

# KEY STAGE 3 - LESSON 3: COASTAL DEFENCES

## INTRODUCTION

We have a number of tools at our fingers to reduce the threat of erosion, but we are now beginning to explore how nature can be added amongst this list. Explore the benefits of kelp, seagrass and oysters, all native to the North East, but some more threatened than others.

## TEACHING AND LEARNING

Task 1: Watch the video and run through the presentation:

- The presentation compliments the video and explores coastal defences toward erosion, kelp, seagrass and oyster habitats, and the benefits that they offer.

Task 2: Complete the Quiz

- Go through the accompanying quiz as a class, with the learners either writing answers or calling out answers: there are 5 questions to go through summarising the learning.

Task 3: Practical Activity: Holding it together

- Grow a seagrass equivalent and explore how important roots are when combatting erosion.

# KEY STAGE 2 - LESSON 3: COASTAL DEFENCES

## LEARNING OUTCOMES:

- 1) Kelp, Seagrass and oysters all provide benefits and face pressures.
- 2) Kelp, seagrass and oysters can potentially limit wave energy, reducing coastal erosion impacts.
- 3) Kelp, seagrass and oysters can improve water quality in different ways, including through filtration, nutrient uptake, and stabilising the seabed.

## CURRICULUM LINKS:

### SCIENCE

#### Cellular respiration:

- Aerobic and anaerobic respiration in living organisms, including the breakdown of organic molecules to enable all the other chemical processes necessary for life .

#### Relationships in an ecosystem:

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

#### Inheritance, chromosomes, DNA and genes:

- Changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction.

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Pure and impure substances:

- Simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography.

## GEOGRAPHY

Human and Physical Geography:

- Understand how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems.