



Key Stage 3/4 Lesson 2 – Amazing Oysters

Lesson Plan

Introduction

Oysters are often overlooked as people assume they are rocks or part of the seabed. Oysters may not look like much from the outside but oysters are very special animals.

In this lesson, we explore what an oyster is and how they feed, an oyster's life cycle, the ecosystem benefits provided by an oyster reef, the impact that humans have on oyster reefs and the amazing, pioneering work that Yorkshire Wildlife Trust's expert marine team is carrying out to restore oyster reefs in the Humber estuary.

Teaching and Learning

Task 1: Amazing oysters PowerPoint presentation

- Start the lesson by presenting the PowerPoint to learn all about oysters, how human have historically affected oyster reefs and about the work that Yorkshire Wildlife Trust is doing to bring oyster reefs back to the Humber estuary.

Task 2: Nearpod quiz

- Use the Nearpod link on the 'Marine Learning Pack' webpage and complete the quiz to test students' understanding of the PowerPoint presentation. Use the teacher's link to add the quiz to your resources and to be able to edit the quiz (you will need to create a free Nearpod account to do this) or use the student-paced link to allow students to complete the quiz in their own time (no Nearpod account needed).

Task 3: Practical activity – exploring the effect of ocean acidification

- As carbon dioxide levels in the atmosphere increase, more carbon dioxide is being absorbed by the ocean, making it more acidic. Marine organisms with shells made of calcium carbonate, such as oysters, will be particularly affected by ocean acidification. In this experiment, students will explore how ocean acidification will affect shellfish, such as oysters.

Learning Outcomes

- 1) Describe what an oyster is
- 2) Explain how an oyster reproduces
- 3) Discuss why oysters and oyster reefs are important to an ecosystem

Key Vocabulary

Classification, invertebrate, bivalve mollusc, mantle, stomach, intestine, heart, adductor muscle, gills, palps, filter feeder, phytoplankton, lifecycle, reproduction, spat, larvae, ecosystem engineer, nutrients, coastal erosion, climate change, restoration, habitat, organism.

Links to the National Curriculum

KS3 Biology

Interactions and independencies:

- Relationships in an ecosystem
 - The interdependence of organisms in an ecosystem, including food webs and insect pollinated crops
 - How organisms affect, and are affected by, their environment, including the accumulation of toxic materials.

KS4 Biology

General:

- Living organisms may form populations of single species, communities of many species and ecosystems, interacting with each other, with the environment and with humans in many different ways
- Living organisms are interdependent and show adaptations to their environment.

Ecosystems:

- Levels of organisation within an ecosystem
- Organisms are interdependent and are adapted to their environment
- The importance of biodiversity
- Positive and negative human interactions with ecosystems.

