

# Cromer Shoal Chalk Beds Marine Conservation Zone

## Education Pack

When the Marine Conservation Society's Agents of Change project consulted local people about the Cromer Shoal Chalk Beds Marine Conservation Zone (MCZ), it found that raising awareness of the MCZ and educating local people about it was considered very important. These resources have been produced to aid primary school teachers to do just that!

### Why use these resources?

The MCZ provides a real-life context to teach a range of subjects across the curriculum. There is a fascinating world hidden below the surface of this popular seaside area: an amazing rare chalk reef, wonderful wildlife and Cromer crabs. This pack contains teaching ideas and resources for learning about them, the local landscape and the people that interact with it. If you can visit the coast here, it will really bring their learning to life!

### How do I use them?

The pack contains a mixture of lesson ideas and resources under different themes. The MCZ provides a great focus for a topic in its own right, or you can dip into the resources for use in specific subjects. The overview shows you the National Curriculum objectives that can be covered under each theme so is a good starting point.



# Cromer Shoal Chalk Beds Marine Conservation Zone National Curriculum links

Ages 7-11

## Local Geography

### Geography:

Describe and understand key aspects of:

human geography, including: types of settlement and land use, economic activity including ~~trade links~~, and the distribution of natural resources including energy, ~~food~~, minerals and water

Use maps, ~~atlases~~, ~~globes~~ and digital/computer mapping to locate countries and describe features studied

Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world

### Citizenship

That resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment

## Local viewpoints & values

### Citizenship

To reflect on spiritual, moral, social, and cultural issues, using imagination to understand other people's experiences

### Health Education

That mental wellbeing is a normal part of daily life, in the same way as physical health

How to recognise and talk about their emotions, including having a varied vocabulary of words to use when talking about their own and others' feelings

The benefits of physical exercise, time outdoors, community participation, voluntary and service-based activity on mental wellbeing and happiness

## Wildlife (Science)

### Science

#### Year 3 Animals including humans:

Identify that some animals have skeletons and muscles for support, protection and movement

#### Year 4 Living things and their habitats:

Recognise that living things can be grouped in a variety of ways

Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment

Recognise that environments can change and that this can sometimes pose dangers to living things

#### Year 4 Animals including humans:

Construct and interpret a variety of food chains, identifying producers, predators and prey

#### Year 5 Living things and their habitats:

Describe the life process of reproduction in some plants and animals.

#### Year 6 Evolution and inheritance:

Identify how animals and plants are adapted to suit their environment in different

ways and that adaptation may lead to evolution

### English

Non-chronological reports - wildlife fact files

# Cromer Shoal Chalk Beds Marine Conservation Zone National Curriculum links

Ages 7-11

## Plastics

### Citizenship:

To talk and write about their opinions, and explain their views, on issues that affect themselves and society

To face new challenges positively by collecting information, looking for help, making responsible choices, and taking action

To research, discuss and debate topical issues, problems and events

To recognise the role of voluntary, community and pressure groups

### Science

#### Year 4 Living things and their habitats:

Recognise that environments can change and that this can sometimes pose dangers to living things

Construct and interpret a variety of food chains, identifying producers, predators and prey

#### Year 5 Properties and changes of materials:

Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency and response to magnets

Working scientifically – plan and carry out a fair test

### Geography:

Name and locate counties and cities of the United Kingdom and key topographical features (coasts and rivers),

Describe and understand key aspects of rivers

### Art:

To record their observations and use them to review and revisit ideas

To improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials

### Maths:

Interpret and present data using bar charts, pictograms and tables

Interpret and construct pie charts

### English

Persuasive writing, narrative writing

## Fishing in the MCZ (Crab & Lobster)

### Design and Technology

Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques

Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed

### Geography

Describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

### Citizenship

To research, discuss and debate topical issues, problems and events

Why and how rules and laws are made and enforced, why different rules are needed in different situations and how to take part in making and changing rules

To recognise the role of voluntary, community and pressure groups

# Cromer Shoal Chalk Beds Marine Conservation Zone National Curriculum links

Ages 7–11

## Beach safety

### **Citizenship:**

To recognise the different risks in different situations and then decide how to behave responsibly

### **Science Year 5:**

Describe the movement of the Earth relative to the Sun

Describe the movement of the Moon relative to the Earth

Describe the Sun, Earth and Moon as approximately spherical bodies

Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object

### **Health education**

About safe and unsafe exposure to the sun, and how to reduce the risk of sun damage, including skin cancer

How to make a clear and efficient call to emergency services if necessary

### **English:**

Explanation writing

## Other Maths & English ideas

### **Maths:**

Data collection and handling

### **English:**

Descriptive writing, recount, acrostic poems, speech punctuation

## Local History

### **History:**

A local history study

## Rocks and fossils

### **Science**

#### **Year 3 Rocks:**

Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.

#### **Year 6 Evolution and inheritance**

Recognise that living things have changed over time and that fossils provide

information about living things that inhabited the Earth millions of years ago



# Beach visit support

A visit to the coast near the Marine Conservation Zone will bring the learning to life. For students, standing on the beach looking at the sea and thinking about the wildlife they've learned about beneath the waves is awe inspiring! There are ideas for beach activities throughout the resources to support a self-led visit or you can gain support for a visit from the following:

## Norfolk Wildlife Trust

Rockpool and fossil sessions at West Runton:  
<https://www.norfolkwildlifetrust.org.uk/discover-and-learn/teachers/sessions/primary-sessions>

## Sheringham Learning, National Trust

Beach sessions including rockpooling and push netting. For more information contact:  
[sheringhamlearning@nationaltrust.org.uk](mailto:sheringhamlearning@nationaltrust.org.uk)



# Field trip ideas

## Scavenger hunt

A great way to explore the beach is to get the children to complete a scavenger hunt. They could work in pairs or small groups to collect a variety of things. These might include something:

- Smooth
- Rough
- Hard
- Soft
- Shiny
- Dull
- Colourful
- Twisted
- Jagged
- With a hole in
- Man-made
- Dead
- Natural but never alive
- An interesting stone
- A shell/three different types of shell
- Seaweed/three different types of seaweed

## Land art or sand sculptures

Everyone loves building a sandcastle at the beach! Broaden it out into a sand sculpture, perhaps focusing on something you're learning, or create artworks using found materials.

Andy Goldsworthy can provide inspiration; he has made lots of artwork on the beach using pebbles. Check online to see his work.





# Rocks and Fossils

## Rocks

A wide variety of rock types can be found on beaches along the North Norfolk coast. At low tide, exposed chalk can be seen, with large flints embedded. The cliffs are sedimentary, so they erode relatively quickly. Discuss the safety aspect of this and why they should stay away from the cliffs.

In teams, get the children to collect as many different looking rocks as they can.

Can they identify any of them?

Can they group them into rocks that look similar?

Can they group them into rocks that have been formed in a similar way: sedimentary, metamorphic and igneous?

Gather the group together to go through their rocks and sort into the three groups.

See video for a quick explanation:  
[bbc.co.uk/bitesize/topics/z9bbkqt/articles/zsgkdmn](http://bbc.co.uk/bitesize/topics/z9bbkqt/articles/zsgkdmn)

This website shows examples of the different types of rock:  
[geolsoc.org.uk/ks3/gsl/education/resources/rockcycle/page3445.html](http://geolsoc.org.uk/ks3/gsl/education/resources/rockcycle/page3445.html)

Printable fact sheet here:  
[geolsoc.org.uk/~media/shared/documents/education%20and%20careers/Resources/FactSheets/Rock%20cycle%20factsheet%20draft%20KS2%20v2/Rock%20cycle%20factsheet%20FINAL.pdf?la=en](http://geolsoc.org.uk/~media/shared/documents/education%20and%20careers/Resources/FactSheets/Rock%20cycle%20factsheet%20draft%20KS2%20v2/Rock%20cycle%20factsheet%20FINAL.pdf?la=en)

The Field Studies Council has a comprehensive photo guide for different rock types here: [field-studies-council.org/shop/publications/rocks-guide/](http://field-studies-council.org/shop/publications/rocks-guide/)

## Fossils

The North Norfolk Deep History Coast is well known for its fossils, particularly the West Runton Mammoth.

Visit Cromer Museum for their Deep History Coast session which includes a fossil hunt at the beach. Schools can also borrow their Deep History Coast Loan Handling Box.  
[museums.norfolk.gov.uk/cromer-museum/learning](http://museums.norfolk.gov.uk/cromer-museum/learning)

Norfolk Wildlife Trust have a fossils session available at West Runton:  
[norfolkwildlifetrust.org.uk/discover-and-learn/teachers/sessions/primary-sessions/fascinating-fossils](http://norfolkwildlifetrust.org.uk/discover-and-learn/teachers/sessions/primary-sessions/fascinating-fossils)

Include a fossil hunt when you visit the beach. Belemnites are commonly found along the coast, particularly at East and West Runton.

Information about where and how to fossil hunt is available here:  
[visitnorthnorfolk.com/Deep-History-Coast/deep\\_history\\_coast\\_fossils.asp](http://visitnorthnorfolk.com/Deep-History-Coast/deep_history_coast_fossils.asp)  
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# Plastics

## Teaching resources

### Marine Conservation Society Marine Litter resources for ages 7-11:

[mcsuk.org/what-you-can-do/fun-learning/primary-learning/teaching-resources/ks2-p7/marine-litter/](https://mcsuk.org/what-you-can-do/fun-learning/primary-learning/teaching-resources/ks2-p7/marine-litter/)

### Final Straw Foundation:

[finalstrawfoundation.org/get-involved/schools-and-resources/resources-for-schools-and-home-learning/](https://finalstrawfoundation.org/get-involved/schools-and-resources/resources-for-schools-and-home-learning/)

### Kids Take Action:

[youtube.com/watch?v=hKFV9IquMXA&t=41s](https://youtube.com/watch?v=hKFV9IquMXA&t=41s)

### BBC:

[bbc.co.uk/newsround/42810179](https://bbc.co.uk/newsround/42810179)

[bbc.co.uk/programmes/articles/11CnCQR0GJfkDgJs57sR5Ps/war-on-plastic](https://bbc.co.uk/programmes/articles/11CnCQR0GJfkDgJs57sR5Ps/war-on-plastic)

**WWF:** [wwf.org.uk/get-involved/schools/oceans-and-plastics](https://wwf.org.uk/get-involved/schools/oceans-and-plastics)

### Primary Stars:

[plprimarystars.com/resources/world-ocean-day](https://plprimarystars.com/resources/world-ocean-day)

### Kids Against Plastic:

[kidsagainstplastic.co.uk/learn/lesson-guides/](https://kidsagainstplastic.co.uk/learn/lesson-guides/)

## Applying the learning

Write **persuasive letters** to national or local businesses or family members persuading them to ditch single use plastic. Or create persuasive leaflets.

Read and explore the story **The Tin Forest** by Helen Ward. Rewrite the story as The Plastic Ocean. Make models of the plastic ocean using plastic rubbish.

Read **The Journey** by Neil Griffiths and Scott Mann. Rewrite the story to be about a plastic bottle dropped in a city and ending up in a river. Describe the journey to the sea. What does it pass? What creatures does it see? Who picks it up?

## Organise a litter pick or beach clean

Organise a litter pick of your school grounds, local environment or beach. If you head to the beach, remember to check tide times. Useful information on organising a Beach Clean is available here:

[mcsuk.org/what-you-can-do/join-a-beach-clean/useful-guides-and-resources/guides-and-resources/](https://mcsuk.org/what-you-can-do/join-a-beach-clean/useful-guides-and-resources/guides-and-resources/)

Details of volunteers that may be able to help with equipment or leading your beach clean in north Norfolk can be found here:

[norfolkcoastandnb.org.uk/partnership/beach-clean-events/691](https://norfolkcoastandnb.org.uk/partnership/beach-clean-events/691)

## Surfers Against Sewage: Plastic Free Schools

Sign up your school to get support for auditing single use plastic in school, ditching it and challenging government and industry. Includes sacks and gloves for a litter pick. Work towards Plastic Free School Status.

[plasticfreeschools.org.uk/](https://plasticfreeschools.org.uk/)



# Beach safety

## Beach safety

**RNLI Beach Safety teaching resources for upper primary:**

[rnli.org/youth-education/education-resources/upper-primary](https://www.rnli.org/youth-education/education-resources/upper-primary)

**General beach safety information here:**

[rnli.org/safety/beach-safety](https://www.rnli.org/safety/beach-safety)

**Arrange a visit from RNLI to your school:**

[rnli.org/youth-education/educational-visits](https://www.rnli.org/youth-education/educational-visits)

## Sun safety

Lesson plans and resource from Care In The Sun (note Northern Irish resource with different key stages):

[careinthesun.org/sun-protection/school-activities](https://careinthesun.org/sun-protection/school-activities)

Register for free to access resources:

[soltansunready.com/for-schools](https://soltansunready.com/for-schools)

SKCIN is a national skin cancer and melanoma UK charity that has free resources available to schools that register and work towards gaining Sun Safe School Accreditation:

[sunsafeschools.co.uk](https://sunsafeschools.co.uk)

## Tides

Make links with Earth and Space science teaching to learn about the effect of the moon and sun on tides.

[bbc.co.uk/teach/class-clips-video/little-stargazing-the-moon-and-the-sea/zb7tf4j](https://www.bbc.co.uk/teach/class-clips-video/little-stargazing-the-moon-and-the-sea/zb7tf4j)

Always check tide times before visiting the beach. In Maths, children could study tide tables to work out the best day and time to visit the beach. Buy a Norfolk tide table to plan ahead. Free predictions for up to 4 months ahead are available here:

[tides4fishing.com/uk/england](https://tides4fishing.com/uk/england)

## Applying the learning:

- Write explanations about how to keep safe at the beach.
- Design beach safety posters or leaflets.
- Visit a beach and get the children conduct a risk assessment at the start of the visit.
- At the beach, could students draw diagrams in the sand of the earth, sun and moon to explain the tides?

# English ideas

## Speech punctuation

Children can apply what they have learned in English lessons about punctuating speech.

Children could select two pictures of creatures from the wildlife resources. They imagine what the creatures might say to each other. This could be carried out in pairs with each child being one of the creatures. You might want to focus the conversation to be about fishing, plastic pollution or life in a rockpool.

Children could then write some dialogue using speech bubbles or the punctuation they have been learning.

## Acrostic poem

Children could write an acrostic poem on a theme of your choice. It could be about a sea creature, plastics, crab pots or chalk...

## Reading and narrative writing

The Secret of Black Rock by Joe Todd-Stanton tells the story of a mysterious and misunderstood black rock. Explore the story and how the feelings of the characters about the black rock change. The children could rewrite the story to be 'The Secret of White Rock' giving it a local twist using the chalk, the creatures that live in the MCZ and crab and lobster fishing.

## Descriptive recount

Write a description of diving under the sea to see the Cromer shoal chalk beds.

Discuss description, noun phrases and using the senses. Children to collect notes on a planning sheet as they watch one of the videos. Pause from time to time to discuss adjectives/ names for things/phrases/emotions.

Snorkel – Sheringham:

[youtube.com/watch?v=YKv5IyHqCBs](https://www.youtube.com/watch?v=YKv5IyHqCBs)

Scuba dive – West Runton:

[youtube.com/watch?v=WEgLWlsvhDk](https://www.youtube.com/watch?v=WEgLWlsvhDk)

The children could find a partner and tell them about the amazing snorkel/dive they went on. What did you see? Hear? Feel?

As a class share write the opening paragraph then the children should write their recount.

5-10 minutes before the end, encourage them to end their description and sum up how they feel about their experience.

# Maths – Data handling

## Formulate questions

Explain that not many people know about the Cromer Shoal Chalk Beds MCZ. This week's homework will be to interview a grown-up about the sea around Cromer and Sheringham. What questions could we ask?

In groups, children should discuss questions they could ask, decide on 5 and then write and draw out on A3 paper. They will need to be able to analyse data so multiple choice or scale agree-disagree or yes/no answers will be needed. Groups should feedback to class and as a class draw up a list.

## Collect data

Create a questionnaire sheet with the agreed questions. Children should take a couple of sheets home and use them to survey family members or neighbours.

## Data analysis

Pool data from whole class – it may be easiest to do this digitally so they can be printed for children to access results during the lesson.

What does our data show? How can we make these numbers easier to see? Bar chart/pictogram/pie chart...

Model drawing a bar chart for one of the questions. Go over numbering and labelling axes, gaps between bars, title etc. Give groups a set of data to draw a bar chart for on squared paper. You may want to give some children pre-drawn axes.

They should then write a sentence to explain what it shows. Get each group to explain what they found out. Was there anything that surprised them?

## Example questions:

**Have you heard of the Cromer Shoal Chalk Beds Marine Conservation Zone?**

Yes/no

**Do you know when it was created?**

a) 1953 b) 1986 c) 2005 d) 2016

**Do you know about the purple sponge in the sea here?**

Yes/no

**Do you know much about the creatures in the sea here?**

A lot/a bit/nothing

**What do you most like doing in the sea?**

Surfing/swimming/snorkelling/paddle boarding/none of these

**On a scale of 1 to 5 how much do you love the sea?**

(1) not at all, to 5) loads)



# Local history

## Museums

The area provides an opportunity for a local history study to find out about local seafaring history and culture.

The following museums in Cromer and Sheringham provide information, school visits and resources:

### Henry Blogg Museum

[rnl.org/find-my-nearest/museums/henry-blogg-museum](https://rnl.org/find-my-nearest/museums/henry-blogg-museum)

### Cromer Museum

[museums.norfolk.gov.uk/cromer-museum/learning](https://museums.norfolk.gov.uk/cromer-museum/learning)

### Sheringham Museum

[sheringhammuseum.co.uk/index.php](https://sheringhammuseum.co.uk/index.php)

## Fishermen, lifeboatmen and shipwrecks

Visit the RNLI Henry Blogg museum to find out about the RNLI's most decorated lifeboat volunteer – Henry Blogg. Groups can join storytelling, immersive drama or science workshops to explore Cromer's incredible history of saving lives at sea.

Visit Sheringham Museum to see 5 lifeboats dating from 1867 and find out more about life in Sheringham in the past.

## Tourism

Visit Cromer Museum for their Seaside Special workshop to find out about Victorian holidaymakers in Cromer (ages 4-7).