Coral Calamity (KS2)

Programme of Study

2018/19

Session type: Workshop
Duration: 60 minutes
Key Stage: KS2

Session Overview

Pupils begin Coral Calamity by using magnifying glasses to examine a range of coral colony skeletons. Through this activity corals are recognized as colonial animals, and colonies as being made of hundreds of individual coral polyps, each of which lives symbiotically with its internal algae. The group will be able then to recognise the coral key features.

Pupils are given a range of map resources plotting temperature, depth and salinity of the oceans and are tasked with combining these sources to map suitable conditions for coral reefs across the world. Once completed, pupils are then given access to materials for the coral building activity, in which they build their own model corals out of interlocking discs which is then used to make a class reef in to which the groups can add creatures.

The final activity is a practical investigation on the impact of carbon dioxide on ocean pH, using a universal indicator and our own breath to complete a fun experiment.

This hands-on scientific workshop allows the students to get fully immersed in coral reefs, their function, structure and conservation using a variety of different methods.

Learning Objectives

1. Find out about coral reefs
2. Build a model of a coral reef
3. Think about how we impact coral reefs

Learning Outcomes

1. Explain what coral is using correct terminology
2. Hypothesise about where in the world coral reefs are found
3. Understand that we impact coral reefs through our actions at home
4. Recommend actions to help protect coral reefs from harm

Pre-Visit Suggestions

- Choose and research one coral reef in the world as a case study, build a fact file about it
- Watch the BBC series Blue Planet, episode 6 (Coral Seas)

Post-Visit Suggestions

- Write a newspaper report about a coral reef you have researched: what is it and is it important?
- Make and decorate your own coral reef display at school using clay, or other craft materials
- Have a look in newspapers to see if there is any up-to-date news on climate change and how it is affecting the environment
- Think about the impact that humans have on other habitats around the world, both on the land or in the ocean. Is there anything you can do to help?

To book, or for more information:
Call us now on 01752 275 233 or email learning@national-aquarium.co.uk
www.national-aquarium.co.uk

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English: National Curriculum Links

Science:

1. **Key Stage 2: Working Scientifically**
   a) Asking relevant questions and using different types of scientific enquiries to answer them
   b) Setting up simple practical enquiries, comparative and fair tests
   c) Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
   d) Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
   e) Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
   f) Using straightforward scientific evidence to answer questions or to support their findings

2. **Key Stage 2: Animals, including humans**
   a) Identify that humans and some other animals have skeletons and muscles for support, protection and movement [Y3]

3. **Key Stage 2: Living things and their habitats**
   a) Recognise that environments can change and that this can sometimes pose dangers to living things [Y4]
   b) Describe the life process of reproduction in some plants and animals [Y5]
   c) Describe how living things are classified into broad groups according to common observable characteristics & based on similarities and differences, including micro-organisms, plants & animals [Y6]
   d) Give reasons for classifying plants and animals based on specific characteristics [Y6]

Geography:

4. **Key Stage 2: Geographical skills and fieldwork**
   a) Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied

5. **Key Stage 2: Human and physical geography**
   a) Physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle

English:

6. **Years 1-6: Spoken language**
   a) Listen and respond appropriately to adults and their peers
   b) Ask relevant questions to extend their understanding and knowledge
   c) Articulate and justify answers, arguments and opinions
   d) Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments
   e) Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas

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Welsh: National Curriculum Links

1. Skills across the Curriculum:

a) Developing thinking
b) Developing communication

2. Learning across the Curriculum:

a) Personal and social education
b) Careers and the world of work

Science: Key Stage 2
Enquiry Type: Making things

3. Skills:

a) **Planning**: Predict
b) **Developing**: Observe and measure
c) **Reflecting**: Review success

4. Range:

a) Interdependence of organisms
- The environmental factors that affect what grows and lives in different environments
- How humans affect the local environment

b) The sustainable Earth
- A consideration of what waste is and what happens to local waste that can be recycled and that which cannot be recycled

Geography: Key Stage 2

5. Skills:

a) Locating places, environments and patterns (use maps, imagery and ICT to find and present locational information) (identify and describe the spatial patterns (distributions) of places and environments, identify and locate places and environments using globes, atlases, and maps)
b) Investigating (observe and ask questions about a place, environment or a geographical issue) organise and analyse evidence, develop ideas to find answers and draw conclusions)

6. Range

a) Pupils develop their geographical skills, knowledge and understanding through learning about places, environments and issues
- Living in my world: caring for places and environments and the importance of being a global citizen

b) Ask and answer the questions

English: Key Stage 2
Strand: Oracy

7. Element: Developing and presenting information and ideas

a) Speaking
b) Listening
c) Collaboration and discussion

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Ocean Literacy Principles

The Ocean Literacy Principles are international standards of education. The following Principles are achieved through this workshop:

1)	The Earth has one big ocean with many features	✓
2)	The ocean and life in the ocean shape the features of Earth	
3)	The ocean is a major influence on weather and climate	
4)	The ocean makes Earth habitable	✓
5)	The ocean supports a great diversity of life and ecosystems	✓
6)	The ocean and humans inextricably interconnected	✓
7)	The ocean is largely unexplored	

To find out more, please visit our website: http://www.national-aquarium.co.uk/education/lessonideas/.

NMA Generic Learning Outcomes

The Generic Learning Outcomes are a collection of conservation guiding principles that the NMA aim to achieve in all aspects of our work. The following GLOs are achieved through this workshop:

1). Knowledge & Understanding

a)	Broaden knowledge of the marine environment and associated species.	✓
b)	Deeper understanding of the relationship between myself and the seas.	✓
c)	Raise awareness of the role that science plays in understanding our seas.	✓

2). Skills

a)	Develop observation skills.	✓
b)	Formulate scientific questions based on observations.	
c)	Develop communication (speaking and listening) and social (learning together, working together, meeting people) skills.	✓

3) Attitudes & Values

a)	Appreciate the value of the marine environment and develop respect and empathy for its inhabitants.	✓
b)	Promote a positive view of science and scientists.	✓
c)	Recognise that learning can be a positive process.	✓

4) Enjoyment, Inspiration, Creativity

a)	Have fun with the National Marine Aquarium.	✓
b)	Be surprised by the variety of marine life.	✓
c)	Be inspired by the experience.	✓

5) Activity Behaviour and Progression

a)	Motivation to go out and explore the marine environment further.	✓
b)	Take steps to further understanding of the relationship between myself, my actions and the sea.	✓
c)	Take action to reduce my negative impacts & increase my positive impacts on the marine environment.	✓

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