



BLUE MARINE  
FOUNDATION

SCOTLAND OCEAN OBSERVATORY

# FACILITATION GUIDE



# WHY VISIT THE VIRTUAL Scotland 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 the UK government being committed to protecting **30% of our seas by 2030**, the vast majority of our ocean territory remains in a dire state. Though much of the seabed is theoretically protected, most of it is still **trawled extensively**, with sections are still being signed away for oil and gas exploration. Effective marine protection is a lifeline we must take. Healthy marine habitats within **Marine Protected Areas** (MPAs) sequester carbon, support fisheries, and build diversity back towards historic levels.

Through the Scotland Ocean Observatory, students will learn about the importance of MPAs through visualising the **unique biodiversity** found along the Scottish Coastline. Blue Marine believes that in order to care for something, you first must see it. **High resolution video footage** from beneath Scotland'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, who will make our dream of effective marine protection a reality.



# UK SCIENCE CURRICULUM LINKS

## England - National Curriculum

## Scotland - Curriculum for Excellence

### 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

#### Second Level (P6 and P7)

##### Biodiversity and Interdependence

##### Experiences and Outcomes

- I can identify and classify examples of living things, past and present, to help me appreciate their diversity

##### Benchmarks

- Describes how some plants and animals have adapted to their environment
- Identifies and compares the two distinct groups of animals – vertebrates and invertebrates

### 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

#### Third Level (S1 and S2)

##### Biodiversity and Interdependence

##### Experiences and Outcomes

- I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution

##### Benchmarks

- Collects and analyses increasingly complex data and information

# 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

### Local Resources: Jersey

- Visit the Berwickshire Marine Reserve [Website](#)
- If you want to get outdoors, try a trip with [Snorkel Wild!](#)
- Discover more about the latest research in the local area through the [St Abbs Marine Station](#)

### Take Action Resources

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

