry, biology, ecology.
- **Geography:** Agriculture, environmental management, land use.
- **Mathematics:** Data analysis, modelling.

Visualising sustainable shipping (target 11.2)

Students will explore the impact of shipping emissions on the marine environment through artistic expression. By creating visual representations of cleaner shipping solutions, students

will develop a deeper understanding of sustainability and the importance of protecting the oceans.

For primary schools

Activities

- **Ship and sea exploration:** Students will learn about different types of ships, their importance, and how they impact the environment. If possible, they can explore local ports or harbours.
- **Clean-shipping discussion:** Introduce the concept of air pollution from ships and its impact on the marine environment. Discuss ways to reduce emissions, such as cleaner fuels and ship design.
- **Art creation:** Students can create paintings, drawings, or models of environmentally friendly ships. They might study ships that pollute less (e.g., [https://en.wikipedia.org/wiki/Rainbow_Warrior_%282011%29]) and create related artwork.
- **Sharing and reflection:** Students will share their artworks with the school community, explaining the importance of clean shipping and the positive impact it can have on the environment.

Resources

- Art supplies (paint, brushes, clay, recycled materials)
- Books, images, or videos about ships and the marine environment
- Possible visits to local ports or harbours

Links to the art and design curriculum

- Drawing
- Painting
- Modelling

Cross-curricular links

- **Science:** Air and water pollution, habitats.
- **Geography:** Transport, trade, environmental impact.

For secondary schools

Activities

- **Research:** Students will research the types of emissions from ships and their impact on marine ecosystems. They can explore international regulations and initiatives to reduce emissions.
- **Sustainable shipping solutions:** Students will investigate alternative fuels, ship design innovations, and other technologies aimed at reducing shipping emissions.
- **Art and technology:** Students can use a variety of art forms, including digital media, to create visual representations of cleaner shipping. They can develop animations, interactive installations, or data visualisations.

- **Community engagement:** Students can collaborate with local maritime businesses or environmental organisations to promote awareness of clean shipping. They can organise campaigns or create public art installations.
- **Evaluation and reflection:** Students will assess the effectiveness of their artworks in raising awareness and inspiring action.

Resources

- Access to scientific data and research
- Art supplies and technology equipment
- Potential visits to maritime businesses or ports
- Expert guest speakers (marine scientists, engineers, policy makers)

Links to the art and design curriculum

- Digital media
- Installation art
- Design thinking

Cross-curricular links

- Science: Chemistry, physics, ecology.
- Geography: Transport, globalisation, environmental management.
- Mathematics: Data analysis, modelling.

Sustainable tourism through art (target 15.2)

Students will explore the concept of sustainable tourism through artistic expression. By creating visual representations of responsible travel and accommodation, students will develop a deeper understanding of the impact of tourism on the environment and the importance of preserving natural resources.

For primary schools

Activities

- **Understanding tourism:** Students will learn about different types of tourism, such as beach holidays, adventure tourism, and cultural tourism. They will discuss the positive and negative impacts of tourism on local communities and the environment.
- **Sustainable tourism exploration:** Students will explore the concept of sustainable tourism, focusing on activities that minimise environmental impact and support local communities. They can learn about eco-friendly practices, such as recycling, energy conservation, and protecting wildlife.
- **Art creation:** Students will create artworks that represent sustainable tourism. They can use a variety of materials like paint, recycled materials, or natural materials to create posters, models, or murals.
- **Community sharing:** Students will share their artworks with the school community, explaining the importance of sustainable tourism and the role they can play as responsible tourists.

Resources

- Art supplies (paint, brushes, recycled materials, etc.)
- Images and information about different types of tourism
- Information about sustainable tourism practices

Links to the art and design curriculum

- Painting
- Poster design
- Mixed media

Cross-curricular links

- Geography: Tourism, environmental impact, sustainable development.
- Citizenship: Global citizenship, environmental responsibility.

For secondary schools

Activities

- **Research:** Students will research the tourism industry, focusing on its economic, social, and environmental impacts. They will investigate the concept of sustainable tourism and explore case studies of successful sustainable resorts.
- **Design thinking:** Students will develop ideas for sustainable tourism initiatives, such as eco-friendly accommodation, responsible travel, and community involvement.
- **Art and technology:** Students can use a variety of art forms, including digital media, to create visual representations of their sustainable tourism concepts. They can develop websites, social media campaigns, or multimedia presentations.
- **Community engagement:** Students can collaborate with local tourism businesses or environmental organisations to promote sustainable tourism. They can organise awareness campaigns or create public art installations.
- **Evaluation and reflection:** Students will assess the effectiveness of their artworks in raising awareness and inspiring action.

Resources

- Access to information about the tourism industry and sustainable tourism
- Art supplies and technology equipment
- Potential guest speakers from the tourism industry or environmental organisations
- Opportunities for field trips to local tourist destinations

Links to the art and design curriculum

- Digital media
- Graphic design
- Multimedia

Cross-curricular links

- Geography: Tourism, environmental management, economic geography.
- Business Studies: Marketing, entrepreneurship, sustainability.

Mathematics

Upskilling the water-related workforce (target 1.3)

Students will explore the concept of workforce development in the water-related economy through data analysis. By tracking and visualising changes in the skills of the water-related workforce, students will develop a deeper understanding of the importance of education and training for sustainable ocean management.

For secondary schools

Activities

- **Understanding the Blue Economy:** Students will learn about the different sectors of the blue economy, such as fisheries, aquaculture, marine tourism, and renewable energy.
- **Data collection:** Students will gather data on the European blue workforce, focusing on employment numbers, skill sets, and training opportunities. Various online databases and reports can be used as data sources.
- **Data analysis:** Students will analyse the collected data to identify trends in employment, skill development, and upskilling or reskilling needs. They will calculate percentage increases and decreases in specific skill areas over time.
- **Data visualisation:** Students will create charts, graphs, and other visual representations to communicate their findings effectively. They can use spreadsheet software or specialised data visualisation tools.
- **Presentation:** Students will present their findings to the class, explaining their methodology and the implications of their results for the blue economy.

Resources

- Access to computers and internet
- Spreadsheet software (e.g., Microsoft Excel, Google Sheets)
- Data visualisation tools (optional, e.g., Tableau, Power BI)
- Relevant data sources (e.g., Eurostat, OECD)

Links to the mathematics curriculum

- Data handling
- Statistics
- Probability
- Graphical representation

Cross-curricular links

- **Geography:** Economic geography, the blue economy, sustainable development.
- **ICT:** Data analysis, spreadsheet software, presentation skills.

Note: For a primary school version, the focus could be narrowed down to a specific local blue economy sector (e.g., fishing, tourism) and the data could be simplified to focus on job roles

rather than specific skills. Students could create simple charts or graphs to show changes in employment numbers over time.

Hydro-Morphological Trends Analysis (target 5.2)

Students will use mathematical models to track the progress of a local river restoration project. Through engaging activities, they will learn about data collection, graphing, and basic statistical analysis.

For primary schools

Activities

- **Data collection:** Students will collect data on water quality, river flow, and wildlife observations before and after the restoration project.
- **Graphing:** Students will create graphs to visualise the data, such as line graphs to show changes in water quality over time.
- **Simple statistics:** Students will calculate basic statistics, such as averages and ranges, to analyse the data.
- **Presentation:** Students will present their findings to their class or community, explaining their data collection and analysis process.

Resources

- Data collection tools (e.g., water testing kits, thermometers)
- Graphing paper or software
- Calculators or spreadsheets
- Presentation materials (e.g., posters, PowerPoint)

Links to the mathematics curriculum

- Data collection
- Graphing
- Basic statistics

Cross-curricular links

- Science: Understanding water quality, ecosystems, and environmental restoration
- Geography: Exploring local environments and human-environment interactions

For secondary schools

Activities

- **Data collection and analysis:** Students will collect and analyse data on river flow, water quality, sediment transport, and habitat conditions before and after the restoration project.
- **Mathematical modelling:** Students will develop and apply mathematical models to simulate the hydrological and morphological processes of the river.
- **Statistical analysis:** Students will use statistical techniques to test hypotheses and quantify the impact of the restoration project.

- **Visualisation:** Students will create visualisations, such as maps and charts, to illustrate the changes in the river's condition over time.

Resources

- Data collection equipment (e.g., flow metres, water quality probes)
- Mathematical modelling software (e.g., R, Python)
- Statistical software (e.g., SPSS, Excel)
- Visualisation tools (e.g., GIS, graphing software)

Links to the mathematics curriculum

- Data analysis
- Statistics
- Mathematical modelling

Cross-curricular links

- Science: Hydrology, environmental science, ecology
- Geography: Geographic information systems, environmental management
- Computer science: Programming and data visualisation

Statistical Trends in Bycatch Reduction (target 6.2)

Students will learn about the problem of incidental catches in fishing and explore ways to reduce their impact on marine life. Through data analysis and creative activities, they will understand the importance of sustainable fishing practices.

For primary schools

Activities

- **Data collection:** Students will collect data on incidental catches from local fisheries or online sources.
- **Graphing:** Students will create graphs to visualise the data, such as bar graphs to show the types of fish caught incidentally.
- **Simple statistics:** Students will calculate basic statistics, such as averages and percentages, to analyse the data.
- **Mitigation strategies:** Students will research and discuss different mitigation strategies to reduce incidental catches, such as using selective fishing gear or establishing marine protected areas.

Resources

- Data collection tools (e.g., spreadsheets, online databases)
- Graphing paper or software
- Calculators or spreadsheets
- Presentation materials (e.g., posters, PowerPoint)

Links to the mathematics curriculum

- Data collection

- Graphing
- Basic statistics

Cross-curricular links

- Science: Understanding marine ecosystems and biodiversity
- Geography: Exploring oceans and human-environment interactions

For secondary schools

Activities

- **Data collection and analysis:** Students will collect and analyse data on incidental catches, fishing effort, and mitigation measures from various sources.
- **Statistical modelling:** Students will develop and apply statistical models to quantify the relationship between incidental catches and factors such as fishing gear, fishing practices, and environmental conditions.
- **Hypothesis testing:** Students will test hypotheses related to the effectiveness of different mitigation strategies.
- **Policy recommendations:** Students will develop policy recommendations based on their findings to improve the sustainability of fishing practices.

Resources

- Data collection equipment (e.g., fishing logs, satellite data)
- Statistical software (e.g., R, SPSS)
- Mathematical modelling software
- Presentation materials (e.g., PowerPoint, posters)

Links to the mathematics curriculum

- Statistics
- Data analysis
- Mathematical modelling

Cross-curricular links

- Science: Marine science, ecology, environmental management
- Geography: Geographic information systems, environmental policy
- Economics: Environmental economics, fisheries management

Catch Monitoring Analytics (target 6.3)

Students will become data analysts, exploring catch data from controlled landings. Through fun activities, they will learn about data collection, graphing, and basic statistics.

For primary schools

Activities

- **Data collection:** Students will collect data on fish catches, species, and fishing methods from local fisheries or online sources.

- **Graphing:** Students will create graphs to visualise the data, such as bar graphs to show the types of fish caught.
- **Simple statistics:** Students will calculate basic statistics, such as averages and percentages, to analyse the data.
- **Prediction:** Students will make predictions about future catch trends based on their analysis.

Resources

- Data collection tools (e.g., spreadsheets, online databases)
- Graphing paper or software
- Calculators or spreadsheets
- Presentation materials (e.g., posters, PowerPoint)

Links to the mathematics curriculum

- Data collection
- Graphing
- Basic statistics

Cross-curricular links

- Science: Understanding marine ecosystems and biodiversity
- Geography: Exploring oceans and human-environment interactions

For secondary schools

Activities

- **Data collection and analysis:** Students will collect and analyse data on fish catches, fishing effort, environmental factors, and management measures.
- **Mathematical modelling:** Students will develop and apply mathematical models to predict future catch trends based on historical data.
- **Statistical analysis:** Students will use statistical techniques to evaluate the accuracy and reliability of their models.
- **Policy recommendations:** Students will develop policy recommendations based on their findings to improve fisheries management.

Resources

- Data collection equipment (e.g., fishing logs, satellite data)
- Statistical software (e.g., R, SPSS)
- Mathematical modelling software
- Presentation materials (e.g., PowerPoint, posters)

Links to the mathematics curriculum

- Statistics
- Data analysis
- Mathematical modelling

Cross-curricular links

- Science: Marine science, ecology, fisheries management
- Geography: Geographic information systems, environmental policy
- Economics: Environmental economics, fisheries economics

Optimising Fertiliser Application (target 8.2)

Students will learn about precision agriculture and how it can help reduce fertiliser use and protect our water resources. Through hands-on activities, they will explore the relationship between soil, plants, and fertiliser.

For primary schools

Activities

- **Soil testing:** Students will test their school garden soil to determine its nutrient content.
- **Plant growth experiment:** Students will conduct experiments to see how different amounts of fertilisers affect plant growth.
- **Data analysis:** Students will record their observations and create graphs to visualise the data.
- **Presentation:** Students will present their findings to their class or community, explaining the importance of precision agriculture.

Resources

- Soil testing kits
- Gardening supplies (e.g., plants, seeds, fertiliser)
- Graphing paper or software
- Presentation materials (e.g., posters, PowerPoint)

Links to the mathematics curriculum

- Data collection
- Graphing
- Basic statistics

Cross-curricular links

- Science: Understanding plants, soil, and ecosystems
- Geography: Exploring agriculture and land use

For secondary schools

Activities

- **Data collection and analysis:** Students will collect and analyse data on soil properties, crop yields, fertiliser application rates, and environmental factors.
- **Mathematical modelling:** Students will develop and apply mathematical models to simulate the relationship between fertiliser application, crop growth, and environmental impacts.
- **Optimization:** Students will use optimization techniques to identify the optimal fertiliser application rates for different soil types and crops.

- **Scenario analysis:** Students will conduct scenario analysis to explore the potential impacts of different fertiliser management strategies on crop yields, water quality, and greenhouse gas emissions.

Resources

- Data collection equipment (e.g., soil testers, yield monitors)
- Mathematical modelling software
- Statistical software
- Presentation materials (e.g., PowerPoint, posters)

Links to the mathematics curriculum

- Data analysis
- Statistics
- Mathematical modelling

Cross-curricular links

- Science: Soil science, agriculture, environmental science
- Geography: Geographic information systems, land use planning
- Economics: Agricultural economics, environmental economics

Mathematical Models for Market Growth Prediction (target 14.2)

Students will explore the world of blue biotech, a growing industry that uses marine organisms to create new products. Through fun activities, they will learn about the potential of this industry and its impact on our lives.

For primary schools

Activities

- **Research:** Students will research different blue biotech products, such as medicines, food additives, and biofuels.
- **Data collection:** Students will collect data on the growth of the blue biotech industry over the past few years.
- **Graphing:** Students will create graphs to visualise the data, such as line graphs to show the growth of the industry.
- **Prediction:** Students will make predictions about the future growth of the blue biotech industry based on their analysis.

Resources

- Books and articles about blue biotech
- Data collection tools (e.g., spreadsheets, online databases)
- Graphing paper or software
- Presentation materials (e.g., posters, PowerPoint)

Links to the mathematics curriculum

- Data collection

- Graphing
- Basic statistics

Cross-curricular links

- Science: Understanding marine ecosystems and biodiversity
- Geography: Exploring oceans and human-environment interactions

For secondary schools

Activities

- **Data collection and analysis:** Students will collect and analyse data on the blue biotech market, including investment trends, product development, and regulatory changes.
- **Mathematical modelling:** Students will develop and apply mathematical models to predict the future growth of the industry, considering factors such as market demand, technological advancements, and regulatory policies.
- **Scenario analysis:** Students will conduct scenario analysis to explore different potential futures for the blue biotech industry and assess the associated risks and opportunities.
- **Economic and environmental impact assessment:** Students will evaluate the potential economic and environmental impacts of the blue biotech industry, considering factors such as job creation, resource use, and pollution.

Resources

- Data collection tools (e.g., market research reports, financial data)
- Mathematical modelling software
- Statistical software
- Presentation materials (e.g., PowerPoint, posters)

Links to the mathematics curriculum

- Data analysis
- Statistics
- Mathematical modelling

Cross-curricular links

- Science: Marine science, biotechnology, environmental science
- Economics: Economic forecasting, environmental economics
- Geography: Geographic information systems, sustainable development

Geography

Mapping blue skills (target 1.3.)

Students research and map the geographical distribution of workers in the European blue workforce, exploring how different regions contribute to the overall goal of upskilling and

reskilling workers and analysing the factors influencing their concentration in certain regions. The aim is to understand the vital role water plays in our lives and the importance of a skilled workforce to protect our water resources.

For primary schools

Activities

- **Research:** Investigate the different types of jobs in the blue workforce, such as marine biologists, oceanographers, and water engineers.
- **Map:** Create a simple map of Europe, highlighting regions with a high concentration of workers in the blue workforce.
- **Interview:** Conduct interviews with local experts or community members involved in water-related activities to learn about their work and the challenges they face.

Resources

- Maps of Europe
- Books or articles about the blue workforce
- Internet access
- Art supplies (markers, crayons, paper)

Links to the Geography curriculum

- Maps and location
- Blue economy
- Regional development

Cross-curricular links

- Language: Research, writing, and communication
- Art: Design and creativity

For secondary schools

Activities

- **Research:** Conduct in-depth research on the blue workforce, including the types of jobs, skills required, and the challenges faced by workers in different regions.
- **Data Analysis:** Use geographic information systems (GIS) or other data analysis tools to map the distribution of upskilled and re-skilled workers across Europe.
- **Case Studies:** Analyse case studies of successful blue workforce initiatives in different countries, identifying factors contributing to their success.
- **Policy Analysis:** Evaluate existing policies and regulations related to the blue workforce.
- **Interview:** Conduct interviews with local experts or community members involved in water-related activities to learn about their work and the challenges they face.

Resources

- Maps of Europe or Geographic information systems (GIS) software

- Access to databases and research articles about the blue workforce
- Internet access

Links to the Geography curriculum

- Economic geography
- Environmental issues
- GIS, mapping and spatial analysis
- Blue economy
- Regional development

Cross-curricular links

- Economics: Labor markets, skills development, and policy analysis
- Science: Marine biology, oceanography, and environmental science
- Language: Research, writing, and presentation skills

Mapping Marine Protected Areas (target 3.1.)

Students create an atlas highlighting the geographical distribution of Marine Protected Areas (MPAs) in EU waters. They research and design maps that showcase the areas under protection, emphasising the importance of preserving marine ecosystems and exploring their effectiveness, and the challenges they face.

For primary schools

Activities

- **Research:** Learn about marine protected areas (MPAs) and why they are important for preserving marine ecosystems.
- **Map:** Create a simple map of Europe, highlighting the locations of MPAs in EU waters.
- **Create:** Design and decorate their own marine protected area, including different types of marine life and habitats.
- **Present:** Share their findings and creations with the class, explaining the importance of protecting marine ecosystems.

Resources

- Maps of Europe
- Books or articles about marine protected areas
- Internet access
- Art supplies (markers, crayons, paper)
- Building materials (cardboard, straws, plastic bottles)

Links to the Geography curriculum

- Maps and location
- Environmental geography

Cross-curricular links

- Science: Marine life, ecosystems, and conservation

- English: Research, writing, and communication
- Art: Design and creativity

For secondary schools

Activities

- **Research:** Conduct in-depth research on MPAs, including their designation criteria, management practices, and effectiveness in protecting marine ecosystems.
- **Data Analysis:** Use geographic information systems (GIS) or other data analysis tools to map the distribution of MPAs in EU waters and analyse their coverage.
- **Case Studies:** Analyse case studies of successful and less successful MPAs, identifying factors contributing to their success or failure.
- **Policy Analysis:** Evaluate existing policies and regulations related to MPAs and how they could be improved.

Resources

- Maps of Europe or Geographic information systems (GIS) software
- Access to databases and research articles about the blue workforce
- Internet access

Links to the Geography curriculum

- Environmental geography
- GIS, mapping and spatial analysis

Cross-curricular links

- Economics: Environmental economics, resource management, and policy analysis
- Science: Marine biology, oceanography, and conservation
- Language: Research, writing, and presentation skills

Rejuvenated Seabed Maps (target 4.1.)

Students create maps showcasing the locations where seabed habitats have been regenerated. The project involves geographical analysis, map design, and the presentation of before-and-after scenarios, emphasising the positive impact of habitat restoration on local ecosystems.

For primary schools

Activities

- **Research:** Learn about seabed habitats and the impact of human activities on their degradation.
- **Map:** Create a simple map of the world, highlighting areas where seabed habitats have been successfully regenerated.
- **Create:** Design and build a model of a restored seabed habitat, including different types of marine life and plants.

- **Present:** Share their findings and creations with the class, explaining the importance of habitat restoration for ocean health.

Resources

- Maps of the world
- Books or articles about seabed habitats and restoration
- Internet access
- Art supplies (markers, crayons, paper)
- Building materials (cardboard, straws, plastic bottles)

Links to the Geography curriculum

- Maps and location
- Environmental geography

Cross-curricular links

- Science: Marine life, ecosystems, and conservation
- English: Research, writing, and communication
- Art: Design and creativity

For secondary schools

Activities

- **Research:** Conduct in-depth research on seabed habitat restoration projects, including their methods, scale, and success metrics.
- **Data Analysis:** Use geographic information systems (GIS) or other data analysis tools to map the locations of restored seabed habitats and analyse their distribution.
- **Case Studies:** Analyse case studies of successful and less successful restoration projects, identifying factors contributing to their success or failure.
- **Policy Analysis:** Evaluate existing policies and regulations related to seabed habitat restoration and propose potential improvements.

Resources

- Maps of Europe or Geographic information systems (GIS) software
- Access to databases and research articles about the blue workforce
- Internet access

Links to the Geography curriculum

- Environmental geography
- GIS, mapping and spatial analysis

Cross-curricular links

- Economics: Environmental economics, resource management, and policy analysis
- Science: Marine biology, oceanography, and conservation

- English: Research, writing, and presentation skills

Eco-Resilience Chronicles (target 4.2)

Students will delve into the fascinating world of water and discover how nature can help us protect this precious resource. Through engaging activities, they will learn about the importance of ecosystems in providing clean water, preventing flooding, and supporting biodiversity.

For primary schools

Activities

- **Local water exploration:** Students will explore their local environment to identify sources of water (e.g., rivers, ponds, wells) and observe how they are used by plants, animals, and people.
- **Water cycle experiment:** Students will create a miniature water cycle model to understand the different stages of the water cycle and how it affects their local environment.
- **Nature-based solutions:** Students will research and discuss examples of nature-based solutions for water management, such as wetlands, rain gardens, and tree planting.
- **Water conservation pledge:** Students will create a personal water conservation pledge and share it with their classmates.

Resources

- Books and articles about water, ecosystems, and nature-based solutions
- Water cycle diagrams and models
- Local maps and guides to natural areas
- Gardening supplies (e.g., seeds, soil) for creating mini-ecosystems

Links to the geography curriculum

- Exploring local environments
- Natural resources
- Human-environment interactions

Cross-curricular links

- Science: Understanding the water cycle, ecosystems, and biodiversity
- English: Writing and presenting information, creating persuasive arguments

For secondary schools

Activities

- **Case study analysis:** Students will select case studies from different regions (e.g., coastal areas, mountainous regions, arid environments) to analyse how geographic factors (e.g., climate, topography, biodiversity) impact water availability, quality, and management.
- **Data collection and analysis:** Students will collect and analyse data on water quality, precipitation patterns, and land use changes in their local area.

- **Nature-based solution design:** Students will design a nature-based solution for a specific water-related challenge in their community, considering factors such as cost-effectiveness, sustainability, and ecological benefits.
- **Community engagement:** Students will present their findings and recommendations to local stakeholders, such as community leaders, environmental organisations, and government officials.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on water resources and environmental management
- Data sources (e.g., government agencies, environmental organisations)
- Presentation software (e.g., PowerPoint)

Links to the geography curriculum

- Human-environment interactions
- Natural resource management
- Geographic data analysis

Cross-curricular links

- Science: Ecology, environmental science, climate change
- Mathematics: Data analysis and statistics
- English: Research, writing, and presentation skills

De-dammed Rivers Expedition (target 5.1)

Students will embark on a virtual or field expedition to explore rivers where dams have been removed. Through engaging activities, they will learn about the benefits of de-damming for rivers, wildlife, and local communities.

For primary schools

Activities

- **Virtual river tour:** Students will watch videos or use online tools to explore de-dammed rivers from around the world. They will identify key geographical features, such as meanders, floodplains, and wetlands.
- **River ecosystem research:** Students will research the types of plants and animals that thrive in de-dammed rivers and create fact sheets or posters about these species.
- **Community interviews:** Students will interview local people who have been affected by de-damming. They will learn about the positive and negative impacts of dam removal on their lives and communities.
- **River restoration project:** Students will create a miniature river model and design a restoration plan to improve the health of their local river.

Resources

- Online videos and articles about de-damming and river restoration
- Maps and satellite images of de-dammed rivers
- Books and resources about river ecosystems and wildlife

- Gardening supplies (e.g., plants, soil) for creating miniature river models

Links to the geography curriculum

- Exploring rivers
- Landscapes
- Human-environment interactions

Cross-curricular links

- Science: Understanding ecosystems, biodiversity, and water cycles
- Language: Writing, speaking, and presenting information

For secondary schools

Activities

- **Fieldwork:** Students will visit a de-dammed river to observe its physical features, collect water samples, and conduct ecological surveys.
- **Data analysis:** Students will analyse data on water quality, sediment transport, and biodiversity before and after dam removal.
- **Community impact assessment:** Students will interview local residents, businesses, and government officials to assess the social and economic impacts of de-damming.
- **Policy analysis:** Students will evaluate the effectiveness of policies and regulations related to dam removal and propose recommendations for future river restoration projects.

Resources

- Scientific journals and articles on river restoration and dam removal
- Geographic information system (GIS) software
- Data sources (e.g., government agencies, environmental organisations)
- Field equipment (e.g., water testing kits, GPS devices)

Links to the geography curriculum

- Human-environment interactions
- Natural resource management
- Geographic data analysis

Cross-curricular links

- Science: Ecology, environmental science, water resources
- Mathematics: Data analysis and statistics
- Language: Research, writing, and presentation skills

Waterscape Revival Expedition (target 5.2)

Students will become environmental scientists, documenting the restoration of a local surface water body. Through hands-on activities, they will learn about the importance of water conservation, habitat restoration, and community involvement.

For Primary Schools

Activities

- **River walk:** Students will take regular walks along the restored river, observing changes in the landscape, wildlife, and water quality.
- **Nature journaling:** Students will create nature journals to record their observations, drawings, and thoughts about the river restoration project.
- **Wildlife surveys:** Students will conduct simple wildlife surveys to identify the types of plants and animals that are returning to the restored area.
- **Community interviews:** Students will interview local residents to learn about their experiences with the river restoration project and the benefits they have observed.

Resources

- Nature journals and field guides
- Cameras or smartphones for taking photos
- Water quality testing kits (if appropriate)
- Local maps and guides to the restored area

Links to the geography curriculum

- Exploring local environments
- Human-environment interactions
- Environmental change

Cross-curricular links

- Science: Understanding ecosystems, biodiversity, and water cycles
- Language: Writing, drawing, and presenting information

For secondary schools

Activities

- **Fieldwork:** Students will conduct regular fieldwork to monitor changes in water quality, sediment transport, and biodiversity.
- **Data analysis:** Students will use statistical methods to analyse data collected over time and identify trends and patterns.
- **Community engagement:** Students will interview local residents, businesses, and government officials to assess the social and economic benefits of the restoration project.
- **Policy evaluation:** Students will evaluate the effectiveness of policies and regulations related to water restoration and propose recommendations for future projects.

Resources

- Scientific journals and articles on water restoration and environmental management
- Geographic information system (GIS) software
- Data sources (e.g., government agencies, environmental organisations)
- Field equipment (e.g., water testing kits, GPS devices)

Links to the geography curriculum

- Human-environment interactions
- Natural resource management
- Geographic data analysis

Cross-curricular links

- Science: Ecology, environmental science, water resources
- Mathematics: Data analysis and statistics
- English: Research, writing, and presentation skills

Plastic-Free Culture Exploration (target 7.2)

Students will explore the cultural impact of reducing single-use plastic consumption. Through creative activities and research, they will learn about the importance of sustainability and the positive changes that can occur when communities work together.

For primary schools

Activities

- **Plastic scavenger hunt:** Students will go on a scavenger hunt to find different types of plastic items in their school or community. They will discuss the impact of these items on the environment.
- **Cultural comparisons:** Students will compare the use of plastic in different cultures around the world. They will learn about traditional ways of living and sustainable practices.
- **Plastic alternatives:** Students will create or research alternative materials that can replace single-use plastics. They will experiment with these materials to see how they can be used in everyday life.
- **Community action:** Students will plan and implement a community-based project to reduce plastic waste. This could involve organising a plastic cleanup, starting a recycling program, or creating awareness campaigns.

Resources

- Books and articles about plastic pollution and sustainability
- Maps and information about different cultures around the world
- Craft supplies for creating plastic alternatives
- Cameras or smartphones for documenting community projects

Links to the geography curriculum

- Exploring different cultures
- Environments
- Human-environment interactions

Cross-curricular links

- Science: Understanding ecosystems, pollution, and sustainability
- Language: Writing, speaking, and presenting information

- Art: Creating and designing sustainable products

For secondary schools

Activities

- **Qualitative research:** Students will conduct interviews with individuals from different cultural backgrounds to explore their attitudes, beliefs, and behaviours related to plastic consumption.
- **Case study analysis:** Students will analyse case studies of communities or countries that have successfully implemented plastic reduction measures. They will identify the cultural factors that contributed to their success.
- **Cultural anthropology:** Students will explore the concept of cultural adaptation and examine how societies have historically adapted to new challenges and technologies.
- **Policy analysis:** Students will analyse government policies and regulations related to plastic reduction and evaluate their effectiveness in promoting cultural change.

Resources

- Academic journals and articles on cultural anthropology, sustainability, and consumer behaviour
- Online databases for finding research papers and interviews
- Interview guides and consent forms
- Presentation software (e.g., PowerPoint)

Links to the geography curriculum

- Human-environment interactions
- Cultural geography
- Globalisation

Cross-curricular links

- Sociology: Social change, consumer culture, community development
- English: Research, writing, and presentation skills
- Economics: Market dynamics, sustainability economics

Sustainable Agriculture Practices Showcase (target 8.1)

Students will explore sustainable farming practices that help to protect our water resources. Through hands-on activities and research, they will learn about the importance of healthy soils, crop rotation, and water conservation.

For primary schools

Activities

- **School garden:** Students will create and maintain a school garden using sustainable farming techniques. They will learn about planting, watering, and harvesting crops.
- **Soil health experiment:** Students will conduct experiments to test the health of their soil. They will learn about the importance of healthy soil for plant growth and water retention.

- **Water conservation techniques:** Students will research and implement water conservation strategies in their school garden, such as drip irrigation and rainwater harvesting.
- **Community outreach:** Students will create presentations or posters to educate their community about sustainable farming practices and the benefits of reducing nutrient losses.

Resources

- Gardening supplies (e.g., seeds, soil, tools)
- Books and articles about sustainable agriculture and water conservation
- Soil testing kits
- Presentation materials (e.g., posters, PowerPoint)

Links to the geography curriculum

- Exploring agriculture
- Land use
- Human-environment interactions

Cross-curricular links

- Science: Understanding ecosystems, plant growth, and water cycles
- Language: Writing, speaking, and presenting information
- Art: Creating and designing sustainable garden features

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse the spatial distribution of agricultural practices, nutrient pollution, and water quality in their region.
- **Case study research:** Students will conduct case studies of sustainable farming projects in different regions. They will evaluate the effectiveness of these projects in reducing nutrient losses and improving water quality.
- **Policy analysis:** Students will analyse government policies and regulations related to agriculture and water management. They will evaluate the effectiveness of these policies in promoting sustainable practices.
- **Community engagement:** Students will present their findings to local stakeholders, such as farmers, government officials, and environmental organisations.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on sustainable agriculture and water quality
- Data sources (e.g., government agencies, environmental organisations)
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions

- Land use
- Geographic data analysis

Cross-curricular links

- Science: Ecology, environmental science, agriculture
- Economics: Agricultural economics, sustainability economics
- Language: Research, writing, and presentation skills

Agricultural Sustainability Case Studies (target 8.2)

Students will explore the importance of nutrient reduction in agriculture and discover how sustainable farming practices can help protect our water resources. Through hands-on activities and research, they will learn about the impact of nutrient pollution and the benefits of responsible farming.

For primary schools

Activities

- **Nutrient pollution experiment:** Students will conduct a simple experiment to demonstrate how excess nutrients can pollute water. They will learn about the harmful effects of nutrient pollution on aquatic ecosystems.
- **Sustainable farming techniques:** Students will research and discuss sustainable farming practices that can help reduce nutrient losses, such as crop rotation, cover crops, and precision agriculture.
- **Local farm visit:** Students will visit a local farm that uses sustainable practices. They will learn about the benefits of these practices for both farmers and the environment.
- **Community awareness campaign:** Students will create a community awareness campaign to educate others about the importance of nutrient reduction in agriculture.

Resources

- Books and articles about nutrient pollution and sustainable agriculture
- Science experiment materials (e.g., soil, water, fertilisers)
- Maps and information about local farms
- Presentation materials (e.g., posters, PowerPoint)

Links to the geography curriculum

- Exploring land use
- Human-environment interactions
- Environmental issues

Cross-curricular links

- Science: Understanding ecosystems, pollution, and agriculture
- Geography: English: Writing, speaking, and presenting information
- Art: Creating and designing educational materials

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse the spatial distribution of agricultural land, nutrient pollution, and water quality in different regions.
- **Case study research:** Students will conduct in-depth case studies of regions that have successfully implemented nutrient reduction measures. They will evaluate the effectiveness of these measures and identify the factors that contributed to their success.
- **Policy analysis:** Students will analyse government policies and regulations related to agriculture and water quality. They will evaluate the effectiveness of these policies in promoting nutrient reduction and sustainable farming practices.
- **Global trends:** Students will examine global trends in agricultural production, nutrient use, and water pollution. They will identify emerging challenges and opportunities for sustainable agriculture.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on nutrient pollution, sustainable agriculture, and water quality
- Data sources (e.g., government agencies, environmental organisations)
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions
- Land use
- Geographic data analysis

Cross-curricular links

- Science: Ecology, environmental science, agriculture
- Economics: Agricultural economics, sustainability economics
- Language: Research, writing, and presentation skills

Land-Based Treatment Facilities Mapping (target 8.4)

Students will become marine scientists, exploring the geographical distribution of land-based treatment facilities for ship waste waters in European waters. Through hands-on activities and research, they will learn about the importance of clean oceans and the impact of pollution on marine life.

For primary schools

Activities

- **Ocean exploration:** Students will watch videos or use online tools to explore different marine environments and learn about the types of marine life that live there.

- **Ship waste water research:** Students will research the different types of waste produced by ships and the harmful effects of this waste on the ocean.
- **Map creation:** Students will create simple maps showing the location of land-based treatment facilities in European waters. They will discuss the importance of these facilities in protecting marine environments.
- **Ocean conservation pledge:** Students will create a pledge to help protect the ocean and reduce pollution. They will share their pledge with their classmates and community.

Resources

- Books and articles about marine pollution and ocean conservation
- Maps of European waters
- Online videos and resources about marine life and ecosystems
- Presentation materials (e.g., posters, PowerPoint)

Links to the geography curriculum

- Exploring oceans maps
- Human-environment interactions

Cross-curricular links

- Science: Understanding ecosystems, pollution, and marine life
- Language: Writing, speaking, and presenting information
- Art: Creating and designing maps and educational materials

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse the spatial distribution of land-based treatment facilities, shipping routes, and marine protected areas.
- **Data analysis:** Students will collect and analyse data on ship traffic, waste water discharges, and marine pollution levels.
- **Case study research:** Students will conduct case studies of specific regions or countries to examine the effectiveness of their land-based treatment facilities and the impact on marine environments.
- **Policy evaluation:** Students will analyse government policies and regulations related to ship wastewater management. They will evaluate the effectiveness of these policies and propose recommendations for improvement.

Resources

- Geographic information system (GIS) software
- Data sources (e.g., maritime organisations, environmental agencies)
- Scientific journals and articles on marine pollution and shipping
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions

- Maritime geography
- Geographic data analysis

Cross-curricular links

- Science: Marine science, environmental science, pollution
- Economics: Maritime economics, environmental economics
- Language: Research, writing, and presentation skills

Marine Sustainability Case Studies (target 9.1)

Students will learn about the importance of marine sustainability and explore inspiring examples of conservation efforts from around the world. Through research and creative activities, they will understand the impact of human activities on the ocean and the steps we can take to protect it.

For primary schools

Activities

- **Ocean exploration:** Students will watch videos or use online resources to learn about different marine environments and the creatures that live there.
- **Case study research:** Students will research specific marine sustainability initiatives, such as marine protected areas, sustainable fishing practices, or pollution cleanup efforts.
- **Creative projects:** Students will create projects, such as posters, models, or stories, to share their knowledge about marine sustainability.
- **Community action:** Students will brainstorm ways to help protect the ocean in their local community, such as organising a beach cleanup or reducing plastic waste.

Resources

- Books and articles about marine conservation
- Videos and documentaries about the ocean
- Maps and information about different marine environments
- Crafting supplies for creating projects

Links to the geography curriculum

- Exploring oceans
- Maps
- Human-environment interactions

Cross-curricular links

- Science: Understanding marine ecosystems, biodiversity, and pollution
- English: Writing, speaking, and presenting information
- Art: Creating and designing projects

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse the spatial distribution of marine protected areas, fishing grounds, and pollution hotspots.
- **Case study research:** Students will conduct in-depth case studies of specific marine sustainability initiatives, evaluating their effectiveness, impact, and lessons learned.
- **Policy analysis:** Students will analyse government policies and international agreements related to marine conservation. They will evaluate their effectiveness and propose recommendations for improvement.
- **Community engagement:** Students will engage with local stakeholders, such as marine scientists, fishermen, and conservation organisations, to discuss marine sustainability issues and potential solutions.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on marine conservation
- Data sources (e.g., government agencies, environmental organisations)
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions
- Maritime geography
- Geographic data analysis

Cross-curricular links

- Science: Marine science, environmental science, ecology
- Economics: Environmental economics, sustainable development
- English: Research, writing, and presentation skills

Sustainable Shipping Routes (target 9.2)

Students will become marine explorers, charting sustainable shipping routes within the European Union. Through fun activities, they will learn about the importance of efficient and environmentally friendly transportation.

For primary schools

Activities

- **Map exploration:** Students will explore maps of Europe and identify major shipping routes.
- **Weather patterns:** Students will research different weather patterns, such as storms and currents, that can affect shipping.
- **Obstacle identification:** Students will identify potential obstacles for ships, such as shallow waters, reefs, and maritime traffic.
- **Sustainable shipping:** Students will discuss ways to make shipping more sustainable, such as reducing fuel consumption and minimising environmental impact.

Resources

- Maps of Europe and the European Union
- Weather data and forecasts
- Online resources about shipping and marine navigation
- Presentation materials (e.g., posters, PowerPoint)

Links to the geography curriculum

- Maps
- Navigation
- Human-environment interactions

Cross-curricular links

- Science: Weather patterns, climate change
- English: Writing, speaking, and presenting information
- Art: Creating maps and visualisations

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse factors such as weather patterns, currents, shipping lanes, and potential obstacles.
- **Data modelling:** Students will develop mathematical models to simulate different shipping routes and evaluate their environmental impact and efficiency.
- **Optimization:** Students will use optimization techniques to identify the most sustainable shipping routes.
- **Policy recommendations:** Students will develop policy recommendations to promote sustainable shipping practices and reduce container loss.

Resources

- Geographic information system (GIS) software
- Data sources (e.g., maritime organisations, weather data, shipping data)
- Mathematical modelling software
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Maritime geography
- Geographic data analysis
- Human-environment interactions

Cross-curricular links

- Science: Environmental science, climate change
- Mathematics: Data analysis, mathematical modelling
- Economics: Transportation economics, environmental economics

Sustainable Port Practices (target 9.3)

Students will learn about the importance of sustainable port practices and explore how different ports around the world are working to protect our oceans. Through research and creative activities, they will understand the impact of ship waste and the steps we can take to reduce pollution.

For primary schools

Activities

- **Ocean exploration:** Students will watch videos or use online resources to learn about different marine environments and the creatures that live there.
- **Port research:** Students will research specific ports around the world and learn about the sustainable practices they have adopted.
- **Waste management:** Students will discuss different types of ship waste and how it can harm the ocean. They will explore sustainable waste management solutions.
- **Creative projects:** Students will create projects, such as posters, models, or stories, to share their knowledge about sustainable port practices.

Resources

- Books and articles about marine pollution and ocean conservation
- Videos and documentaries about ports and shipping
- Maps and information about different ports around the world
- Crafting supplies for creating projects

Links to the geography curriculum

- Exploring oceans
- Maps
- Human-environment interactions

Cross-curricular links

- Science: Understanding marine ecosystems, biodiversity, and pollution
- English: Writing, speaking, and presenting information
- Art: Creating and designing projects

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse the spatial distribution of ports, shipping routes, and marine protected areas.
- **Case study research:** Students will conduct in-depth case studies of specific ports that have implemented sustainable practices. They will evaluate the effectiveness of these practices and identify lessons learned.
- **Policy analysis:** Students will analyse government policies and international regulations related to port operations and environmental protection.

- **Community engagement:** Students will engage with local stakeholders, such as port authorities, shipping companies, and environmental organisations, to discuss sustainable port practices and potential improvements.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on marine pollution and port operations
- Data sources (e.g., maritime organisations, environmental agencies)
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions
- Maritime geography
- Geographic data analysis

Cross-curricular links

- Science: Marine science, environmental science, ecology
- Economics: Environmental economics, transportation economics
- English: Research, writing, and presentation skills

Micro-Pollutant Reduction Case Studies (target 9.4)

Students will learn about the importance of clean water and the impact of micro-pollutants on our environment. Through research and creative activities, they will explore successful initiatives to reduce micro-pollutant levels in wastewater treatment plants.

For primary schools

Activities

- **Water pollution experiment:** Students will conduct a simple experiment to demonstrate how micro-pollutants can contaminate water.
- **Wastewater treatment plant visit:** Students will visit a local wastewater treatment plant to learn about the processes involved in cleaning wastewater.
- **Case study research:** Students will research successful initiatives to reduce micro-pollutants in wastewater treatment plants from different regions.
- **Community action:** Students will brainstorm ways to reduce micro-pollutant pollution in their community, such as promoting water conservation or using environmentally friendly products.

Resources

- Books and articles about water pollution and wastewater treatment
- Videos and documentaries about water conservation
- Maps and information about local wastewater treatment plants
- Crafting supplies for creating projects

Links to the geography curriculum

- Exploring local environments
- Human-environment interactions

Cross-curricular links

- Science: Understanding water pollution, ecosystems, and environmental health
- English: Writing, speaking, and presenting information
- Art: Creating and designing projects

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse the spatial distribution of wastewater treatment plants, population density, and industrial activities.
- **Case study research:** Students will conduct in-depth case studies of specific initiatives that have achieved a 50% reduction in micro-pollutants. They will evaluate the effectiveness of these initiatives, identify lessons learned, and assess their applicability to other regions.
- **Policy analysis:** Students will analyse government policies and regulations related to wastewater treatment and micro-pollutant control. They will evaluate their effectiveness and propose recommendations for improvement.
- **Community engagement:** Students will engage with local stakeholders, such as wastewater treatment plant operators, environmental organisations, and community members, to discuss micro-pollutant mitigation strategies.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on wastewater treatment and micro-pollutant control
- Data sources (e.g., government agencies, environmental organisations)
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions
- Geographic data analysis
- Environmental management

Cross-curricular links

- Science: Environmental science, chemistry, biology
- Economics: Environmental economics, public policy
- English: Research, writing, and presentation skills

Mapping Noise Mitigation Measures in European Marine Regions (target 10.2)

Students will learn about the importance of a quiet ocean and explore the different ways we can reduce noise pollution. Through research and creative activities, they will understand the impact of noise on marine life and the steps we can take to protect our seas.

For primary schools

Activities

- **Ocean sounds:** Students will listen to different sounds of the ocean and discuss how noise pollution can disrupt marine life.
- **Noise mitigation techniques:** Students will research and discuss different noise mitigation techniques, such as using quieter ships and reducing underwater construction.
- **Creative projects:** Students will create projects, such as posters or models, to raise awareness about noise pollution and its impact on the ocean.
- **Community action:** Students can brainstorm ways to reduce noise pollution in their local community, such as encouraging people to be mindful of noise levels near the coast.

Resources

- Books and articles about marine noise pollution
- Sound recordings of ocean noise
- Images and videos of marine life
- Crafting supplies for creating projects

Links to the geography curriculum

- Exploring oceans
- Maps
- Human-environment interactions

Cross-curricular links

- Science: Understanding marine ecosystems, sound pollution, and environmental protection
- English: Writing, speaking, and presenting information
- Art: Creating and designing projects

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to map the distribution of marine protected areas, shipping routes, and underwater construction sites.
- **Case study research:** Students will conduct in-depth case studies of specific noise mitigation initiatives, such as the development of quieter ships or the implementation of noise-reduction zones.
- **Policy analysis:** Students will analyse European Union policies and regulations related to marine noise pollution. They will evaluate their effectiveness and propose recommendations for improvement.
- **Community engagement:** Students will engage with local stakeholders, such as marine scientists, fishermen, and shipping companies, to discuss noise mitigation strategies and potential challenges.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on marine noise pollution
- Data sources (e.g., maritime organisations, environmental agencies)
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions
- Maritime geography
- Geographic data analysis

Cross-curricular links

- Science: Marine science, environmental science, acoustics
- Economics: Environmental economics, transportation economics
- English: Research, writing, and presentation skills

Mapping the Sustainable Ship Recycling Landscape in Europe (target 11.3)

Students will learn about the importance of sustainable ship recycling and explore the different practices used to dismantle and recycle old ships. Through research and creative activities, they will understand the impact of ship recycling on the environment and the steps we can take to make it more sustainable.

For primary schools

Activities

- **Ship recycling research:** Students will research different methods of ship recycling, such as beaching and dry-docking.
- **Map creation:** Students will create a map showing the locations of ship recycling facilities in Europe.
- **Sustainability assessment:** Students will evaluate the sustainability of different ship recycling practices, considering factors such as pollution, waste management, and worker safety.
- **Creative projects:** Students will create projects, such as posters or models, to raise awareness about sustainable ship recycling.

Resources

- Books and articles about ship recycling and marine pollution
- Maps of Europe
- Online resources about shipping and maritime industries
- Crafting supplies for creating projects

Links to the geography curriculum

- Exploring oceans
- Maps
- Human-environment interactions

Cross-curricular links

- Science: Understanding marine ecosystems, pollution, and sustainability
- Geography:
- English: Writing, speaking, and presenting information
- Art: Creating and designing projects

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse the spatial distribution of ship recycling facilities and their proximity to marine protected areas and sensitive ecosystems.
- **Case study research:** Students will conduct in-depth case studies of specific ship recycling facilities, evaluating their sustainability practices, environmental performance, and economic impact.
- **Data analysis:** Students will analyse data on ship recycling activities, waste generation, and pollution levels.
- **Policy evaluation:** Students will analyse government policies and regulations related to ship recycling. They will evaluate their effectiveness and propose recommendations for improvement.

Resources

- Geographic information system (GIS) software
- Scientific journals and articles on ship recycling and marine pollution
- Data sources (e.g., maritime organisations, environmental agencies)
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Human-environment interactions
- Maritime geography
- Geographic data analysis

Cross-curricular links

- Science: Environmental science, ecology, pollution
- Economics: Environmental economics, transportation economics
- English: Research, writing, and presentation skills

Mapping Maritime Surveillance Zones (target 17.7)

Students will become marine explorers, mapping out important areas of the ocean that are closely monitored. Through hands-on activities, they will learn about the importance of maritime surveillance and the role it plays in protecting our oceans.

For primary schools

Activities

- **Map exploration:** Students will explore maps of Europe and identify key maritime areas, such as shipping lanes, fishing grounds, and marine protected areas.
- **Surveillance zones:** Students will learn about different types of maritime surveillance, such as coastal patrols, satellite monitoring, and aerial surveillance.
- **Map creation:** Students will create their own maps showing potential surveillance zones based on factors like shipping traffic, environmental sensitivity, and security concerns.
- **Presentation:** Students will present their maps and explain the importance of maritime surveillance to their classmates.

Resources

- Maps of Europe and the European Union
- Online resources about maritime surveillance and ocean protection
- Markers, coloured pencils, or digital mapping tools
- Presentation materials (e.g., posters, PowerPoint)

Links to the geography curriculum

- Maps
- Navigation
- Human-environment interactions

Cross-curricular links

- Science: Marine ecosystems, environmental protection
- English: Writing, speaking, and presenting information
- Art: Creating maps and visualisations

For secondary schools

Activities

- **Geographical analysis:** Students will use geographic information systems (GIS) to analyse factors such as shipping traffic, marine protected areas, environmental vulnerabilities, and security threats.
- **Data modelling:** Students will develop mathematical models to simulate the effectiveness of different surveillance strategies and identify optimal placement of surveillance assets.
- **Policy analysis:** Students will analyse European Union and international policies related to maritime surveillance and security. They will evaluate their effectiveness and propose recommendations for improvement.
- **Community engagement:** Students will engage with local stakeholders, such as maritime authorities, fishermen, and environmental organisations, to discuss maritime surveillance issues and potential solutions.

Resources

- Geographic information system (GIS) software
- Data sources (e.g., maritime organisations, environmental agencies, shipping data)
- Mathematical modelling software
- Presentation materials (e.g., PowerPoint, posters)

Links to the geography curriculum

- Maritime geography
- Geographic data analysis
- Human-environment interactions

Cross-curricular links

- Science: Marine science, environmental science
- Mathematics: Data analysis, mathematical modelling
- Economics: Transportation economics, environmental economics

Information and communications technology (ICT)

Ocean Data Odyssey (target 2.1)

Students design and develop an interactive platform or application that utilises the global digital twin of oceans and waters. The project involves coding, data integration, and user interface design, providing a user-friendly tool for exploring and understanding the intricate details of our planet's water systems.

For primary schools

Activities

- Research the water cycle and different water bodies (rivers, oceans, lakes, etc.)
- Create characters and storylines for the game or animation.
- Design interactive elements and puzzles related to water cycle concepts (e.g., drag and drop clouds to create rain, match water sources to their uses).
- Develop basic coding skills using a visual programming language like Scratch to bring the game or animation to life.
- Test and refine the final product through playtesting with classmates.

Resources

- Computers with access to educational coding software (e.g., Scratch)
- Art materials for character and scene design
- Access to water cycle information and images
- Projector or interactive whiteboard for group presentations

Cross-curricular links

- Science: Water cycle, habitats, climate change
- Computing: Digital literacy, algorithms, problem-solving
- Art and Design: Creativity, storytelling, digital media

For secondary schools

Activities

- Research water-related challenges such as pollution, water scarcity, and climate change impacts.
- Design a user-friendly interface for the platform, considering accessibility and inclusivity.
- Integrate data from the global digital twin of oceans and waters, using APIs or data feeds to access and process information.
- Develop interactive features such as data visualisation, simulations, and user-generated content (e.g., water footprint calculators, virtual water tours).
- Collaborate with experts in water science, technology, and design through online or in-person meetings.
- Evaluate the platform's effectiveness through user testing and data analysis.

Resources

- Access to a global digital twin of oceans and waters dataset and APIs
- Computers with appropriate software for data analysis, visualisation, and web development (e.g., Python, R, JavaScript, HTML, CSS)
- Mentorship from water scientists, engineers, and designers
- Access to water-related data sources and databases

Cross-curricular links

- Geography: Water cycles, watersheds, global water distribution, and human impact on water resources.
- Science: Environmental science, data analysis, climate change, and sustainability.
- Computing: Programming, data management, user interface design, and digital literacy.
- Mathematics: Data analysis, statistics, and modelling.

Smart Fishing Tech Symposium (target 6.3)

Students organise a symposium focusing on the ICT solutions employed in controlling catches, inviting experts to discuss the impact of technology on sustainable fishing practices, fostering ongoing discussions within the school community over several months.

For primary schools

Activities

- Research different types of fishing methods (traditional and modern)
- Investigate the impact of overfishing on marine ecosystems
- Explore the role of technology in monitoring fish populations (e.g., satellite tagging, sonar)
- Create informative posters or presentations to share their findings with the school community
- Invite a local fisherman or marine biologist to speak to the class

Resources

- Access to the internet for research
- Art materials for creating posters or displays
- Audio-visual equipment for presentations

Cross-curricular links

- Science: Habitats, food chains, human impact on the environment
- Language: Communication, information retrieval

For secondary schools

Activities

- Research different ICT solutions used in the fishing industry (e.g., satellite tracking, underwater drones, artificial intelligence)
- Develop a symposium agenda and invite speakers
- Prepare questions for experts (marine biologist) and facilitate discussions
- Create promotional materials (e.g., posters, social media campaigns) to engage the school community
- Evaluate the symposium's impact and produce a final report

Resources

- Access to the internet for research and communication
- Audio-visual equipment for the symposium
- Contact information for potential speakers
- Venue for the symposium
- Support from school staff (e.g., teachers, technicians)

Cross-curricular links

- Geography: Global patterns of resource consumption, environmental challenges
- Science: Ecosystems, biodiversity, technology and society
- Citizenship: Global citizenship, environmental awareness
- Business Studies: Entrepreneurship, marketing, event management

Integrated Maritime Surveillance System (target 17.7)

Students work on designing and developing an integrated maritime surveillance system that facilitates coordination among EU agencies and Member States. The system could include real-time data sharing, advanced analytics, and communication tools to enhance joint surveillance efforts.

For primary schools

Activities

- Research common threats to marine environments (e.g., pollution, overfishing, coastal erosion)
- Design simple observation tools (e.g., binoculars, checklists)
- Create a map of the local coastline, identifying key points for observation
- Develop a system for recording and sharing observations (e.g., drawings, photographs)

- Present findings to the class and discuss potential solutions

Resources

- Art materials (paper, pencils, markers)
- Binoculars or magnifying glasses
- Cameras or tablets for recording observations
- Maps of the local coastline

Cross-curricular links

- Science: Habitats, ecosystems, environmental issues
- Geography: Maps, location, fieldwork
- Art and Design: Observation, communication, creativity

For secondary schools

Activities

- Research maritime surveillance technologies (e.g., satellite imagery, drones, sensors)
- Design a system architecture for data collection, processing, and analysis
- Develop a user interface for displaying real-time data and alerts
- Explore data visualisation techniques to present complex information effectively
- Consider ethical implications of data collection and use
- Present the prototype to a panel of experts or the wider school community

Resources

- Access to computer programming software (e.g., Python, Java)
- Data sets related to maritime environments (e.g., weather data, ship traffic)
- Mapping software (e.g., GIS)
- Access to experts in maritime surveillance and technology

Cross-curricular links

- Geography: Global patterns, environmental challenges, geographical data
- Science: Data analysis, systems thinking, environmental science
- Mathematics: Data analysis, statistics
- Design and Technology: Product design, systems thinking

Ethics

Water Guardians' Dilemma (target 2.2)

This project aims to develop students' critical thinking and ethical reasoning skills through an exploration of the ethical implications of centralised water observation. Students will analyse

the potential benefits and risks of making water data accessible to all, considering issues such as privacy, environmental justice, and responsible data use.

For primary schools

Activities

- **Understanding water:** Discuss the importance of water for people, animals, and plants. Explore where water comes from and how it is used.
- **Sharing information:** Introduce the concept of sharing information. Use simple examples (e.g., sharing toys, sharing food) to discuss the benefits and drawbacks of sharing.
- **Water data:** Explain that water data can help us understand water availability and use. Discuss how this information can be helpful (e.g., finding water shortages, protecting water sources).
- **Ethical considerations:** Introduce the idea of fairness and equality. Discuss how sharing water data can be fair to everyone (e.g., helping people who need water) but also unfair (e.g., people might use too much water).
- **Making decisions:** Encourage students to think about the pros and cons of sharing water data. Help them understand that there is no easy answer and that different people might have different opinions.

Resources

- Pictures or videos of water sources and water use
- Storybooks or picture books about sharing
- Large paper or whiteboard for brainstorming and mind mapping

Cross-curricular links

- Personal, Social, Health Education (PSHE): Understanding feelings, making choices, respecting others
- Geography: Water cycle, water resources, human-environment interaction
- Science: Water properties, water pollution

For secondary schools

Activities

- **Understanding water data:** Introduce students to the concept of centralised water observation and the types of data collected (e.g., water quality, water levels, water usage).
- **Benefits of data sharing:** Discuss the potential benefits of making water data accessible to the public (e.g., improving water management, supporting research, empowering communities).
- **Risks of data sharing:** Explore the potential risks associated with data sharing (e.g., privacy concerns, misuse of data, unequal access to information).
- **Ethical frameworks:** Introduce ethical frameworks (e.g., utilitarianism, deontology) and apply them to water data sharing.
- **Case studies:** Analyse real-world case studies to illustrate the ethical dilemmas involved in water data management.

- **Developing ethical guidelines:** Work collaboratively to develop ethical principles for water data sharing.

Resources

- Access to computers and internet
- Relevant data sources (e.g., government water agencies, environmental organisations)
- Ethical frameworks and case study materials
- Presentation software

Cross curricular links

- Geography: Water resources, globalisation, sustainable development
- Science: Data analysis, environmental science
- Citizenship: Ethical decision-making, social responsibility
- ICT: Information technology, data management

Mapping with Morals (target 2.4)

This project aims to introduce young learners to the importance of protecting our oceans. Students will explore the idea of mapping the seabed and consider the potential impact on sea creatures and their homes.

For primary schools

Activities

- **Ocean exploration:** Discuss the ocean as a home for many creatures. Use pictures and videos to show the diversity of marine life.
- **Seabed mapping:** Explain that scientists map the seabed to learn about the ocean floor. Use simple analogies (e.g., mapping a garden) to illustrate the concept.
- **Impact on sea life:** Discuss how seabed mapping might disturb sea creatures (e.g., noise pollution, habitat destruction). Use role-play or storytelling to explore these impacts.
- **Caring for the ocean:** Encourage students to think about how we can protect sea life while still learning about the ocean. Discuss the importance of respecting marine environments.

Resources

- Pictures or videos of marine life and seabed
- Maps or globes
- Storybooks or picture books about ocean creatures
- Art materials for creating ocean scenes

Cross-curricular links

- Science: Living things and their habitats, animals including humans
- Geography: Maps, location, human-environment interaction
- Art and Design: Creative expression, imagination

For secondary schools

Activities

- **Understanding seabed mapping:** Introduce students to the technology and methods used in seabed mapping. Discuss the potential benefits of this technology (e.g., resource exploration, environmental monitoring).
- **Environmental impact:** Explore the potential impacts of seabed mapping on marine ecosystems (e.g., noise pollution, habitat disruption, species displacement).
- **Indigenous rights:** Discuss the rights of indigenous communities and their connection to the sea. Explore the potential impacts of seabed mapping on their cultural heritage and livelihoods.
- **Ethical frameworks:** Introduce ethical frameworks (e.g., utilitarianism, deontology) and apply them to seabed mapping.
- **Developing guidelines:** Work collaboratively to develop ethical guidelines for responsible seabed mapping practices. Consider factors such as environmental impact assessments, community consultation, and data sharing.

Resources

- Access to computers and internet
- Scientific papers or reports on seabed mapping
- Information about marine ecosystems and indigenous communities
- Ethical frameworks and case study materials

Cross-curricular links

- Geography: Marine environments, globalisation, sustainable development
- Science: Ecology, biodiversity, environmental science
- Citizenship: Ethical decision-making, social responsibility
- ICT: Information technology, data analysis

Genetic Transparency (target 2.5)

This project develops students' critical thinking and ethical reasoning skills through an exploration of the ethical implications of sharing marine DNA data. Students will analyse potential benefits and risks, considering issues such as conservation, privacy, and the responsible use of genetic information.

For primary schools

Activities

- **Ocean friends:** Discuss the diverse range of marine animals and their importance to the ocean ecosystem.
- **Animal secrets:** Explain that every animal has unique characteristics. Use examples of human characteristics (e.g., fingerprints, eye colour) to introduce the concept of DNA.
- **Sharing information:** Discuss the idea of sharing information about ourselves. Use simple examples (e.g., sharing toys, sharing secrets) to introduce the concept.
- **Protecting our friends:** Explore the potential consequences of sharing information about marine animals (e.g., people might harm them, their homes might be destroyed).

- **Making choices:** Encourage students to think about the importance of protecting marine animals and their privacy.

Resources

- Pictures or videos of marine animals
- Storybooks or picture books about animals
- Puppets or masks to represent different marine animals

Cross-curricular links

- Science: Living things and their habitats, animals including humans
- Personal, Social, Health Education (PSHE): Understanding feelings, respecting others
- Art and Design: Creative expression, imagination

For secondary schools

Activities

- **Marine genomics:** Introduce students to the concept of DNA and its role in marine research. Discuss the potential benefits of sharing marine DNA data (e.g., identifying endangered species, developing new medicines).
- **Privacy concerns:** Explore the potential privacy issues associated with sharing marine DNA data (e.g., identifying individuals, commercial exploitation).
- **Ethical frameworks:** Introduce ethical frameworks (e.g., utilitarianism, deontology) and apply them to marine DNA data sharing.
- **Case studies:** Analyse real-world case studies to illustrate the ethical dilemmas involved in marine genetic research.
- **Developing guidelines:** Work collaboratively to develop ethical guidelines for marine DNA data sharing. Consider factors such as data security, informed consent, and benefit sharing.

Resources

- Access to computers and internet
- Scientific papers or articles on marine genomics
- Ethical frameworks and case study materials
- Presentation software

Cross-curricular links

- Biology: Genetics, biodiversity, ecosystems
- Geography: Marine environments, globalisation, sustainable development
- Citizenship: Ethical decision-making, social responsibility
- ICT: Information technology, data management

Sustainable Fisheries Symposium (target 6.1)

This project aims to introduce young learners to the importance of caring for our oceans. Students will explore the concept of sustainable fishing and understand why some fishing practices harm marine life.

For primary schools

Activities

- **Ocean life:** Discuss the diversity of marine life and their importance to the ocean ecosystem.
- **Fishing fun:** Introduce different fishing methods (e.g., rod and reel, net fishing).
- **Friendly fishers:** Discuss the concept of sustainable fishing, focusing on catching fish without harming other sea creatures.
- **Ocean protectors:** Encourage students to create artwork or stories about being friendly fishers.
- **Community action:** Discuss ways to spread awareness about sustainable fishing, such as creating posters or writing letters to local fishmongers.

Resources

- Pictures or videos of marine life and different fishing methods
- Art materials
- Storybooks or picture books about ocean animals

Cross-curricular links

- Science: Living things and their habitats, animals including humans
- Art and Design: Creative expression, imagination
- Personal, Social, Health Education (PSHE): Understanding the world, caring for others

For secondary schools

Activities

- **Research:** Students research different fishing practices (e.g., bottom trawling, longline fishing) and their impact on marine ecosystems.
- **Ethical analysis:** Explore the ethical implications of destructive fishing practices, considering factors such as biodiversity loss, food security, and economic impact.
- **Symposium planning:** Students plan and organise a school symposium, inviting experts (e.g., marine biologists, fishermen, policymakers) to share their perspectives.
- **Public engagement:** Develop promotional materials (e.g., posters, social media campaigns) to engage the school community in the symposium.
- **Follow-up actions:** Identify potential actions the school can take to promote sustainable seafood consumption and raise awareness about ocean conservation.

Resources

- Access to computers and internet
- Public speaking and presentation skills training
- Guest speakers
- Venue for the symposium
- Promotional materials

Cross-curricular links

- Geography: Marine environments, globalisation, sustainable development

- Biology: Ecosystems, biodiversity
- Citizenship: Global issues, decision-making, communication
- Language: Research, writing, public speaking
- ICT: Digital media, communication

Port Wastewater Management Ethics (target 9.3)

This project introduces young learners to the importance of clean water and the impact of human activities on water bodies. Students will explore the concept of port wastewater and its effects on marine life.

For primary schools

Activities

- **Ocean life:** Discuss the diversity of marine life and their importance to the ocean ecosystem.
- **Water pollution:** Introduce the concept of water pollution, using simple examples (e.g., litter, oil spills).
- **Port life:** Explain what a port is and the types of ships that use it. Discuss the idea of wastewater from ships.
- **Protecting our oceans:** Encourage students to create artwork or stories about clean oceans and healthy marine life.
- **Community action:** Discuss ways to reduce water pollution, such as recycling and proper waste disposal.

Resources

- Pictures or videos of marine life and different types of ships
- Art materials
- Storybooks or picture books about ocean animals

Cross-curricular links

- Science: Living things and their habitats, materials and their properties
- Art and Design: Creative expression, imagination
- Personal, Social, Health Education (PSHE): Understanding the world, caring for others

For secondary schools

Activities

- **Port operations:** Research the operations of a local or regional port, including cargo handling, ship maintenance, and passenger services.
- **Wastewater management:** Investigate the wastewater generated by port activities, including its composition and volume.
- **Environmental impact:** Explore the ecological consequences of port wastewater discharge, including pollution, habitat destruction, and impact on marine life.
- **Community impact:** Examine the social and economic impacts of port wastewater on coastal communities, including public health, tourism, and fishing.

- **Ethical analysis:** Evaluate the ethical implications of different wastewater management strategies, considering factors such as cost-benefit analysis, environmental justice, and intergenerational equity.
- **Solution development:** Develop potential solutions to address port wastewater issues, including technological innovations, policy recommendations, and community engagement strategies.

Resources

- Access to computers and internet
- Local or regional port information
- Scientific papers or reports on port wastewater
- Case studies of successful port wastewater management
- Presentation software

Cross-curricular links

- Geography: Coastal environments, human-environment interaction, sustainable development
- Biology: Ecosystems, pollution, marine biology
- Chemistry: Water quality, pollution
- Citizenship: Global issues, decision-making, community engagement
- ICT: Research, data analysis, presentation

Balancing Aquaculture Growth with Environmental and Ethical Considerations (target 13.1)

This project introduces young learners to the importance of balanced ecosystems and sustainable food sources. Students will explore the concept of aquaculture and consider its impact on marine life.

For primary schools

Activities

- **Ocean life:** Discuss the diversity of marine life and their importance to the ocean ecosystem.
- **Food from the sea:** Introduce the concept of fishing and aquaculture as sources of food.
- **Fish farms:** Explain how fish farms work, focusing on the idea of raising fish in enclosed areas.
- **Happy fish:** Discuss the importance of healthy living conditions for fish. Explore the potential problems of overcrowding and pollution in fish farms.
- **Balancing act:** Encourage students to think about how to raise fish without harming the ocean.

Resources

- Pictures or videos of marine life and fish farms
- Storybooks or picture books about ocean animals
- Art materials

Cross-curricular links

- Science: Living things and their habitats, food chains
- Art and Design: Creative expression, imagination
- Personal, Social, Health Education (PSHE): Understanding the world, caring for others

For secondary schools

Activities

- **Aquaculture basics:** Research the different types of aquaculture, with a focus on low trophic species.
- **Environmental impacts:** Investigate the potential environmental impacts of low trophic aquaculture, including habitat destruction, water pollution, and disease outbreaks.
- **Resource consumption:** Explore the resource requirements of low trophic aquaculture, such as land, water, and feed.
- **Social and economic implications:** Examine the social and economic impacts of low trophic aquaculture on coastal communities, including job creation, food security, and equity.
- **Ethical dilemmas:** Identify and analyse ethical dilemmas associated with low trophic aquaculture, such as balancing food production with environmental protection.
- **Sustainable solutions:** Develop potential solutions to mitigate the negative impacts of low trophic aquaculture, including best practices, technological innovations, and policy recommendations.

Resources

- Access to computers and internet
- Scientific papers or reports on aquaculture
- Case studies of successful and unsuccessful aquaculture projects
- Presentation software

Cross-curricular links

- Geography: Food production, coastal environments, sustainable development
- Biology: Ecosystems, biodiversity, aquaculture
- Chemistry: Water quality, pollution
- Economics: Resource management, market economics
- Citizenship: Global issues, decision-making, sustainability

Ethical Implications of Global IUU Fishing Eradication (target 17.2)

This project introduces young learners to the importance of fairness and sharing. Students will explore the concept of fishing and understand why it's important to share the ocean's resources.

For primary schools

Activities

- **Ocean life:** Discuss the diversity of marine life and their importance to the ocean ecosystem.
- **Fishing fun:** Introduce the concept of fishing as a way to get food from the sea.

- **Sharing is caring:** Explain the importance of sharing with others. Use simple examples (e.g., sharing toys, sharing food).
- **Fair fishing:** Discuss the idea of everyone having a chance to catch fish. Explore the concept of unfairness if some people catch too many fish.
- **Ocean protectors:** Encourage students to create artwork or stories about fair fishing and protecting the ocean.

Resources

- Pictures or videos of marine life and fishing
- Storybooks or picture books about sharing
- Art materials

Cross-curricular links

- Science: Living things and their habitats, food chains
- Art and Design: Creative expression, imagination
- Personal, Social, Health Education (PSHE): Understanding the world, caring for others

For secondary schools

Activities

- **Understanding IUU fishing:** Research the definition and scale of IUU fishing, including its various forms (e.g., illegal, unreported, unregulated).
- **Global impacts:** Explore the global consequences of IUU fishing, including overfishing, habitat destruction, and economic losses.
- **Social justice:** Examine the social impacts of IUU fishing, focusing on the rights of small-scale fishers and coastal communities.
- **International cooperation:** Investigate the role of international cooperation in combating IUU fishing, including the challenges and opportunities for collaboration.
- **Ethical dilemmas:** Identify and analyse ethical dilemmas associated with IUU fishing, such as balancing economic interests with environmental protection.
- **Potential solutions:** Develop potential solutions to address IUU fishing, including improved monitoring, control, and surveillance, and support for sustainable fisheries.

Resources

- Access to computers and internet
- Scientific papers or reports on IUU fishing
- Case studies of successful anti-IUU fishing initiatives
- Presentation software

Cross-curricular links

- Geography: Globalisation, economic activity, sustainable development
- Biology: Marine ecosystems, biodiversity, overfishing
- Economics: Global trade, market failures
- Citizenship: Global issues, international cooperation, human rights
- ICT: Research, data analysis, presentation

Economics Project

Climate Resilience Investment (target 2.3)

This project aims to introduce young learners to the economic value of water. Students will explore how oceans and weather patterns affect our lives and economy. They will learn about the importance of coastal protection, the costs of flooding, and the benefits of sustainable water use. Through practical activities and role-play, students will develop a basic understanding of economic concepts like cost, benefit, and investment.

For primary schools

Activities

- **Water footprint:** Calculate the water footprint of their school and home, discussing how water consumption impacts costs.
- **Coastal defences:** Design and cost low-cost coastal defences using recycled materials, understanding the importance of protection against storms.
- **Economic role-play:** Simulate a community facing a water shortage, making decisions about water allocation and pricing.
- **Field trip (optional):** Visit a local water treatment plant or coastal area to understand water management and challenges.

Resources

- Water usage data for the school
- Recycled materials for coastal defence models
- Basic economic concepts explained in child-friendly language
- Local weather and ocean data (simplified)

Cross-curricular links

- Geography: Water cycle, weather patterns, coastal landscapes
- Science: Water properties, ecosystems
- Maths: Data collection, calculations, graphing
- Citizenship: Community responsibility, environmental awareness
- Literature: Role play and character development.

For secondary schools

Activities

- **Data analysis:** Collect and analyse oceanographic and meteorological data to identify patterns and trends.
- **Cost-benefit analysis:** Evaluate the economic costs and benefits of different coastal adaptation strategies, such as sea walls, wetland restoration, or early warning systems.
- **Investment appraisal:** Explore potential investment opportunities in climate-resilient infrastructure and technologies.

- **Case study analysis:** Examine real-world examples of coastal communities that have successfully implemented ocean forecasting and climate services.
- **Economic modelling:** Develop simple economic models to simulate the impact of different scenarios on coastal economies.

Resources

- Access to oceanographic and meteorological data
- Economic data on coastal communities
- Costing information for coastal adaptation measures
- Software for data analysis and modelling

Links to the economics curriculum

- Microeconomics
- Macroeconomics
- Investment appraisal
- Cost-benefit analysis

Cross-curricular links

- Geography: Coastal geomorphology, climate change
- Maths: Data analysis, statistical methods, modelling
- Business Studies: Market analysis, entrepreneurship, risk assessment
- IT: Data handling, software applications

Water Conservation Impact Analysis (Target 3.2)

This project aims to introduce young learners to economic principles through the engaging context of water conservation. By exploring the economic implications of reduced water abstraction, students will gain a deeper understanding of cost-benefit analysis, opportunity cost, and the relationship between economic growth and environmental sustainability.

For primary schools

Activities

- **Water audit:** Students will conduct a water audit of their school or home, measuring water usage and identifying areas for potential conservation.
- **Cost-benefit analysis:** Students will calculate the costs and benefits of implementing water-saving measures, such as installing low-flow faucets or rainwater harvesting systems.
- **Opportunity cost:** Students will explore the concept of opportunity cost by discussing alternative uses for water, such as irrigation or industrial processes.
- **Economic growth and sustainability:** Students will learn about the importance of sustainable economic development and how water conservation can contribute to a healthier planet.
- **Water-saving innovations:** Students will research and present on innovative water-saving technologies or practices.

Resources

- Water metres or water usage data
- Calculators
- Presentation materials (e.g., posters, slideshows)
- Access to the internet for research
- Guest speakers (e.g., local water conservation experts)

Cross-curricular links

- Maths: Data collection, analysis, and calculation
- Science: Water cycle, conservation, and pollution
- Geography: Local environment, natural resources, and sustainability
- English: Research, writing, and presentation skills

For secondary schools

Activities

- **Economic Modelling:** Students will create economic models to simulate the effects of water scarcity on various sectors (e.g., agriculture, industry, tourism).
- **Market-Based Solutions:** Students will analyse the potential of water markets, pricing mechanisms, and tradable water permits to allocate water efficiently.
- **Policy Analysis:** Students will evaluate existing water policies and propose new policies to promote water conservation and sustainable water management.
- **International Cooperation:** Students will explore the challenges and opportunities of international water cooperation, particularly in regions facing water scarcity.
- **Case Studies:** Students will analyse case studies of successful water conservation initiatives from around the world.

Resources

- Economic data and analysis tools
- Access to academic journals and research papers
- Simulation software
- Presentation materials (e.g., posters, slideshows)
- Guest speakers (e.g., economists, policy analysts, environmental experts)

Links to the economics curriculum

- Microeconomics
- Macroeconomics
- Environmental economics
- International economics

Cross-curricular links

- Geography: Water resources, environmental management, and sustainable development
- Politics: Policy analysis, governance, and international relations
- English: Research, writing, and presentation skills

Rivers and Resources Analysis (Target 5.1.)

This project explores the role of rivers in our communities. Students will learn about the benefits of rivers, including providing water, energy, and recreation. They will also discover the impact of dams on rivers and the potential benefits of removing them. Through hands-on activities and role-play, students will develop an understanding of the economic and environmental importance of rivers.

For primary schools

Activities

- **River study:** Observe a local river or stream, noting its features and uses.
- **Benefits of rivers:** Create a poster or presentation highlighting the ways people use rivers.
- **Dam impact:** Discuss the purpose of dams and their effects on river ecosystems.
- **Role-play:** Simulate a community meeting to discuss the pros and cons of removing a dam.
- **Creative expression:** Write a story or poem about a river and its importance.

Resources

- Local river information and maps
- Pictures or videos of dams and rivers
- Art supplies for creating posters and visual aids

Cross-curricular links

- Geography: Rivers, water cycle, human impact on the environment
- Science: Habitats, ecosystems, water pollution
- Literacy: Reading, writing, speaking and listening
- Art and Design: Creative expression, visual communication

For secondary schools

Activities

- **Research:** Gather information on a specific dam and its surrounding area.
- **Economic analysis:** Calculate the economic value of the dam for electricity generation, flood control, and other purposes.
- **Cost-benefit analysis:** Estimate the potential costs and benefits of de-damming, including job creation, ecosystem restoration, and changes in land use.
- **Case study:** Analyse a real-world example of dam removal and its economic consequences.
- **Presentation:** Create a presentation outlining the findings of the project and making recommendations.

Resources needed

- Economic data on the region
- Information on dam construction and operation
- Environmental impact assessments

- Case studies of dam removal projects

Links to the economics curriculum

- Cost-benefit analysis
- Supply and demand
- Market failure

Cross-curricular links

- Geography: Rivers, ecosystems, human impact on the environment
- Mathematics: Data analysis, modelling
- Business Studies: Project management, presentation skills

Sustainable Market Economics Symposium (Target 7.1)

This project aims to introduce young learners to the concept of sustainability and its economic implications. Students will explore the impact of plastic on the environment and the importance of reducing, reusing, and recycling. They will learn about the costs and benefits of using reusable or recyclable plastics, and the role of consumers in driving change.

For primary schools

Activities

- **Plastic audit:** Conduct a class survey on plastic usage and disposal habits.
- **Reuse challenge:** Create useful items from recycled plastic materials.
- **Cost comparison:** Compare the cost of single-use and reusable items.
- **Community action:** Organise a school-wide recycling drive or clean-up.
- **Presentation:** Share findings with the school community.

Resources

- Recycled plastic materials
- Information about plastic pollution and recycling
- Local recycling facilities

Cross-curricular links

- Science: Materials, recycling, environmental impact
- Maths: Data collection and analysis
- Art and Design: Creative reuse of materials
- Citizenship: Community involvement, environmental responsibility

For secondary schools

Activities

- **Market research:** Analyse the EU plastics market, including production, consumption, and waste management.
- **Consumer behaviour analysis:** Conduct surveys or interviews to understand consumer attitudes towards plastics.

- **Economic modelling:** Develop simple economic models to assess the impact of different policy scenarios.
- **Industry engagement:** Invite guest speakers from the plastics industry to share their perspectives.
- **Symposium organisation:** Plan and host a school symposium on the economics of plastics.

Resources

- Market research data on the plastics industry
- Economic data on the EU
- Access to experts in the field of sustainability and economics
- Presentation equipment

Links to the economics curriculum

- Market economics
- Supply and demand
- Cost-benefit analysis
- Environmental economics

Cross-curricular links

- Business Studies: Market research, entrepreneurship, sustainability
- Geography: Resource management, environmental impact
- Mathematics: Data analysis, modelling

Cost-Benefit Analysis of Advanced Wastewater Treatment (Target 8.3.)

This project introduces students to the importance of clean water for human health and the environment. They will explore the process of wastewater treatment and learn about the costs and benefits of improving water quality. Through hands-on activities and role-play, students will develop a basic understanding of economic concepts related to water management.

For primary schools

Activities

- **Water cycle:** Explore the water cycle and the importance of clean water.
- **Wastewater journey:** Create a model of a simple wastewater treatment plant.
- **Cost and benefits:** Discuss the costs of clean water (e.g., water bills) and the benefits (good health, clean environment).
- **Community action:** Brainstorm ways to conserve water and reduce pollution.
- **Presentation:** Share findings with the class and school community.

Resources

- Materials for creating a wastewater treatment model
- Information about water treatment processes
- Local water utility information

Cross-curricular Links

- Science: Water cycle, pollution, living things
- Geography: Water resources, human impact on the environment
- Maths: Data collection and simple calculations
- Art and Design: Creating models and visual aids

For secondary schools

Activities

- **Data collection:** Gather data on wastewater generation, treatment costs, and environmental impacts.
- **Cost-benefit analysis:** Calculate the initial and ongoing costs of advanced wastewater treatment.
- **Economic modelling:** Develop a simple economic model to assess the impact of different treatment levels on public health and the environment.
- **Policy analysis:** Research existing government policies related to wastewater treatment and their effectiveness.
- **Presentation:** Develop a comprehensive presentation outlining the findings and recommendations.

Resources

- Economic data on wastewater treatment
- Environmental data on water quality and pollution
- Government policies and regulations
- Access to wastewater treatment facilities (optional)

Links to the economics curriculum

- Cost-benefit analysis
- Public finance
- Environmental economics

Cross-curricular links

- Geography: Water resources, pollution, urban planning
- Mathematics: Data analysis, modelling
- Science: Chemistry, biology, environmental science

Cost-Benefit Analysis of Sustainable Shipping Practices (Target 9.2.)

This project introduces young learners to the importance of caring for our oceans. Students will explore how ships transport goods, the impact of lost containers on marine life, and the benefits of sustainable shipping practices. Through creative activities and role-play, they will develop an understanding of the economic and environmental importance of protecting our oceans.

For primary schools

Activities

- **Ship exploration:** Learn about different types of ships and what they carry.

- **Ocean creatures:** Research marine life and the impact of pollution on ocean habitats.
- **Container consequences:** Discuss the problems caused by lost containers.
- **Creative solutions:** Design eco-friendly packaging or ship features.
- **Community action:** Create posters or messages to raise awareness of ocean pollution.

Resources

- Pictures and information about ships and ocean life
- Recycled materials for creating models or posters
- Local information about recycling and waste management

Cross-curricular links

- Science: Marine life, pollution, materials
- Geography: Oceans, trade, globalisation
- Art and Design: Creative expression, visual communication
- Citizenship: Environmental responsibility, global awareness

For secondary schools

Activities

- **Data collection:** Gather data on container loss rates, environmental damage costs, and shipping industry trends.
- **Cost-benefit analysis:** Calculate the economic costs and benefits of reducing container loss.
- **Case studies:** Analyse examples of successful sustainable shipping initiatives.
- **Policy analysis:** Research existing and proposed regulations related to shipping.
- **Presentation:** Develop a comprehensive presentation outlining the findings and recommendations.

Resources

- Economic data on the shipping industry
- Environmental data on marine pollution
- Information on container loss and its impact
- Case studies of sustainable shipping practices

Links to the economics curriculum

- Cost-benefit analysis
- Market failure
- International trade

Cross-curricular links

- Geography: Globalisation, environmental management, maritime transport
- Mathematics: Data analysis, modelling
- Business Studies: Sustainability, risk management, international business

Sustainable Transition in Maritime Economies (Target 11.1.)

This project introduces young learners to the importance of protecting our oceans. Students will explore different types of boats and how they are powered. They will learn about the impact of pollution from boats on marine life and the benefits of using cleaner fuels. Through creative activities and role-play, students will develop a sense of responsibility for our planet.

For Primary Schools

Activities

- **Boat exploration:** Learn about different types of boats and their uses.
- **Ocean life:** Discover marine creatures and their habitats.
- **Pollution problem:** Discuss the impact of pollution on ocean life.
- **Clean energy solutions:** Explore renewable energy sources for boats (e.g., wind, solar).
- **Creative action:** Design eco-friendly boats or posters to promote clean seas.

Resources

- Pictures and information about boats and marine life
- Recycled materials for creating models or posters
- Information about renewable energy sources

Cross-curricular links

- Science: Marine life, energy sources, pollution
- Geography: Oceans, transportation
- Art and Design: Creative expression, visual communication
- Citizenship: Environmental responsibility, global awareness

For secondary schools

Activities

- **Research:** Gather data on the marine transport industry, fuel consumption, and emissions.
- **Economic analysis:** Calculate the potential costs and benefits of transitioning to non-fossil fuels.
- **Case studies:** Investigate successful examples of green marine transport initiatives.
- **Policy analysis:** Explore government policies and incentives supporting the transition.
- **Presentation:** Develop a comprehensive presentation outlining findings and recommendations.

Resources

- Economic data on the marine transport industry
- Environmental data on marine pollution
- Information on alternative fuels and propulsion technologies
- Government policies and regulations

Links to the economics curriculum

- Cost-benefit analysis,
- Market failure,
- Environmental economics

Cross-curricular links

- Geography: Transportation, globalisation, environmental management
- Mathematics: Data analysis, modelling
- Business Studies: Sustainability, innovation, entrepreneurship

Economic Impacts of CO2 Reduction in Maritime Transport (Target 11.2.)

This project introduces young learners to the importance of clean air and how it relates to ships. Students will explore different types of ships and the fuels they use. They will learn about air pollution and its impact on people and the planet. Through creative activities and role-play, students will develop a sense of responsibility for protecting the environment.

For primary schools

Activities

- **Ship exploration:** Learn about different types of ships and what they carry.
- **Clean air:** Discuss the importance of clean air for people, animals, and plants.
- **Pollution problem:** Learn about air pollution caused by ships.
- **Cleaner ships:** Explore ways to reduce pollution from ships (e.g., using less fuel, cleaner fuels).
- **Creative action:** Design eco-friendly ships or posters to promote clean air.

Resources

- Pictures and information about ships and air pollution
- Recycled materials for creating models or posters
- Information about renewable energy sources

Cross-curricular links

- Science: Air quality, pollution, energy
- Geography: Transportation, globalisation
- Art and Design: Creative expression, visual communication
- Citizenship: Environmental responsibility, global awareness

For secondary schools

Activities

- **Research:** Gather data on the shipping industry, fuel consumption, and emissions.
- **Economic analysis:** Calculate the costs and benefits of reducing CO2 emissions.
- **Case studies:** Investigate successful examples of green shipping initiatives.
- **Policy analysis:** Explore government policies and incentives supporting the transition.
- **Presentation:** Develop a comprehensive presentation outlining findings and recommendations.

Resources

- Economic data on the shipping industry
- Environmental data on air pollution
- Information on alternative fuels and propulsion technologies
- Government policies and regulations

Links to the economics curriculum

- Cost-benefit analysis
- Market failure
- Environmental economics

Cross-curricular links

- Geography: Transportation, globalisation, environmental management
- Mathematics: Data analysis, modelling
- Business Studies: Sustainability, innovation, entrepreneurship

Economic Impact of Carbon-Neutral Ports (Target 11.4.)

This project introduces young learners to the importance of clean air and water. Students will explore how ships use energy and the impact this has on our planet. They will learn about ways to reduce pollution from ships and create a cleaner environment for people and animals. Through creative activities and role-play, students will develop a sense of responsibility for protecting the environment.

For primary schools

Activities

- **Ship exploration:** Learn about different types of ships and what they carry.
- **Clean air and water:** Discuss the importance of clean air and water for people, animals, and plants.
- **Pollution problem:** Learn about air and water pollution caused by ships.
- **Green ports:** Explore ways to make ports cleaner (e.g., using clean energy, recycling).
- **Creative action:** Design eco-friendly ports or posters to promote clean seas.

Resources

- Pictures and information about ships, ports, and pollution
- Recycled materials for creating models or posters
- Information about renewable energy sources

Cross-curricular links

- Science: Air and water quality, pollution, energy
- Geography: Ports, transportation, globalisation
- Art and Design: Creative expression, visual communication
- Citizenship: Environmental responsibility, global awareness

For secondary schools

This project investigates the economic implications of European ports transitioning to carbon neutrality. Students will analyse the costs and benefits of implementing green technologies and infrastructure. They will explore the impact on port operations, supply chains, and local economies. Additionally, students will examine the role of government policies and incentives in driving the transition.

Specific Activities

- **Research:** Gather data on European ports, cargo volumes, and emissions.
- **Economic analysis:** Calculate the costs and benefits of decarbonisation for ports.
- **Case studies:** Investigate successful green port initiatives.
- **Policy analysis:** Explore European Union policies and regulations related to port emissions.
- **Presentation:** Develop a comprehensive presentation outlining findings and recommendations.

Resources

- Economic data on the port industry
- Environmental data on port emissions
- Information on green port technologies and infrastructure
- European Union policies and regulations

Links to the economics curriculum

- Cost-benefit analysis
- Market failure,
- Environmental economics

Cross-curricular links

- Geography: Ports, transportation, globalisation, environmental management
- Mathematics: Data analysis, modelling
- Business Studies: Sustainability, innovation, entrepreneurship

Economic Viability of Ocean Energy Integration in the EU (Target 12.1.)

This project introduces young learners to the concept of renewable energy and the power of the ocean. Students will explore how waves and tides can be used to generate electricity. They will learn about the benefits of using clean energy and the importance of protecting our oceans. Through creative activities and role-play, students will develop a sense of responsibility for the environment.

For primary schools

Activities

- **Ocean exploration:** Learn about different creatures that live in the ocean.
- **Energy sources:** Discuss different types of energy (sun, wind, water).
- **Ocean power:** Explore how waves and tides can create energy.
- **Benefits of clean energy:** Discuss the positive impact of using clean energy.
- **Creative action:** Design an ocean energy device or a poster promoting clean energy.

Resources

- Pictures and information about oceans, waves, and tides
- Recycled materials for creating models or posters
- Information about renewable energy sources

Cross-curricular links

- Science: Energy, water, living things
- Geography: Oceans, coasts
- Art and Design: Creative expression, visual communication
- Citizenship: Environmental responsibility, global awareness

For secondary schools

Activities

- **Research:** Gather data on ocean energy resources, technology costs, and energy markets.
- **Economic analysis:** Calculate the costs and benefits of ocean energy projects.
- **Case studies:** Investigate successful ocean energy projects around the world.
- **Policy analysis:** Explore EU policies and incentives supporting ocean energy development.
- **Presentation:** Develop a comprehensive presentation outlining findings and recommendations.

Resources

- Economic data on energy markets and renewable energy
- Technical information on ocean energy technologies
- Environmental data on marine ecosystems
- Government policies and regulations

Links to the economics curriculum

- Cost-benefit analysis,
- Market failure,
- Environmental economics

Cross-curricular links

- Geography: Energy resources, coastal management, marine environment
- Mathematics: Data analysis, modelling
- Business Studies: Investment appraisal, risk assessment, sustainability

Economic Implications of Growing Low Trophic Aquaculture (Target 13.1.)

This project introduces young learners to the importance of healthy eating and sustainable food sources. Students will explore different types of fish and where they come from. They will learn about fish farming and the benefits of eating fish. Through creative activities and role-play, students will develop an understanding of the relationship between people and the environment.

For primary schools

Activities

- **Fish facts:** Learn about different types of fish and their habitats.
- **Fishy friends:** Discuss the importance of fish in the food chain.
- **Fish farming:** Explore how fish are raised on fish farms.
- **Healthy eating:** Understand the nutritional value of fish.
- **Creative action:** Design a fish-themed poster or recipe.

Resources

- Pictures and information about fish and fish farming
- Healthy eating guidelines
- Recycled materials for creating models or posters

Cross-curricular links

- Science: Living things, food chains, habitats
- Geography: Food production, ecosystems
- Art and Design: Creative expression, visual communication
- Health and Wellbeing: Healthy eating, food groups

For secondary schools

Activities

- **Market research:** Gather data on the demand for seafood and aquaculture products.
- **Economic analysis:** Calculate production costs and potential profits for aquaculture businesses.
- **Sustainability assessment:** Evaluate the environmental impact of low trophic aquaculture.
- **Policy analysis:** Explore government policies supporting aquaculture development.
- **Presentation:** Develop a comprehensive presentation outlining findings and recommendations.

Resources

- Economic data on the aquaculture industry
- Market research data on seafood consumption
- Environmental data on aquaculture impacts
- Government policies and regulations

Links to the economics curriculum

- Market economics
- Production costs
- Supply and demand

Cross-curricular links

- Geography: Food production, ecosystems, coastal management
- Mathematics: Data analysis, modelling
- Business Studies: Business planning, market analysis, sustainability

Economic Impact of EU's Blue Biotech Leadership (Target 14.1.)

This project introduces young learners to the world of science and the potential of the ocean. Students will explore the idea of using living things from the sea to create useful products. They will learn about the importance of protecting marine life and the benefits of scientific discovery. Through creative activities and role-play, students will develop a sense of curiosity and wonder about the natural world.

For primary schools

Activities

- **Ocean exploration:** Learn about different creatures that live in the ocean.
- **Sea secrets:** Discover how scientists learn about marine life.
- **Ocean products:** Explore examples of products made from things found in the sea.
- **Future scientists:** Imagine new products that could be created from the ocean.
- **Creative action:** Design a marine laboratory or a poster about ocean discoveries.

Resources

- Pictures and information about marine life and ocean exploration
- Examples of products made from marine organisms
- Recycled materials for creating models or posters

Cross-curricular links

- Science: Living things, habitats, materials
- Geography: Oceans, coasts
- Art and Design: Creative expression, visual communication
- Citizenship: Global citizenship, innovation

For secondary schools

Activities

- **Market research:** Gather data on the global market for blue biotechnology products.
- **Economic analysis:** Assess the potential economic impact of blue biotechnology on the EU.
- **Case studies:** Investigate successful blue biotechnology companies in Europe.
- **Policy analysis:** Explore EU policies supporting research and innovation in marine biotechnology.

- **Presentation:** Develop a comprehensive presentation outlining findings and recommendations.

Resources

- Economic data on the biotechnology industry
- Market research data on blue biotechnology products
- Information on marine biotechnology research
- Government policies and regulations

Links to the economics curriculum

- Market economics
- Economic growth
- Innovation

Cross-curricular links

- Geography: Oceans, resources, globalisation
- Mathematics: Data analysis, modelling
- Business Studies: Entrepreneurship, innovation, market analysis

Economic Viability of Low CO2 Emission Resorts (Target 15.2)

This project introduces young learners to the importance of protecting our planet. Students will explore how holiday destinations can be more environmentally friendly. They will learn about reducing waste, saving energy, and protecting wildlife. Through creative activities and role-play, students will develop a sense of responsibility for the environment.

For primary schools

Activities

- **Holiday fun:** Discuss favourite holiday destinations and activities.
- **Planet care:** Learn about how human activities can harm the environment.
- **Green hotels:** Explore ways hotels can be more eco-friendly (e.g., recycling, energy saving).
- **Creative solutions:** Design eco-friendly hotel rooms or activities.
- **Holiday pledges:** Make promises to be a greener holidaymaker.

Resources

- Pictures of different holiday destinations
- Information about environmental issues
- Recycled materials for creating models or posters

Cross-curricular links

- Science: Habitats, pollution, energy
- Geography: Tourism, environment
- Art and Design: Creative expression, visual communication
- Citizenship: Global citizenship, environmental responsibility

For secondary schools

Activities

- **Research:** Gather data on the tourism industry, energy consumption, and waste generation.
- **Economic analysis:** Calculate the costs and benefits of implementing low-carbon practices.
- **Case studies:** Investigate successful sustainable tourism initiatives.
- **Market research:** Explore consumer attitudes towards sustainable tourism.
- **Presentation:** Develop a comprehensive presentation outlining findings and recommendations.

Resources

- Economic data on the tourism industry
- Environmental data on energy consumption and waste
- Information on sustainable tourism practices
- Market research data on consumer preferences

Links to the economics curriculum

- Cost-benefit analysis
- Market economics
- Environmental economics

Cross-curricular links

- Geography: Tourism, environment, climate change
- Mathematics: Data analysis, modelling
- Business Studies: Sustainability, marketing, business planning

Sustainable Fisheries in Bilateral Trade Agreements (Target 17.6.)

Students investigate the economic implications of incorporating conditions related to the elimination of IUU (Illegal, Unreported, Unregulated) fishing and adherence to international fisheries agreements in EU bilateral trade agreements. They analyse the impact on market access, trade balances, and the sustainability of fisheries.

For primary schools

Activities

- Research different types of fish and their habitats
- Discuss the concept of overfishing and its impact on marine ecosystems
- Learn about fair trade and its benefits for fishers and consumers
- Create posters or presentations to raise awareness about sustainable fishing
- Invite a local fisherman or fishmonger to speak to the class

Resources

- Books, magazines, or online resources about fish and oceans

- Art materials for creating posters
- Access to computers and the internet for research

Cross-curricular links

- Science: Habitats, food chains, environmental impact
- Geography: Global trade, sustainable development
- Art and Design: Communication, creativity

For secondary schools

Activities

- Research the global fishing industry, including the challenges faced by fishers and consumers
- Analyse EU trade agreements, focusing on clauses related to fisheries and sustainability
- Investigate the impact of IUU fishing on fish populations, coastal communities, and the global economy
- Develop a case study of a specific fishery (e.g., tuna, cod) to analyse its sustainability
- Create a presentation or report outlining findings and recommendations

Resources

- Access to economic and fisheries data
- Online databases of trade agreements
- Software for data analysis and presentation (e.g., spreadsheets, presentation software)
- Guest speakers from the fishing industry or environmental organisations

Links to the economics curriculum

- Globalisation
- Trade
- Market economics
- Sustainability

Cross-curricular links

- Geography: Global patterns, environmental challenges, economic development
- Mathematics: Data analysis, statistics
- Business Studies: Market research, policy analysis

Physical Education (PE)

Marine Fitness Expedition (target 2.5)

This project aims to introduce young students to the importance of marine conservation through engaging physical activities. By combining coastal clean-ups, water-based fitness

exercises, and beach explorations, students will develop a strong connection to the ocean while improving their physical health.

For primary schools

Activities

- **Beach clean-ups:** Students will participate in regular beach clean-ups, learning about marine pollution and its impact on wildlife. Activities can include sorting recyclable materials, data collection on litter types, and creating awareness posters.
- **Water-based fitness:** Fun and engaging water-based activities such as splashing, jumping, and swimming will be introduced to improve students' water confidence and physical abilities. Games like water relay races and obstacle courses can be incorporated.
- **Beach exploration:** Students will explore the coastal environment, learning about different marine habitats and the creatures that live there. Activities include building sandcastles, collecting natural materials, and observing tide pools.
- **DNA and biodiversity:** Through simple experiments and storytelling, students will be introduced to the concept of DNA and its role in identifying different marine species. They will learn about the importance of biodiversity and how human activities impact marine ecosystems.

Resources

- Beach access and safety equipment (gloves, buckets, spades)
- Water-based fitness equipment (floats, balls)
- Magnifying glasses, identification charts, and books about marine life
- Simple DNA extraction kits (for older primary students)

Links to the physical education curriculum

- Water safety
- Physical activity
- Teamwork

Cross-curricular links

- Science: Habitats, living things, human impact on the environment
- Literacy: Writing reports, creating posters, storytelling
- Art and Design: Creating marine-themed artwork

For secondary schools

Activities

- **Coastal Clean-ups:** Students will organise and lead beach clean-ups, collecting data on litter types and quantities. They will analyse the data to identify pollution hotspots and develop strategies for reducing marine litter.
- **Water-based Fitness Challenges:** Students will participate in a variety of water-based fitness activities, such as surfing, kayaking, or stand-up paddleboarding. These activities will improve physical fitness and water safety skills.

- **Marine Biodiversity Research:** Students will conduct research on local marine species, focusing on the importance of DNA sequencing in species identification and conservation. They will collect data on marine life populations and analyse trends.
- **Community Engagement:** Students will create awareness campaigns about marine conservation issues, targeting local communities and schools. They will develop educational materials, organise presentations, and participate in community events.

Resources

- Beach access, safety equipment, and data collection materials
- Water sports equipment and certified instructors
- Access to scientific equipment for DNA analysis (or partnerships with local universities)
- Digital tools for data analysis and presentation

Cross-curricular Links

- Physical Education: Water sports, fitness, teamwork
- Biology: Ecology, biodiversity, genetics, marine biology
- Geography: Coastal processes, human impact on the environment
- Citizenship: Community engagement, environmental responsibility
- Mathematics: Data collection and analysis

River Conservation Fitness Challenge (target 17.4)

Students engage in physical activities focused on raising awareness about river conservation. This could include activities like community clean-ups, nature walks along riverbanks, or even water-based sports emphasising the importance of protecting rivers.

For primary schools

Activities

- **River walks:** Observe the river's environment, identify plants and animals, and discuss the importance of clean water.
- **Litter picking:** Participate in community clean-up activities along the riverbank.
- Water-based activities (supervised): Introduce water safety and enjoyment through activities like pond dipping or paddling.
- **Creative expression:** Create art or poetry inspired by the river and its surroundings.

Resources

- Waterproof clothing and footwear
- Litter picking equipment
- Pond dipping nets and containers
- Art materials

Cross-curricular links

- Science: Habitats, ecosystems, pollution
- Geography: Local geography, water cycle
- Art and Design: Creative expression, observation

For secondary schools

Activities

- **Water quality testing:** Collect water samples and analyse parameters such as pH, temperature, and dissolved oxygen.
- **River surveys:** Conduct surveys to assess the health of the river ecosystem, including biodiversity and habitat quality.
- **Community engagement:** Organise river clean-up events and educational workshops for the local community.
- **Data analysis and presentation:** Analyse collected data to identify potential problems and propose solutions.
- **Develop a river management plan:** Create a plan for improving river health based on findings.

Resources

- Water quality testing kits
- Scientific equipment (e.g., thermometers, pH metres)
- Litter picking equipment
- Safety equipment (e.g., life jackets for water-based activities)
- Access to local environmental agencies or experts

Cross-curricular links

- Geography: Water cycle, river systems, environmental management
- Science: Ecology, environmental science, data analysis
- PE: Physical activity, teamwork, outdoor education
- Citizenship: Community engagement, environmental responsibility

Language

Water Words Unite (target 2.2)

This project develops students' intercultural competence and research skills through an exploration of the linguistic diversity surrounding water observation. Students will create multilingual resources to promote understanding and collaboration in the context of global water data.

For primary schools

Activities

- **Water is everywhere:** Discuss the importance of water for people, animals, and plants.
- **Water words:** Introduce the English word for water. Encourage students to share if they know the word for water in other languages.
- **Language map:** Create a class map showing where different languages are spoken.
- **Water word collection:** Collect water-related words in different languages (e.g., rain, river, ocean).

- **Water word pictures:** Draw or paint pictures to represent the collected water words.

Resources

- A large world map
- Language dictionaries or online resources
- Art materials

Links to the language curriculum

- Vocabulary development
- Listening
- Speaking

Cross-curricular links

- Geography: Maps, different countries and cultures
- Art and Design: Creative expression, communication

For secondary schools

Activities

- **Language and culture:** Discuss the relationship between language and culture, focusing on how language reflects a society's relationship with water.
- **Water terminology:** Research water-related terms in different languages, including scientific and technical vocabulary.
- **Multilingual glossary:** Create a digital or print glossary of water-related terms in multiple languages.
- **Cultural comparisons:** Analyse the cultural nuances and connotations of water-related terms across different languages.
- **Educational materials:** Develop educational materials (e.g., posters, presentations, videos) to promote awareness of linguistic diversity in water science.

Resources

- Access to computers and the internet
- Language dictionaries and online resources
- Graphic design software or tools
- Presentation software

Links to the language curriculum

- Vocabulary development
- Research
- Presentation

Cross-curricular links

- Geography: Globalisation, cultural diversity, environmental issues
- Modern Foreign Languages: Language acquisition, cultural understanding
- ICT: Digital literacy, research skills

MPA Multilingual Stories (target 3.1)

Students will investigate the relationship between local communities and marine protected areas (MPAs). They will collect and analyse oral histories to understand the role of these areas in cultural and ecological sustainability.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures and their habitats.
- **People and the sea:** Discuss how people use and enjoy the ocean.
- **Ocean stories:** Listen to stories about the ocean from adults in the community.
- **Sharing our stories:** Create stories or drawings about the ocean.
- **Ocean protection:** Understand the importance of protecting the ocean for future generations.

Resources

- Pictures and information about marine life.
- Art materials (paper, crayons, markers).
- Audio recording equipment (optional).

Cross-curricular links

- Science: Living things, habitats.
- Geography: Oceans, people and environment.
- Art and Design: Creative expression, communication.
- Citizenship: Community involvement, global citizenship.

For secondary schools

Activities

- **MPA research:** Research the concept of MPAs and their role in marine conservation.
- **Community engagement:** Develop interview questions and conduct interviews with local community members.
- **Oral history collection:** Transcribe and analyse interview recordings.
- **Cultural and ecological analysis:** Identify themes and patterns in the collected stories.
- **Communication of findings:** Create multimedia presentations, reports, or exhibitions to share findings.

Resources

- Audio recording equipment.
- Transcription software.
- Language translation tools (if necessary).
- Presentation software.

Links to the language curriculum

- Language analysis

- Communication.

Cross-curricular links

- Geography: Cultural geography, environmental management.
- History: Oral history, cultural heritage.
- Citizenship: Global citizenship, community engagement.

Voices of the Seabed (target 4.1)

Students will investigate the recovery of seabed habitats through the collection and analysis of oral histories. They will explore the ecological and cultural significance of seabed ecosystems.

For primary schools

Activities

- **Ocean floor exploration:** Learn about different creatures that live on the seabed.
- **Seabed stories:** Listen to stories about the seabed from adults who live near the coast.
- **Seabed care:** Understand how human activities can affect the seabed.
- **Sharing our stories:** Create stories or drawings about seabed life and protection.

Resources

- Pictures and information about seabed creatures.
- Art materials (paper, crayons, markers).
- Audio recording equipment (optional).

Cross-curricular links

- Science: Living things, habitats, change.
- Geography: Oceans, environment.
- Art and Design: Creative expression, communication.
- Citizenship: Global citizenship, environmental awareness.

For secondary schools

Activities

- **Seabed habitat research:** Study different types of seabed habitats and their ecological importance.
- **Oral history methodology:** Develop interview questions and conduct interviews with local communities and experts.
- **Data analysis:** Transcribe and analyse interview recordings to identify key themes and trends.
- **Cultural and ecological interpretation:** Explore the cultural and ecological significance of seabed habitats.
- **Communication of findings:** Create multimedia presentations, reports, or exhibitions to share findings.

Resources

- Audio recording equipment.
- Transcription software.
- Language translation tools (if necessary).
- Presentation software.

Links to the language curriculum

- Language analysis
- Communication

Cross-curricular links

- Geography: Cultural geography, environmental management.
- History: Oral history, cultural heritage.
- Citizenship: Global citizenship, community engagement.

Plastic-Free Advocacy Campaign (target 7.2)

Students will develop a multilingual advocacy campaign to raise awareness about the issue of single-use plastics. They will conduct research, create informative materials, and organise events to engage the school community.

For primary schools

Activities

- **Plastic hunt:** Explore the school and local area to find plastic items.
- **Plastic problems:** Discuss the impact of plastic on the environment.
- **Plastic alternatives:** Explore reusable alternatives to plastic items.
- **Creative expression:** Design posters, songs, or plays about reducing plastic use.
- **Sharing knowledge:** Present their work to the school community.

Resources

- Recycled materials for creating posters and props.
- Art supplies.

Cross-curricular links

- Science: Materials, recycling.
- Art and Design: Creative expression, communication.
- Citizenship: Environmental awareness, responsible consumption.

For secondary schools

Activities

- **Plastic pollution research:** Investigate the sources, impacts, and solutions to plastic pollution.
- **Target audience analysis:** Identify key audiences for the campaign (e.g., students, staff, parents).

- **Campaign development:** Create multilingual campaign materials (posters, leaflets, social media content).
- **Event planning:** Organise events such as plastic-free days, workshops, or competitions.
- **Evaluation:** Assess the impact of the campaign through surveys and feedback.

Resources

- Access to research materials and statistics on plastic pollution.
- Design software for creating visual materials.
- Language resources (dictionaries, translation tools).
- Event planning materials.

Links to the language curriculum

- Language analysis
- Communication
- Persuasive writing

Cross-curricular links

- Science: Environmental science, chemistry.
- Citizenship: Global citizenship, environmental awareness.
- Business Studies: Marketing, public relations.

Wastewater Chronicles - Advocacy through Communication (target 8.3)

Students will investigate advanced wastewater treatment processes and develop a multilingual communication campaign to raise awareness about their importance. They will explore the scientific principles behind these processes and communicate their findings effectively to the community.

For primary schools

Activities

- **Water exploration:** Discuss where water comes from and where it goes.
- **Water pollution:** Learn about different types of water pollution.
- **Water cleaning:** Explore how water can be cleaned using simple methods.
- **Sharing knowledge:** Create pictures or stories about clean water.

Resources

- Pictures and information about water cycle and pollution.
- Art materials (paper, crayons, markers).

Cross-curricular links

- Science: Materials, water, living things.
- Geography: Water cycle, pollution.
- Art and Design: Creative expression, communication.
- Citizenship: Environmental awareness, responsible citizenship.

For secondary schools

Activities

- **Wastewater treatment research:** Investigate different wastewater treatment technologies.
- **Language research:** Research the target audience and their primary languages.
- **Campaign development:** Create informative materials (brochures, articles, presentations) in multiple languages.
- **Community engagement:** Develop a communication plan to distribute materials and engage the community.
- **Evaluation:** Assess the effectiveness of the campaign through feedback and data analysis.

Resources

- Information on wastewater treatment processes.
- Language resources (dictionaries, translation tools).
- Design software for creating visual materials.
- Presentation software.

Links to the language curriculum

- Language analysis
- Communication
- Persuasive writing

Cross-curricular links

- Science: Chemistry, biology, environmental science.
- Geography: Water resources, pollution.
- Citizenship: Global citizenship, environmental awareness.
- Business Studies: Marketing, public relations.

Maritime Waste Management Communication Campaign (target 8.4)

Pupils will become ocean protectors, learning about how to keep our seas clean. They will understand the importance of treating ship waste properly and create messages to encourage others to help.

For primary schools

Activities

- **Ocean exploration:** Learn about different sea creatures and their habitats.
- **Ship pollution:** Discuss how ships can pollute the ocean with dirty water.
- **Clean seas:** Understand the importance of treating ship waste on land.
- **Sharing knowledge:** Create pictures, songs, or plays about clean seas.

Resources

- Pictures and information about marine life and ships.

- Art materials (paper, crayons, markers).

Cross-curricular links

- Science: Living things, habitats, pollution.
- Geography: Oceans, transport.
- Art and Design: Creative expression, communication.
- Citizenship: Environmental awareness, global citizenship.

For secondary schools

Activities

- **Policy research:** Investigate the policy and its implications for marine environments.
- **Target audience analysis:** Identify key audiences for the campaign (e.g., students, staff, local community).
- **Campaign development:** Create multilingual campaign materials (posters, leaflets, social media content).
- **Event planning:** Organise events such as information sessions, debates, or exhibitions.
- **Evaluation:** Assess the campaign's effectiveness through surveys and feedback.

Resources

- Information on ship waste and wastewater treatment.
- Language resources (dictionaries, translation tools).
- Design software for creating visual materials.
- Event planning materials.

Links to the language curriculum

- Language analysis
- Communication
- Persuasive writing

Cross-curricular links

- Science: Chemistry, biology, environmental science.
- Geography: Oceans, pollution, transport.
- Citizenship: Global citizenship, environmental awareness.
- Business Studies: Marketing, public relations.

Communicating Sustainability in Ship Recycling (target 11.3)

Students will become storytellers, creating multilingual narratives about the history of energy transitions in the European Union. Through research and creative activities, they will learn about the importance of renewable energy, especially ocean energy.

For primary schools

Activities

- **Energy research:** Students will research different types of energy, including renewable and non-renewable sources.
- **Ocean energy exploration:** Students will learn about different forms of ocean energy, such as wave power, tidal power, and ocean thermal energy conversion.
- **Storytelling:** Students will create stories about the history of energy transitions in Europe, focusing on the role of ocean energy. They can use different formats, such as written stories, audio recordings, or puppet shows.
- **Multilingual presentation:** Students will present their stories in a variety of European languages. They can use online tools or language apps to practise speaking different languages.

Resources

- Books and articles about energy and renewable energy
- Information about ocean energy technologies
- Language learning resources (e.g., online courses, language apps)
- Recording equipment (e.g., microphones, cameras)

Links to the language curriculum

- Writing
- Speaking
- Listening
- Reading

Cross-curricular links

- Science: Understanding energy, renewable resources, and the environment
- Geography: Exploring Europe and its history
- History: Learning about historical events and trends

For secondary schools

Activities

- **Historical research:** Students will research the history of energy production and consumption in Europe, including the development of fossil fuels and the emergence of renewable energy sources.
- **Ocean energy analysis:** Students will analyse the potential of ocean energy resources in Europe, considering factors such as technical feasibility, economic viability, and environmental impact.
- **Storytelling:** Students will create multilingual narratives about energy transitions, incorporating historical events, key figures, and technological advancements. They can use different formats, such as written stories, audio recordings, or multimedia presentations.
- **Language learning:** Students will learn or improve their skills in one or more European languages to present their narratives effectively.

Resources

- Historical documents and archives
- Scientific journals and articles on energy and ocean energy

- Language learning resources (e.g., online courses, language apps)
- Recording equipment (e.g., microphones, cameras)
- Presentation software (e.g., PowerPoint, Prezi)

Links to the language curriculum

- Writing
- Speaking
- Listening
- Reading

Cross-curricular links

- History: Historical research, analysis, and interpretation
- Geography: European geography, environmental studies
- Science: Energy, renewable energy, environmental science

Energy Transitions in Multilingual Narratives (target 12.1)

Students will become storytellers, creating multilingual narratives about the history of energy transitions in the European Union. Through research and creative activities, they will learn about the importance of renewable energy, especially ocean energy.

For primary schools

Activities

- **Energy research:** Students will research different types of energy, including renewable and non-renewable sources.
- **Ocean energy exploration:** Students will learn about different forms of ocean energy, such as wave power, tidal power, and ocean thermal energy conversion.
- **Storytelling:** Students will create stories about the history of energy transitions in Europe, focusing on the role of ocean energy. They can use different formats, such as written stories, audio recordings, or puppet shows.
- **Multilingual presentation:** Students will present their stories in a variety of European languages. They can use online tools or language apps to practise speaking different languages.

Resources

- Books and articles about energy and renewable energy
- Information about ocean energy technologies
- Language learning resources (e.g., online courses, language apps)
- Recording equipment (e.g., microphones, cameras)

Links to the language curriculum

- Writing
- Speaking
- Listening
- Reading

Cross-curricular links

- Science: Understanding energy, renewable resources, and the environment
- Geography: Exploring Europe and its history
- History: Learning about historical events and trends

For secondary schools

Activities

- **Historical research:** Students will research the history of energy production and consumption in Europe, including the development of fossil fuels and the emergence of renewable energy sources.
- **Ocean energy analysis:** Students will analyse the potential of ocean energy resources in Europe, considering factors such as technical feasibility, economic viability, and environmental impact.
- **Storytelling:** Students will create multilingual narratives about energy transitions, incorporating historical events, key figures, and technological advancements. They can use different formats, such as written stories, audio recordings, or multimedia presentations.
- **Language learning:** Students will learn or improve their skills in one or more European languages to present their narratives effectively.

Resources

- Historical documents and archives
- Scientific journals and articles on energy and ocean energy
- Language learning resources (e.g., online courses, language apps)
- Recording equipment (e.g., microphones, cameras)
- Presentation software (e.g., PowerPoint, Prezi)

Links to the language curriculum

- Writing
- Speaking
- Listening
- Reading

Cross-curricular links

- History: Historical research, analysis, and interpretation
- Geography: European geography, environmental studies
- Science: Energy, renewable energy, environmental science

Multilingual Guides for Sustainable Boating Practices (target 15.1)

Students will become environmental ambassadors, creating multilingual guides for boaters on sustainable practices. Through research and creative activities, they will learn about the importance of protecting our oceans and waterways.

For primary schools

Activities

- **Research:** Students will research sustainable boating practices, such as reducing fuel consumption, minimising pollution, and using renewable energy.
- **Guide creation:** Students will create simple guides or posters about sustainable boating practices. They can use illustrations, diagrams, and easy-to-understand language.
- **Multilingual presentation:** Students will present their guides in different languages to reach a wider audience.
- **Community outreach:** Students can distribute their guides to local marinas and boating communities.

Resources

- Books and articles about sustainable boating and marine conservation
- Information about renewable energy and environmental protection
- Language learning resources (e.g., online courses, language apps)
- Crafting supplies for creating guides and posters

Links to the language curriculum

- Writing
- Speaking
- Presenting information

Cross-curricular links

- Science: Understanding marine ecosystems, pollution, and renewable energy
- Geography: Exploring oceans, waterways, and human-environment interactions
- Art: Creating and designing educational materials

For secondary schools

Activities

- **Research:** Students will conduct in-depth research on sustainable boating practices, including case studies of carbon-neutral marinas and examples of renewable energy usage.
- **Guide development:** Students will develop comprehensive guides that include information on sustainable boating techniques, regulations, and certification programs.
- **Multilingual translation:** Students will translate their guides into multiple European languages to reach a wider audience.
- **Distribution:** Students will distribute their guides to marinas, boating associations, and online platforms.

Resources

- Scientific journals and articles on sustainable boating and marine conservation
- Information about renewable energy and environmental protection
- Language learning resources (e.g., online courses, language apps)
- Design software (e.g., Canva, Adobe InDesign)

- Online publishing platforms

Links to the language curriculum

- Writing
- Speaking
- Presenting information

Cross-curricular links

- Science: Environmental science, marine biology, renewable energy
- Geography: Maritime geography, human-environment interactions
- Economics: Sustainable development, tourism

Multilingual Communication for Water Conservation (target 16.1)

Students will become ocean champions, creating multilingual materials to raise awareness about the important work of the European Ocean and Water Agency (EOA). Through research and creative activities, they will learn about the challenges facing our oceans and waterways and the steps we can take to protect them.

For primary schools

Activities

- **Research:** Students will learn about the European Ocean and Water Agency and its initiatives to protect our oceans and waterways.
- **Creative content:** Students will create engaging and informative content, such as posters, videos, or comics, about EOA's work.
- **Multilingual presentation:** Students will present their content in different languages to reach a wider audience.
- **Community outreach:** Students can share their materials with their classmates, community members, and local organisations.

Resources

- Information about the European Ocean and Water Agency and its initiatives
- Language learning resources (e.g., online courses, language apps)
- Creative materials (e.g., markers, paper, cameras)
- Presentation software (e.g., PowerPoint)

Links to the language curriculum

- Writing
- Speaking
- Presenting information

Cross-curricular links

- Science: Understanding marine ecosystems, water pollution, and conservation

- Geography: Exploring oceans, waterways, and human-environment interactions
- Art: Creating and designing educational materials

For secondary schools

Activities

- **Research:** Students will conduct in-depth research on the European Ocean and Water Agency's work, including its goals, projects, and achievements.
- **Target audience analysis:** Students will identify the target audience for their communication materials, considering factors such as age, language, and interests.
- **Content creation:** Students will develop engaging and informative content, such as social media posts, articles, or videos, that are tailored to their target audience.
- **Multilingual translation:** Students will translate their content into multiple European languages to reach a wider audience.
- **Distribution:** Students will distribute their materials through social media, online platforms, and local organisations.

Resources

- Information about the European Ocean and Water Agency and its initiatives
- Language learning resources (e.g., online courses, language apps)
- Design software (e.g., Canva, Adobe InDesign)
- Social media platforms
- Online publishing platforms

Links to the language curriculum

- Writing
- Speaking
- Presenting information

Cross-curricular links

- Science: Environmental science, marine biology, water resources
- Geography: European geography, human-environment interactions
- Media Studies: Digital media, communication, public relations

Translating the BBNJ Treaty for Global Understanding (target 17.1)

Students will become global ambassadors for ocean conservation by translating the BBNJ Treaty into different languages. Through this project, they will learn about the importance of international cooperation and the role of language in promoting understanding and action.

For primary schools

Activities

- **Learn about the BBNJ treaty:** Students will learn about the BBNJ Treaty and its goals for protecting the high seas.
- **Choose a language:** Students will choose a language they want to translate the treaty into.

- **Translate key sections:** Students will work together to translate important sections of the treaty into their chosen language.
- **Create educational materials:** Students can create posters, videos, or presentations to explain the key points of the treaty in their chosen language.

Resources

- A copy of the BBNJ Treaty in English
- Language learning resources (e.g., dictionaries, online translation tools)
- Writing and drawing materials
- Presentation software (e.g., PowerPoint)

Links to the language curriculum

- Writing
- Speaking
- Reading
- Translating

Cross-curricular links

- Science: Understanding marine ecosystems and conservation
- Geography: Exploring oceans and international relations
- Social Studies: Global citizenship and international cooperation

For secondary schools

Activities

- **In-depth research:** Students will conduct in-depth research on the BBNJ Treaty, its goals, and its significance for ocean conservation.
- **Language selection:** Students will select languages they want to translate the treaty into, considering factors such as the geographic distribution of marine ecosystems and the prevalence of those languages in different regions.
- **Translation and editing:** Students will work together to translate the treaty into their chosen languages, ensuring accuracy and clarity.
- **Legal and policy analysis:** Students will analyse the legal and policy implications of the BBNJ Treaty and its potential impact on marine conservation efforts.
- **Dissemination:** Students will disseminate their translated versions of the treaty through online platforms, international organisations, and government agencies.

Resources

- A copy of the BBNJ Treaty in English
- Language learning resources (e.g., dictionaries, online translation tools)
- Legal and policy analysis tools
- Online publishing platforms

Links to the language curriculum

- Writing
- Speaking

- Reading
- Translating

Cross-curricular links

- Law: International law, environmental law
- Geography: Maritime geography, global governance
- Science: Marine science, environmental science
- Social Studies: International relations, global citizenship

Drama

The Silent Seas: A Theatrical Exploration (target 10.2)

Students collaborate on writing a theatrical script that explores the challenges of noise pollution in marine environments and the effectiveness of mitigation measures. Students can then perform the play for the school community, incorporating elements of drama, storytelling, and environmental advocacy.

For primary schools

Activities

- Research different marine animals and their habitats
- Learn about the sources of noise pollution in the ocean (e.g., ships, sonar, drilling)
- Discuss the impact of noise pollution on marine life (e.g., communication, navigation)
- Write a script for a short play, including characters and dialogue
- Rehearse and perform the play for the class

Resources

- Books and online resources about marine life and noise pollution
- Props and costumes for the play
- Performance space

Cross-curricular links

- Science: Habitats, ecosystems, human impact on the environment
- English: Literacy, communication
- Art and Design: Costume design, set design

For secondary schools

Activities

- Research the sources and impacts of noise pollution on marine ecosystems

- Develop characters representing different stakeholders (e.g., scientists, fishermen, policymakers)
- Write a script incorporating dramatic elements (e.g., conflict, tension, resolution)
- Design sets, costumes, and lighting for the performance
- Explore the use of multimedia (e.g., sound effects, projections) to enhance the performance
- Evaluate the effectiveness of the performance in raising awareness

Resources

- Access to scientific research on noise pollution
- Drama textbooks and resources
- Theatre equipment (lights, sound, costumes)
- Performance space

Links to the drama curriculum

- Scriptwriting
- Performance
- Audience engagement

Cross-curricular links

- Science: Ecology, environmental science, acoustics
- English: Language, communication, research
- Geography: Global patterns, human impact on the environment

Theatrical Performance on Protecting Seabed Habitats (target 17.3)

Students collaborate to write a theatrical script that dramatises the importance of protecting seabed habitats and the journey to achieving a global ban. They then perform the play, incorporating elements of storytelling, emotion, and advocacy for environmental conservation

For primary schools

Activities

- Research different seabed animals and their habitats
- Discuss threats to seabed life (e.g., pollution, overfishing, climate change)
- Develop characters and storylines for the play
- Create costumes and props for the performance
- Rehearse and perform the play for the class and parents

Resources

- Books or online resources about marine life and seabed habitats
- Art materials for costume and prop making
- Performance space

Cross-curricular links

- Science: Habitats, ecosystems, environmental impact

- English: Literacy, communication
- Art and Design: Creativity, costume design

For secondary schools

Activities

- Research the importance of seabed habitats for marine biodiversity
- Explore the impacts of human activities on seabed ecosystems (e.g., deep-sea mining, fishing)
- Develop characters representing different stakeholders (e.g., scientists, fishermen, policymakers)
- Write a script with a strong narrative and clear message
- Design sets, costumes, and lighting for the performance
- Explore the use of multimedia (e.g., projections, sound effects) to enhance the performance

Resources

- Access to scientific research on seabed ecosystems
- Drama textbooks and resources
- Theatre equipment (lights, sound, costumes)
- Performance space

Links to the drama curriculum

- Scriptwriting
- Performance
- Audience engagement

Cross-curricular links

- Science: Ecology, marine biology, environmental science
- English: Language, communication, research
- Geography: Global patterns, environmental challenges

Information Technology (IT)

Building a Digital Platform for Blue Biotech Knowledge Sharing (target 14.1)

Students work on designing and developing a digital platform that facilitates knowledge sharing in the field of blue biotechnology. The platform could include databases, forums, and interactive features to connect researchers, professionals, and enthusiasts.

For primary schools

Activities

- Research different marine animals and their special characteristics
- Learn about the concept of biotechnology and how it can help marine life
- Create informative posters or presentations about their chosen marine creature
- Develop simple ways to share information with classmates (e.g., using a class wiki or digital storytelling)

Resources

- Access to the internet for research
- Art materials for creating posters
- Digital devices for creating presentations or online resources
- Educational resources on marine life and biotechnology

Links to the IT curriculum

- Digital literacy
- Communication
- Collaboration

Cross-curricular links

- Science: Animals, habitats, human impact on the environment
- English: Literacy, communication, presentation skills

For secondary schools

Activities

- Research the latest advancements in blue biotechnology
- Design the structure and features of the knowledge sharing platform
- Develop content for the platform, including articles, videos, and presentations
- Create interactive elements such as forums, blogs, or wikis
- Evaluate the platform's effectiveness in promoting knowledge exchange

Resources

- Access to the internet for research and collaboration
- Digital platform development tools (e.g., WordPress, Wix, or coding languages)
- Design software for creating visual content
- Mentorship from IT professionals or scientists

Links to the IT curriculum

- Digital literacy
- Programming
- Database management

Cross-curricular links

- Science: Biology, chemistry, environmental science
- Mathematics: Data analysis, statistics

Digital Showcase of Blue Biotech Innovations (target 14.2)

Students create a digital showcase to present the scientific innovations in blue biotechnology. This can include interactive presentations, animations, and multimedia elements to effectively communicate complex scientific concepts to a broad audience.

For primary schools

Activities

- Research different marine creatures and their unique abilities
- Learn about the concept of biotechnology and how it can be used to help marine life
- Create imaginative characters based on marine organisms with special superpowers
- Develop short animations or stories featuring these characters showcasing their biotechnological abilities
- Present the final project to the class and explain the science behind the characters

Resources

- Access to the internet for research
- Art materials for character design
- Animation software (e.g., Scratch, Stop Motion Studio)
- Educational resources on marine life and biotechnology

Links to the IT curriculum

- Digital literacy
- Creativity
- Communication

Cross-curricular links

- Science: Animals, habitats, human impact on the environment
- English: Storytelling, imagination

For secondary schools

Activities

- Research current advancements in blue biotechnology (e.g., biofuels, bioremediation, pharmaceuticals)
- Select a specific blue biotechnology innovation to focus on
- Develop a communication strategy to explain the science behind the innovation
- Create interactive elements (e.g., simulations, infographics) to engage the audience
- Design a digital platform or presentation to showcase the innovation
- Evaluate the effectiveness of the showcase in communicating complex ideas

Resources

- Access to scientific journals and databases
- Digital design software (e.g., Adobe Creative Suite, Canva)
- Video editing software
- Mentorship from scientists or industry experts

Links to the IT curriculum

- Digital literacy
- Programming
- Data analysis

Cross-curricular links

- Science: Biology, chemistry, environmental science
- Design and Technology: Product design, communication
- Mathematics: Data analysis, modelling

Digital Monitoring System for Carbon Footprint in Marinas (target 15.1)

Students work on developing a digital monitoring system that tracks and displays the carbon footprint of marinas. This IT solution can provide real-time data on energy usage, emissions, and the effectiveness of sustainability measures.

For primary schools

Activities

- Research different types of marine pollution (e.g., oil spills, litter, noise pollution)
- Design a model marina that incorporates eco-friendly features (e.g., recycling bins, solar panels)
- Create posters or presentations to raise awareness about harbour pollution
- Participate in a local beach clean-up

Resources

- Art materials for creating the model marina
- Recycling materials for building the model
- Information about marine pollution and environmental protection
- Access to local beach or harbour

Cross-curricular links

- Science: Habitats, pollution, environmental impact
- Art and Design: Creativity, problem-solving
- Geography: Local geography, human impact on the environment

For secondary schools

Activities

- Research the environmental impact of marinas and the importance of carbon reduction

- Identify key data points to be collected (e.g., energy consumption, waste generation, water usage)
- Design a data collection system (e.g., sensors, surveys)
- Develop a digital platform for data analysis and visualisation
- Propose strategies to reduce the marina's carbon footprint

Resources

- Access to data collection devices (e.g., sensors, metres)
- Computer software for data analysis and visualisation (e.g., Excel, Python)
- Access to environmental data and regulations
- Mentorship from experts in environmental science or engineering

Links to the IT curriculum

- Programming
- Data management
- Digital literacy

Cross-curricular links

- Science: Data analysis, environmental science, energy
- Mathematics: Data analysis, statistics
- Geography: Environmental systems, human impact on the environment
- Business Studies: Sustainability, environmental management

Digital Platform for Ocean and Water Data Integration (target 16.1)

Students design and develop a digital platform that integrates data related to European oceans and waters. This IT project aims to streamline data collection, analysis, and accessibility for the European Ocean and Water Agency.

For primary schools

Activities

- Learn about different types of water bodies (rivers, lakes, oceans)
- Identify key indicators of water quality (e.g., clarity, smell, presence of litter)
- Create a simple data collection sheet or digital form
- Record observations during school outings or local walks
- Share findings with the class and discuss the importance of data sharing

Resources

- Notebooks, pencils, or tablets for data collection
- Cameras or phones to take pictures
- Access to simple data analysis tools (e.g., online spreadsheets)

Links to the IT curriculum

- Basic data handling
- Communication

Cross-curricular links

- Science: Habitats, ecosystems, data collection
- Geography: Maps, location, environmental issues

For secondary schools

Activities

- Research European water bodies and the challenges they face
- Identify key data points to be collected (e.g., water quality, temperature, salinity, biodiversity)
- Design a database structure to store and manage data
- Develop a user-friendly interface for data input and visualisation
- Collaborate with local environmental agencies or research institutions
- Present the platform to a wider audience (e.g., through a school exhibition)

Resources

- Access to data sources (e.g., government agencies, research institutions)
- Database software (e.g., MySQL, PostgreSQL)
- Programming languages (e.g., Python, JavaScript)
- Data visualisation tools (e.g., Tableau, Power BI)
- Mentorship from IT professionals or environmental scientists

Links to the IT curriculum

- Programming
- Database management
- Data visualisation

Cross-curricular links

- Geography: Geographic Information Systems (GIS), global patterns, environmental challenges
- Science: Data analysis, environmental science, technology
- Mathematics: Data analysis, statistics

Digital Platform for Global River Conservation (target 17.4)

Students work on developing a digital platform that serves as a hub for global river conservation efforts. The platform could include features such as interactive maps, data visualisation tools, and collaboration spaces for international organisations, researchers, and communities.

For primary schools

Activities

- Research different river environments and the creatures that live there
- Identify local water bodies and their importance to the community

- Create characters representing different river animals or elements (e.g., water droplets, fish)
- Use digital tools to create a storybook with illustrations and narration
- Share the storybook with classmates and the local community

Resources

- Access to computers and digital storytelling software
- Art materials for creating illustrations
- Books and online resources about rivers and water ecosystems
- Digital cameras or tablets for taking photos

Links to the IT curriculum

- Digital literacy
- Media creation

Cross-curricular links

- Science: Habitats, ecosystems, environmental impact
- English: Storytelling, creativity, communication

For secondary schools

Activities

- Research global river challenges (e.g., pollution, damming, climate change)
- Design the structure and features of the digital platform
- Collect and analyse river-related data (e.g., water quality, biodiversity)
- Develop interactive maps and data visualisations to communicate findings
- Create online forums or chat rooms for collaboration and knowledge sharing
- Evaluate the platform's effectiveness and potential for scaling up

Resources

- Access to geographic information systems (GIS) software
- Data on rivers and water quality
- Programming skills (e.g., Python, JavaScript)
- Web development tools (e.g., HTML, CSS)
- Mentorship from IT professionals or environmental scientists

Links to the IT curriculum

- Programming
- Database management
- Digital literacy

Cross-curricular links

- Geography: Global patterns, environmental challenges, geographical data
- Science: Data analysis, environmental science, technology
- Mathematics: Data analysis, statistics
- Citizenship: Global citizenship, environmental responsibility