

# Muinín Catalyst STEAM Education for Sustainable Development and Futures Literacy

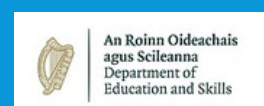
## SDG14 The Future Of The Ocean



### Programme Phase 1: Research and Development

#### MM1: Introduction to Ocean Literacy

Subject Areas: CSPE, Climate Action and Sustainability, Geography, Science, SPHE



# SDG14 Future of the Ocean

## Micro-Module 1: Introduction to Ocean Literacy



### Micro-Module 1: Introduction to Ocean Literacy

### Research and Development

**Subject Areas: CSPE,  
Climate Action and  
Sustainability, Geography,  
Science, SPHE**

### Micro-module Summary: Introduction to Ocean Literacy

The ocean is the blue heart of planet Earth and what allows us to survive on this planet. Having a better understanding of how important the ocean is in our daily lives helps us as humans to understand how we need to take better care of it. The micro-module can be delivered as a whole programme, in combination with the Problem to Pitch Marine Plastic Waste module or as individual lesson plans to augment existing programmes of study.

### In this micro-module, the learner will:

- understand there is one ocean that has many features
- understand the interconnectedness between humans and the ocean.
- recognise the reciprocal impact of human actions on the ocean and vice versa.
- demonstrate awareness of the importance of ocean literacy for environmental stewardship.
- recognise different sources of pollution, with a focus on plastic pollution.
- understand how pollution reaches the ocean, its origins, and the impacts on marine life.

### Materials

- 10 Lesson plans
- Worksheets
- Supporting Resources
- Teacher's Guides
- Internet Access required

**3** GOOD HEALTH  
AND WELL-BEING



**11** SUSTAINABLE CITIES  
AND COMMUNITIES



**13** CLIMATE  
ACTION



**17** PARTNERSHIPS  
FOR THE GOALS



# SDG14 Future of the Ocean

## Micro-Module 1: Introduction to Ocean Literacy



### Micro-Module 1: Introduction to Ocean Literacy

### Research and Development

**Subject Areas: CSPE,  
Climate Action and  
Sustainability, Geography,  
Science, SPHE**

### Micro-module Summary: Introduction to Ocean Literacy

The ocean is the blue heart of planet Earth and what allows us to survive on this planet. Having a better understanding of how important the ocean is in our daily lives helps us as humans to understand how we need to take better care of it. The micro-module can be delivered as a whole programme, in combination with the Problem to Pitch Marine Plastic Waste module or as individual lesson plans to augment existing programmes of study.

### In this micro-module, the learner will:

- understand there is one ocean that has many features
- understand the interconnectedness between humans and the ocean.
- recognise the reciprocal impact of human actions on the ocean and vice versa.
- demonstrate awareness of the importance of ocean literacy for environmental stewardship.
- recognise different sources of pollution, with a focus on plastic pollution.
- understand how pollution reaches the ocean, its origins, and the impacts on marine life.

### Materials

- 10 Lesson plans
- Worksheets
- Supporting Resources
- Teacher's Guides
- Internet Access required

**3** GOOD HEALTH  
AND WELL-BEING



**11** SUSTAINABLE CITIES  
AND COMMUNITIES



**13** CLIMATE  
ACTION



**17** PARTNERSHIPS  
FOR THE GOALS



# SDG14 Future of the Ocean

## Micro-module 1: Introduction to Ocean Literacy



### SDG14 Introduction to Ocean Literacy

#### Lesson 1: How Ocean Literate Am I?

Understanding our connection with the ocean is vital to create strong links and passion for environmental stewardship. This lesson aims to increase the awareness of the ocean's impact on us, and our impact on the ocean.

Resources include: Worksheet: Ocean Literacy Quiz; Worksheet: 'Sea change – Increasing Ocean Literacy

#### Lesson 2: Ocean Connection

In this lesson, learners are encouraged to use observation skills to understand the interconnections between the land and ocean interface and human and ocean interface and further understand our influence on the ocean.

Resources include: Worksheet: Connecting to the ocean, Worksheet: Guided Observation, Worksheet: The Blue Mind- Ocean Connection

#### Lesson 3: Interconnectedness: Ocean and Climate

In this lesson, learners will gain an awareness of the connectedness of the ocean and climate and begin to sort their knowledge on the topic, engaging in rapid research.

Resources include: Worksheet: Ocean and Climate

#### Lesson 4: Interconnectedness: Marine Food Web

In this lesson, learners build on their understanding of the interconnections between humans, the land and the ocean by developing knowledge of marine food webs.

Resources include: Supporting Resource: Marine Food Web image

#### Lesson 5: Introduction to Ocean Pollution

In this lesson, learners begin to understand how our actions can influence ocean health and cause pollution.

Resources include: Supporting Resource: Reflections

#### Lesson 6: Introduction to Local Coastal Pollution 1

In this lesson, learners will further develop their awareness of the impact of pollution on the ocean and take action to help restore ocean health locally.

Resources include: Supporting Resource: Observation Cards

#### Lesson 7: Local Coastal Pollution 2

In this lesson, learners will develop observational skills including data gathering and analysis

# SDG14 Future of the Ocean

## Micro-module 1: Introduction to Ocean Literacy



### SDG14 Introduction to Ocean Literacy

around collected waste or open-source data online.

Resources include: Worksheet: Beach clean review & analysis

#### Lesson 8: Ocean Communication

In this lesson, learners will learn to begin to understand how video can be used as an effective tool to raise awareness on ocean issues.

Resources include: Worksheet: How do we raise awareness?, Worksheet: Raising awareness- video analysis

#### Lesson 9: Promoting Positive Action

This lesson aims to show learners the direct consequence that a simple negative action can have on the ocean and the life that exists in it, and the positive action that can be taken to support the health of the ocean.

Resources include: Worksheet: Preparing for action & scenarios, Supporting Resource: Scenario cards

#### Lesson 10: Ocean Reflection

In this lesson, learners will reflect on what they have learnt during the module. Learners will consider our place as ocean citizens, ocean optimism, observation and evaluation. Using solution-based thinking and creative thinking, learners can commit to helping the ocean and pledge to help ocean health.

Resources include: Teacher's Guide: Facilitating a World Café

**Module development and expertise: Original Module Development: Lucy Hunt Founder [Sea Synergy Marine Awareness, Research and Activity Centre](#)**

**2024 Module Redevelopment: Rebecca White, Learning Programme Developer, The Ocean Race Curriculum UCD Earth Institute, [Future Focus21c](#)**

#### Using the Resources:

If you wish to use these resources, we can offer an induction and online support throughout the module to help you plan integration into your projects and timetable. To register for this option, please contact us e:[hello@futurefocus21c.com](mailto:hello@futurefocus21c.com)

For more information on the resources please visit [www.muinincatalyst.com](http://www.muinincatalyst.com)

#### Setting up an online learning environment for the lessons on this module:

Our lessons integrate the use of virtual learning environments. To ensure seamless use of our lessons, a module should be setup on your school's virtual learning environment such as Teams,

# SDG14 Future of the Ocean

## Micro-module 1: Introduction to Ocean Literacy



### SDG14 Introduction to Ocean Literacy

Google Classroom, etc. Learners are encouraged to upload documents to share with their peers. You can also use Google Sites or Microsoft Sway to encourage learners to present their work over the year - this can easily be set up to reflect the aims of TY and provide a showcase for their work as well

#### Setting up a Canva Education account:

As our lessons integrate design, our lessons also refer to Canva. Educators and schools are able to open a free Canva for Education account by registering here: <https://www.canva.com/education/>

Canva for Education provides primary and secondary school teachers and students with premium features and templates. You can then also set up lessons and invite your learners to the class.

#### References:

Department of the Environment, Climate and Communications (2024, 2021) Design Requirements for Ireland's National Single Use Plastic Policy Available at: <https://www.gov.ie/en/publication/ef24a-single-use-plastics/#design-requirements> Accessed 21.03.24

Foras na Mara Marine Institute (2020) Cullen Fellow co-creates a food web model for the Irish Sea Available at <https://www.marine.ie/site-area/news-events/news/cullen-fellow-co-creates-food-web-model-irish-sea> Accessed 24.04.24

Inland Coastal and Coastal Marina Systems Living Seawalls <https://inlandandcoastal.com/what-we-make/living-seawalls> Accessed: 05.03.24

World Economic Forum, (2019) Plastic Packaging Problem: 5 Innovative Ideas for <https://www.weforum.org/agenda/2019/10/plastic-packaging-environment-design-loop/>

#### Websites and Tools

Clean Coasts (2024) Available at: <https://cleancoasts.org/> Accessed: 05.03.24

ESA Climate Office (2024) Observing the Climate Available at: <https://climate.esa.int/en/> Accessed 21.03.24

ESA (2024) Albedo Game (melting sea ice) Available at: <https://climate.esa.int/en/educate/climate-for-the-public/albedo-game/> Accessed 21.03.24

Irish Ocean Literacy Network (2024) The Ocean Literacy Principles Available at: <https://irishoceanliteracy.ie/ocean-literacy-resources/> Accessed: 05.03.24

Involve (2024) Resources, World Cafe Available at: <https://involve.org.uk/resources/> Accessed 04.05.24

# SDG14 Future of the Ocean

## Micro-module 1: Introduction to Ocean Literacy



Litterati (2024) Providing the World's Litter Data Available at: <https://www.litterati.org/> Accessed: 05.03.24

Open Litter Map (2024) <https://openlittermap.com/> Accessed 25.04.24

Repak Ireland (2024) Reimagine Plastic to Green Our World Available at: <https://repak.ie/> Accessed: 05.03.24

The World Café Hosting Tool Kit Available at: <http://theworldcafe.com/tools-store/hosting-tool-kit/> Accessed: 05.03.24

The World Cafe (2024) World Café Method Available at: <https://theworldcafe.com/key-concepts-resources/world-cafe-method/> Accessed 04.05.24

The World Café (2024) Shaping our Future Through Conversations that Matter Available at: <http://theworldcafe.com/> Accessed: 05.03.24

### Videos

Ash, S. (2022) How to Run a World Café Available at: <https://www.youtube.com/watch?v=Tfpyu84pg6k> Accessed 05.03.24

BBC (2012) Earth How the Ocean Impacts the Global Weather | Planet Earth Earth Available at [https://youtu.be/Vf7\\_cVflyZ0?si=2srDpHhYhH76-qL2](https://youtu.be/Vf7_cVflyZ0?si=2srDpHhYhH76-qL2) Accessed 21.03.24

BuzzFeed (2018) I Want You To Stop Recycling Available at: <https://youtu.be/-Yp1KKWpPpU?si=CfQ9Zyiol58KOJ3b> Accessed: 05.03.24

Cabinology (2017) Blue Mind Why the Ocean is Good For You Available at: <https://youtu.be/0dgNVSV1qow?si=kYbEEDeWyGI22aAa> Accessed: 05.03.24

Dorion, D. (2015) Ducks Overboard! Available at: <https://www.youtube.com/watch?v=fjxLIMF2Fq0> Accessed: 05.03.24

Dobken, E. (2015) The epic journey of the plastic ducks Available at: <https://www.youtube.com/watch?v=AvchIWftt80&feature=youtu.be> Accessed: 05.03.24

European Space Agency (2022) Oceans and climate Available at <https://www.youtube.com/watch?v=zO2153cJORI> Accessed 21.03.24

Fair Seas speaks with diver Michael O'Donnell about Marine Protected Areas in Ireland Available at: <https://youtu.be/9a8jXHNNk0A?si=GGh88jokayFW3HGu> Accessed: 05.03.24

Fair Seas (2023) Greater Skellig Coast Hope Spot on RTÉ News Available at: [https://youtu.be/TqIF3K\\_Lalk?si=WtSuR8fTqbS5q2DF](https://youtu.be/TqIF3K_Lalk?si=WtSuR8fTqbS5q2DF) Accessed 05.03.24

# SDG14 Future of the Ocean

## Micro-module 1: Introduction to Ocean Literacy



### References:

FOB Documentaries (2024) The Ocean Connection Official Trailer Honnavara Olive Ridley Sea Turtle Available at: [https://youtu.be/n4DzQPL4D8I?si=9d94AcPR4v\\_dAZH0](https://youtu.be/n4DzQPL4D8I?si=9d94AcPR4v_dAZH0) Accessed: 05.03.24

Heal the Bay (2010) The Majestic Plastic Bag - A Mockumentary Available at: <https://www.youtube.com/watch?v=GLgh9h2ePYw> Accessed: 05.03.24

Inspect & Adapt Ltd (2019) How to Facilitate a World Café Available at: <https://www.youtube.com/watch?v=blmYMj88b20> Accessed 05.03.24

Irish Times (2024) New recycling deposit charges to be introduced in Ireland Available at: <https://youtu.be/bayjbbKzQMU?si=KsdqbH7Gvig14IFV> Accessed: 05.03.24

Harvey, J. The Food Web, Jessica Expedition Notebook Available at: <https://www.youtube.com/watch?v=PLQMKNKZv8v8> Accessed: 05.03.24

Netflix (2021) Pulau Plastik | Plastic Island [97:00 mins] Available here <https://www.netflix.com/ie/title/81597205> Accessed 08:08:2024

National Geographic (2017) How We Can Keep Plastics Out of Our Ocean | National Geographic Available at: <https://youtu.be/HQTUWK7CM-Y?si=yvS2bIVP4y5DuPu3> Accessed 05.03.24

Sams, E. (2019) Plastic Available at: <https://youtu.be/77xQiiG-Cq4> Accessed 05.03.24

Sea Change Project (2017) Increasing Ocean Literacy Available at: <https://youtu.be/SmM-H3b5dhw?si=Gcnqbeadz2aKucDj> Accessed: 05.03.24

Surfers Against Sewage (2021) Thank you, Sea Available at: <https://www.youtube.com/watch?v=cOmSPOeaOwQ> Accessed 05.03.2024

Rogers, T. (2019) UNSW Sydney Marine Long Chain Food Webs Available at: <https://www.youtube.com/watch?v=pDsn1MtN-dY> Accessed 05.03.24

The Ocean Race Learning (2023) On Course: Ocean Literacy Available at: [https://youtu.be/o3irtD\\_0UfU?si=7xOJT3rJlzuDPxiD](https://youtu.be/o3irtD_0UfU?si=7xOJT3rJlzuDPxiD) Accessed 05.03.24

UNESCO (2023) Blue Mind | Wallace J. Nichols (Author of Blue Mind, United States) Available at: <https://youtu.be/RowtrDtoNDo?si=UIXmqw9FhpP79k0> Accessed 05.03.24