



## Key Stage 3/4 Lesson 4 – Giving Seas a Chance

### Lesson Plan

#### Introduction

In the Humber estuary, there was once a lush seagrass meadow and a native oyster reef so dense that it posed a hazard to ships! Sadly today less than 5% of that seagrass meadow remains and the dense oyster reef is now a distant memory.

In this lesson, we explore what climate change is, the positive and negative effects that humans have on the environment and the innovative conservation work that Yorkshire Wildlife Trust's expert marine team are carrying out to restore flat oyster reefs and seagrass meadows to Spurn National Nature Reserve.

#### Teaching and Learning

##### Task 1: Giving seas a chance PowerPoint presentation

- Start the lesson by presenting the PowerPoint to learn about the impact that humans have on the environment, including climate change, global warming and the greenhouse effect. Learn also about the seagrass meadow and the oyster reef that used to exist in the Humber estuary and the amazing work that our expert marine team are undertaking to restore these vital habitats to help in the fight against climate change.

##### 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 – talking chips

- In this activity, students will have three chips. Students will take part in a group discussion about the impacts that humans have on the marine environment, both positive and negative, and what we can do to help protect the marine environment and wildlife. Students will then create a mind map or a poster to capture their discussion.

#### Learning Outcomes

- 1) Describe what climate change is
- 2) Explain the greenhouse effect and how human activities contribute to this
- 3) Discuss the impacts that humans have on the marine environment and the cutting-edge scientific work that Yorkshire Wildlife Trust are carrying out to restore important habitats to the Humber estuary

#### Key Vocabulary

Climate change, greenhouse gas, greenhouse effect, global warming, fossil fuels, atmosphere, restoration.

# Links to the National Curriculum

## KS3 Biology

### Interactions and independencies:

- Relationships in an ecosystem
  - How organisms affect, and are affected by, their environment, including the accumulation of toxic materials.

## KS3 Chemistry

### Earth and atmosphere:

- The composition of the Earth
- Earth as a source of limited resources and the efficacy of recycling
- The composition of the atmosphere
- The production of carbon dioxide by human activity and the impact on climate.

## KS4 Biology

### General principles:

- 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.

### Ecosystems:

- The importance of biodiversity
- Positive and negative human interactions with ecosystems.

### Earth and atmospheric science:

- evidence for composition and evolution of the Earth's atmosphere since its formation
- evidence, and uncertainties in evidence, for additional anthropogenic causes of climate change
- potential effects of, and mitigation of, increased levels of carbon dioxide and methane on the Earth's climate.

## Geography

### Human and physical geography:

- physical geography relating to: geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts.

