



**BLUE
MARINE**
FOUNDATION

DUTCH CARIBBEAN OCEAN OBSERVATORY

FACILITATION GUIDE



WHY VISIT THE VIRTUAL DUTCH CARIBBEAN OCEAN OBSERVATORY?

An underwater portal to explore and protect

Learning outcomes:

After completing the Ocean Observatory classroom activities, students will be able to:

1. **Understand why a healthy ocean is important**
2. **Make conclusions about the effectiveness of MPAs**
3. **Communicate effectively about marine life to inspire others to care**
4. **Apply scientific observation and data collection techniques**

Background

Despite ongoing commitment to strengthen conservation across the Dutch Caribbean, the vast majority of the region's marine environment is under **significant pressure**. Overfishing is threatening the biodiversity of ecosystems and the livelihood of coastal communities. Coral reefs are facing bleaching and diseases, while mangroves, a critical nursery for reef fish, are being cleared for coastal development. **Marine Protected Areas** (MPAs) are key to ensuring adequate marine protection and to protect the socio-economic and ecological benefits of many marine ecosystems. The Dutch Caribbean must protect its **nature and people**.

Through the Dutch Caribbean Ocean Observatory, students will learn about the importance of MPAs through visualising the **unique biodiversity** found among the Caribbean Islands. Blue Marine believes that in order to care for something, you first must see it. **High resolution video footage** from beneath the Caribbean's waves brings the marine world to your classroom. We hope that this portal will **inspire the next generation** of ocean advocates, scientist and policy makers to our dream of effective marine protection a reality.





SCIENCE CURRICULUM LINKS

 Sami Kattan

England - National Curriculum

Primary

KS2

Working Scientifically

- Making systematic and careful observations
- Gathering, recording, classifying and presenting data
- Recording findings using simple scientific language, drawings, labelled diagrams etc.

Year 5

- Living things and their habitats

Year 6

- Living things and their habitats, including classification of organisms
- Evolution and inheritance, identifying how animals are adapted to their environment

Secondary

KS3

Working Scientifically

- Make and record observations and measurements using a range of methods for different investigations
- Evaluate the reliability of methods and suggest possible improvements
- Apply sampling techniques
- Evaluate data, showing awareness of potential sources of error

Year 7,8

- Relationships in an ecosystem
- How organisms affect, and are affected by their environment
- The importance of maintaining biodiversity

HOW TO USE THE OBSERVATORY

1. Start here! Read this guide to learn the background information you need to support your students and discover how to tailor the resources to your time allocation and learning context.

2. The web portal. Guide students through the online Ocean Observatory and Science Centre, where they can watch videos, and download worksheets and read fact files.

3. Supporting slides. The accompanying slide deck is a simple presentation aid, designed to spark discussion and guide students through the observatory website.



CLASSROOM ITINERARIES



1 class. If you only have one lesson, no problem! Take a whistle-stop tour of the ocean observatory, and complete just one deep-dive discovery pack, of the beginner or intermediate level. Assign another pack, or the extension activities in the slide deck as homework.



2 classes. Two classes provide a great opportunity to explore most of the portal. Students can explore the observatory and complete two or three discovery packs

Lesson 1 – Introduce the portal and visit the slide deck. Answer the questions and discuss among the class. Explore the observatory and select and complete a beginner deep-dive discovery pack

Lesson 2 – Ask students to select an intermediate and an advanced deep dive discovery pack to challenge their knowledge.



3 classes. If you have the luxury of three whole classes to explore this portal, your students will complete three deep-dive discovery packs, plus the additional activities provided in the slide deck.

Lesson 1 – Spend time discussing the activities and questions in the slide deck. Explore the observatory thoroughly and select and complete a beginner deep-dive discovery pack

Lesson 2 – Select two more deep-dive discovery packs to complete. Allow students time to share answers and discuss their findings.

Lesson 3 – Select a final deep-dive discovery pack, ask students to challenge themselves to the advanced level. Take a dive into the additional materials provided in this guide and the slide deck.

LEARNING STYLES



Hybrid. Share the slide deck virtually, allowing students to break off and explore the observatory independently. Come back together online for discussions and questions. Direct students to the deep-dive discovery packs to complete online.

Engagement opportunities for SEND students. Use the videos in the observatory for visual engagement, mute if necessary, or increase the volume for a more sensory underwater experience. Allow free choice of videos if students wish. Verbally ask questions rather than filling out worksheets. Focus on imagery and visuals within the slide deck rather than written content.



Tech-minimal. All worksheets within the deep dive discovery pack are printable for a tech-minimal delivery. Print out prior to the lesson and hand out during class. Share the observatory videos on a screen or interactive whiteboard for the whole class to enjoy.



Home-school / self-directed. Read through the supporting slides to introduce the observatory. Explore the observatory and answer questions independently. Use discussion or brainstorm exercises as journal prompts.





ELABORATIONS AND EXTENSIONS

Explore these resources to learn more about Marine Protected Areas and marine life around the world.

Marine Protected Area Resources

- [Protected Planet](#) - Explore global Marine Protected Area coverage
- [Sylvia Earle's prize winning TED talk](#): "My Wish: Protect Our Oceans" (17:55) Kids
- [Frontiers](#) - Marine Protected Areas: A Way to Protect Our Oceans
- Create a [Marine Protected Area](#) in the classroom with National Geographic

Sustainable Fisheries Resources

- [PBS](#) - Marine Fisheries & Aquaculture Series Classroom Activities
- [TED-Ed](#) - What is the tragedy of the commons? (4:15)
- [Global Fishing Watch](#) - track boats across the globe to see examples of sustainable and unsustainable fishing
- [David Attenborough](#) explains what we need to do to stop over-fishing

Visit Blue Marine's immersive ocean-climate platform, *The Sea We Breathe*

Complete the journeys and visit the education tab for more classroom resources, useful links and extension activities

Learn more about the Dutch Caribbean

- Check out our partner the [Dutch Caribbean Nature Alliance](#) and their conservation work!
- Learn more about the [coral restoration](#) project in Saba.

Take Action Resources

- [Ocean Networks](#) - Citizen science activities for students
- [Campaign for Nature](#) - 30x30

