



National Marine Aquarium
Virtual Experiences
Guide

2023-2024

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To book, or for more information:

Call us now on 01752 275 233 or email learning@oceanconservationtrust.org
www.national-aquarium.co.uk

Welcome

Hello, and welcome to the Ocean Conservation Trust (OCT) Virtual Experiences for Schools Guide 2023-2024

The National Marine Aquarium (NMA) is the UK's largest aquarium, located in Britain's Ocean City, Plymouth, on the shores of the UK's first National Marine Park: Plymouth Sound. We are home to over 4,000 marine animals and are visited by around 300,000 people per year.

The National Marine Aquarium itself is run by The Ocean Conservation Trust; a UK based conservation charity established to restore and protect the Ocean. Our work is centred around people and positive action, focusing on inspiring Ocean advocacy through connections with nature.

This guide describes activities available to student groups of any age, visiting the National Marine Aquarium in a virtual capacity, as part of a formal curriculum, including:

- Pre-schools
- Schools
- Colleges
- Universities
- Home Educator groups

As well as an overview of our award-winning Virtual Tour options, the OCT Virtual Experiences for Schools Guide also features full session descriptions of the two 90-minute workshops we are able to offer virtually. As with our Outreach and Aquarium Visits programmes, all our virtual experiences are based on marine topics, tailored around a set of learning outcomes and linked to the National curriculum.

The OCT Virtual Experiences for Schools Guide is one of three documents which collectively describe the OCT Learning Programme. The OCT Learning Programme works across the country supporting delivery of the National Curriculum through the context of marine conservation, as well as internationally on a range of globally significant educational themes. The full series includes:

- **OCT Aquarium Visits for Schools Guide** – *activities available through the Learning Programme as part of a physical visit to the National Marine Aquarium*
- **OCT Outreach Activities for Schools Guide** – *relating to the support or delivery of physical events not within the grounds of the National Marine Aquarium, for example at a school or educational event venue*
- **OCT Virtual Experiences for Schools Guide** – *relating to the support or delivery of digital, & online learning activities accessed remotely through internet services*

We believe that everyone, everywhere is connected to the Ocean. It is our hope that you will find the activities described in this document to be valuable tools in your role as an educator, and look forward to working with you soon.

Sincerely,

The National Marine Aquarium Schools Team

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‘Ocean Literacy’ for all

The Ocean is the largest living space on the planet and sustains countless plants and animals in a wide variety of habitats. Scientists all over the world are increasingly beginning to understand the role that the Ocean plays in keeping our planet, and its inhabitants alive and healthy. In fact, it is considered so important to the health of the planet that the United Nations have declared 2021 – 2030 as the ‘Decade of Ocean Science for Sustainable Development’.

Did you know:

- The Earth has one big Ocean with many features?
- The Ocean and life in the Ocean shape the features of Earth?
- The Ocean is a major influence on weather and climate?
- The Ocean makes the Earth habitable?
- The Ocean supports a great diversity of life and ecosystems?
- The Ocean and humans are inextricably interconnected?
- The Ocean is largely unexplored?

The seven statements above are known as the ‘**Ocean Literacy Principles**’. These seven principles, along with the more detailed breakdowns of each are considered the foundation of an...

“Understanding of the Ocean’s influence on us, and our influence on the Ocean”

Ocean in the classroom

The fascinating world under the waves has always held huge appeal to children and young learners; inspiring dreams and laying the foundations of life-long connections to the natural world for millions of people across the globe.

As concern around climate change and interest in the natural world in general continue to proliferate throughout society, the need for a deeper awareness and understanding of our relationship with the natural world becomes clear.

An academic grounding in the fundamental principles of the natural world is required to equip our children and young people with a necessary understanding of the natural systems and processes of which we are a part. To this end, the Ocean serves as a powerful way of illustrating topics and providing a context for, the National Curriculum in the classroom.

Equally important is the ability to manage and balance conversation around the challenge of climate change. Eco-anxiety amongst young people is a phenomenon unseen among previous generations. It must be addressed through appropriate levels of fact based, yet emotionally sensitive, support from schools and environmental professionals working together to deliver empowering, inspiring messaging for our young learners. Association with the Ocean has consistently been linked to increases in positive mood and reduction of negative mood and stress amongst young people.

With such a wide ranging and powerful impact on young people’s wellbeing, understanding of the world & formation of aspirations, it is clear that Ocean belongs in the classroom.

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Virtual Learning with the National Marine Aquarium

Our Virtual Learning programme has been developed to deliver the same high quality, industry leading standards of curriculum linked education as our Aquarium Visits programme, without the complications of leaving the classroom. Our Virtual Learning experiences are available to student groups of any age, connecting them to the National Marine Aquarium as part of a formal curriculum, including:

- Pre-schools
- Schools
- Colleges
- Universities
- Home Educator groups

Optional platform use

Our Virtual Programme can be delivered across a range of different digital platforms. We prioritise Zoom and Microsoft Teams, but if you require a different platform for technical or policy reasons we'll be happy to look into alternative delivery for you.

Safeguarding & Risk Assessment

As with our Aquarium Visits and Outreach for Schools offerings, our Virtual Programme has been fully risk assessed and incorporated into our safeguarding policy. These documents are available upon request should they be of use to you in your lesson planning.

Test calls

All our Virtual Experiences include the opportunity for a free test call before going live with the students, so no awkward 'technical issues' on the day.

Flexible timings

We are able to offer the Virtual Experiences at any time in the day between 9am and 5pm as standard. If you would like something outside these hours, get in touch using our departmental email (learning@oceanconservationtrust.org) and we'll do our best to accommodate you.

Shareable links & home connections

We provide you with a single, shareable link for the session. By agreement with our booking team, we can facilitate students connecting from home so last minute absence doesn't have to mean missing out.

Private connections

Your Virtual Experience booking is just for you - no other schools will be able to join the session, so the content can be tailored to suit your exact needs.

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The Learning Centre:

Our Schools Programme operates from a dedicated Learning Centre within the Aquarium. The Learning Centre is split into several sub-spaces each with a specific function and set of resources. Your virtual workshop will be based in one of these spaces.



Aqualab:

The Aqualab is a fully functioning science classroom and laboratory.

Home of the following Virtual Workshops:

- Underwater Evolution
- Under the Knife



Reef Room:

The Reef Room is turned into a magical cave for Meet the Mermaid sessions.

With low lighting, soft furnishings and a cast of animal friends, this is the perfect setting for a virtual story time.

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The Exhibits

Our Aquarium is split into different zones which your tour guide will explore with the group. Each exhibit zone has been themed to reflect a different part of the Ocean, and the animals that are found within it. Read on to find out more.

Plymouth Sound Rockpool

Plymouth Sound is the natural harbour found just outside the NMA's doors. Our exhibit showcases some of its stunning and colourful animals from the rockpools around the coast, what lies beneath the shallow waves and even our very own shark nursery with eggs from our in-house breeding programmes.



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British Coasts

Heading out beyond the sheltered waters of Plymouth sound, the journey continues on to the Eddystone Rocks, - the foundation of the Eddystone Lighthouse visible on the horizon from the Aquarium entrance. Not only does this exhibit feature the largest single viewing panel in the UK, but it's also home to a stunning array of local sharks, rays and many more amazing Ocean animals!



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Ocean Drifters

Some of the most mesmerising animals that live in the Ocean have got to be jellyfish! Take a look at our Ocean Drifters exhibit to learn about the lives of these strange but beautiful creatures.



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Atlantic Ocean

Our massive Atlantic Ocean exhibit is the deepest tank in the UK, holding a whopping 2.5 million litres of water! The animals that call the Atlantic Ocean home range in size, from tiny Angelfish all the way up to huge Sand Tiger Sharks.

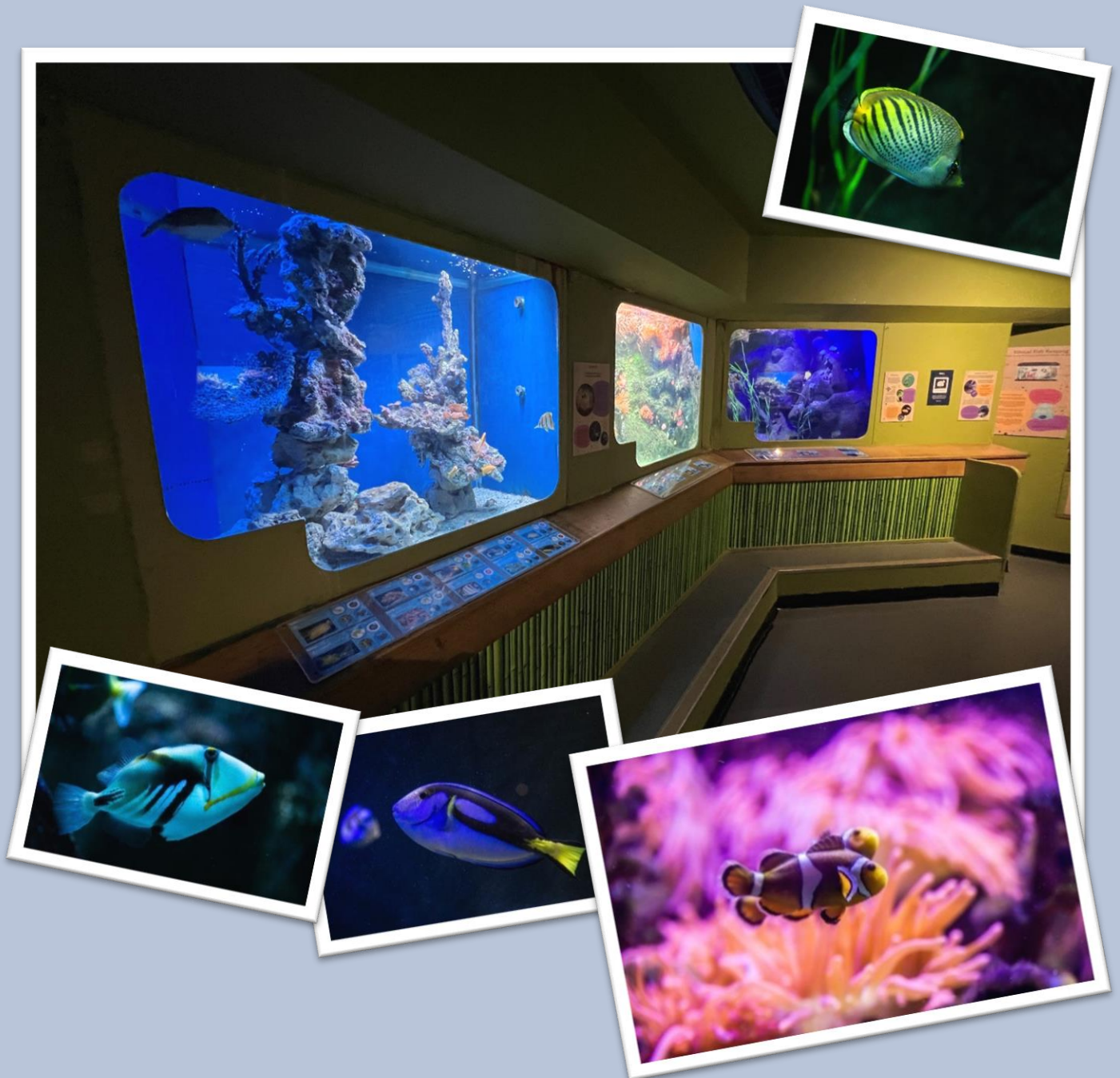


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Biozone

Next on your tour of the world's Ocean, you'll meet some famous fish faces in our Biozone area. Home to colourful fish from warmer waters, this area showcases some of the truly unique and fascinating animals that call the Ocean home.



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Great Barrier Reef (GBR)

Our Australian inspired, 650,000 litre reef exhibit showcases some of the most colourful fish found in the Ocean. It is the final stop on our tour and makes a great place to reflect on the learning that has taken place on your journey across the Ocean.



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Activity Options

We currently offer two types of Virtual Learning experience:

Virtual Tours

Let us take your pupils on an immersive under-water adventure as they journey across the world's Oceans from the comfort of their own classrooms. Each tour is led by a member of our Schools Team who will virtually guide your students around the exhibits, highlighting links to key stage specific curriculum topics and particular points of interest for those continuing their studies beyond the statutory National Curriculum.

Included in the experience:

- Entry from 10:00am
- Full access to all aquarium exhibit areas
- Picnic lunch space in the Maritime Garden
- Optional bag storage facilities
- **Exclusive downloadable content:** 4 post-tour activities, aimed at different key stages plus 'Sea Spotters' sheet for younger audiences to use throughout the tour.

Virtual Workshops

Our fully interactive workshops bring all the excitement and learning of the National Marine Aquarium directly into the classroom. One of our Schools Officers (or mermaids!) will lead your students through a Virtual Workshop of your choice, each with a particular topic focus and format for a specific age range of student. These can be further fine-tuned to the needs of your group as part of the booking process.

Included in the experience:

- Entry from 10:00am
- Full access to all aquarium exhibit areas
- Picnic lunch space in the Maritime Garden
- Optional bag storage facilities
- **Exclusive downloadable content:**
 - Virtual Mermaid: A letter from the mermaid who your children will be meeting, which you can read to your pupils in advance of your session PLUS a make-your-own mermaid craft activity template.
 - Virtual Dissection: Access to a flatscreen version of our 'Whale vs Squid' animated short, following a sperm whale as it hunts for giant squid in the midnight zone.
 - Virtual Evolution: An NMA Underwater Evolution teacher handbook featuring random number generator tables and other useful, printable resources

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Activity selection

Our Virtual Experiences have been developed to give students a ‘deep dive’ on a wide range of topics linked to the Ocean. Reviewed and updated annually, our activity selection reflects many of the most current themes in the field of Ocean Conservation including Ocean Literacy, marine citizenship, and development of Pro-Ocean Behaviour. Each activity has also been closely linked to the National Curriculum in England.

Our Virtual activities cover a variety of key stages, curriculum areas and subject topics. This guide contains three tables to help you find the perfect option for your group.

- **Topic matrix:** displays the activities according to their key topics and themes
- **Ocean Literacy matrix:** displays the activities according to the Ocean Literacy themes each contain
- **Key Stage matrix:** displays the activities according to their target key stage

Topic matrix

This table displays the activities according to their key topics and themes. Click on the name of any activity to be taken directly its Programme of Study for further information about what is involved.

Activities		Curriculum Subjects				Topics			
		Science	Art	Humanities	Literacy	Careers	Plymouth Sound Marine Park	Climate change	Plastic pollution
Virtual Tours	Enchanted Seas	X					X		
	Beneath the Waves	X					X	X	
	Changing Seas	X					X	X	X
Virtual Workshops	Virtual Mermaid	X			X				
	Virtual Dissection	X							
	Virtual Evolution	X	X					X	

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Ocean Literacy matrix

This table displays the activities according to the Ocean Literacy themes each contain. Click on the name of any activity to be taken directly its Programme of Study

Activities		The Earth has one big Ocean with many features.	The Ocean and life in the Ocean shape the features of Earth.	The Ocean is a major influence on weather and climate.	The Ocean makes the Earth habitable.	The Ocean supports a great diversity of life and ecosystems.	The Ocean and humans are inextricably inter-connected	The Ocean is largely unexplored
Virtual Tours	Enchanted Seas	X			X	X	X	X
	Beneath the Waves	X			X	X	X	X
	Changing Seas	X			X	X	X	X
Virtual Workshops	Virtual Mermaid	X				X	X	
	Virtual Dissection					X		
	Virtual Evolution	X	X		X	X		

Key Stage matrix

This table displays the activities according to their target key stage. Click on the name of any activity to be taken directly its Programme of Study for further information about what is involved.

Activities		EYFS	Key Stage One		Key Stage Two				Key Stage Three			Key Stage Four
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10+
Virtual Tours	Enchanted Seas											
	Beneath the Waves											
	Changing Seas											
Virtual Workshops	Virtual Mermaid											
	Virtual Dissection											
	Virtual Evolution											

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Virtual Tour Programmes of Study

Programmes of Study

Each experience has its own Programme of Study (POS), these provide a more detailed overview of the contents, curriculum links, and learning outcomes for each of the sessions available as part of the OCT Virtual Learning programme.


Each one-page Virtual Tour POS contains the following information:

- **Tour Title** – The name of the tour
- **Duration** – Expected run time of the tour
- **Key Stage** – Intended audience age (based on curriculum links, but not a requirement)
- **Tour Overview** – Description of how the tour flows
- **Learning Objectives** – Describes what students will do during the workshop
- **Learning Outcomes** – What students will be able to do after the workshop
- **Common topics and themes** – Key concepts and themes often covered as part of the tour. These can be pre-selected by teachers to enhance classroom learning.

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Virtual Tour – Enchanted Seas

Duration: 90 minutes
Key Stage: KS1



Section Overview

Take your pupils on an interactive underwater adventure as they virtually explore the Aquarium in search of their favourite Ocean creatures! Your own personal tour guide will reveal a range of fascinating, weird and wonderful facts about our Ocean creatures, answering any questions your students might have along the way. Pupils will be encouraged to actively engage with the tour, getting involved physically by acting out some of their favourite animals and playing guessing games with their guide.

Learning Objectives (in this session your students will...)

1. Observe the colours, patterns and shapes of creatures that are found in a range of Ocean habitats, including rockpools, sandy seabed, and coral reefs.
2. Explore how sea creatures are suited to their habitats and understand what they need to survive.
3. Discover how different animals are classified based on what they eat

Learning Outcomes (following this session your students will be able to...)

1. Describe how animals are suited to different marine environments using colours and shapes.
2. Compare and contrast habitats which can be found under the sea
3. Explain how animals can be grouped according to diet using scientific terminology

Common topics & themes to choose from:

Conservation	Body Form & Function	Ecosystems
Climate change	Adaptations	Habitats
Pollution	Feeding Techniques	Food chains/webs
Renewable Energy	Lifecycles	Species ID
Marine Protected Areas	Camouflage & Patterns	Keystone Species
Habitat Restoration	Senses	Classification
Sustainability	Evolution	Physical Features

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Virtual Tour – Beneath the Waves

Duration: 90 minutes

Key Stage: KS2



Session Overview

This virtual tour will give your students the chance to immerse themselves in the underwater world, learning all about how marine animals thrive and survive in their different habitats. Students will have plenty of opportunities to ask all the questions they've ever wanted to know about marine animals and life at the aquarium, whilst their guide brings in key concepts of classifications, adaptations, and evolution. Pupils will be encouraged to actively engage with the tour, getting involved physically, mentally, and verbally!

Learning Objectives (in this session your students will...)

1. Group marine animals into different classifications based on their physical features and methods of reproduction.
2. Identify the adaptations of a variety of Ocean creatures across a range of habitats.
3. Explore positive and negative human impacts on the natural world

Learning Outcomes (following this session your students will be able to...)

1. Correctly identify different classifications of marine animals.
2. Understand how evolution and adaptation allows animals to survive in their environments.
3. Recognise the importance of our Ocean, how humans are having an impact and what we can do to protect it.

Common topics & themes to choose from:

Conservation	Body Form & Function	Habitat & Environment
Climate change Pollution Marine Protected Areas Habitat Restoration Sustainability	Adaptations & Evolution Feeding Techniques Lifecycles Camouflage & Patterns Classification & Species ID	Habitats Food chains/webs Keystone Species Connectivity

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Virtual Tour – Changing Seas

Duration: 90 minutes

Key Stage: KS3 & KS4



Session Overview

In Changing Seas, your pupils will learn some fascinating facts about some of the 4,000 animals housed at the National Marine Aquarium. They will start to understand more about how these animals have evolved to best suit their environments, and the important roles they play in the marine world. Students will be encouraged to discuss some really important issues facing the Ocean and consider the ways in which our actions, as individuals and as a community, can have a positive impact.

Learning Objectives (in this session your students will...)

1. Discuss what it's like being a marine biologist, and the many other careers available at the Aquarium.
2. Explore how animals are suited to their different environments through adaptation and evolution
3. Consider the impact that humans are having on our seas, including global warming and ocean acidification, and how conservation efforts are making a positive difference

Learning Outcomes (following this session your students will be able to...)

1. Identify different career paths based around animal care and Aquariums
2. Understand how animals change through adaptation and evolution.
3. Critically analyse the impacts humans have on the natural world.

Common topics & themes to choose from:

Conservation	Biology	Ecosystems
Climate change Pollution Renewable Energy Marine Protected Areas Habitat Restoration Sustainability	Evolution & Adaptations Reproduction & Breeding Classification Species ID	Food chains/webs Keystone Species Connectivity Interdependence Symbiosis

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Virtual Tour – Enchanted Seas

Duration: 90 minutes

Key Stage: KS1



Session Overview

Take your pupils on an interactive underwater adventure as they virtually explore the Aquarium in search of their favourite Ocean creatures! Your own personal tour guide will reveal a range of fascinating, weird and wonderful facts about our Ocean creatures, answering any questions your students might have along the way. Pupils will be encouraged to actively engage with the tour, getting involved physically by acting out some of their favourite animals and playing guessing games with their guide.

Learning Objectives (in this session your students will...)

1. Observe the colours, patterns and shapes of creatures that are found in a range of Ocean habitats, including rockpools, sandy seabed, and coral reefs.
2. Explore how sea creatures are suited to their habitats and understand what they need to survive.
3. Discover how different animals are classified based on what they eat

Learning Outcomes (following this session your students will be able to...)

1. Describe how animals are suited to different marine environments using colours and shapes.
2. Compare and contrast habitats which can be found under the sea
3. Explain how animals can be grouped according to diet using scientific terminology

Common topics & themes to choose from:

Conservation	Animals	Habitats
Caring for the Ocean Climate Change Reduce, Reuse, Recycle Habitats	Camouflage & Patterns Lifecycles Senses & movement Classification & grouping Vertebrates & invertebrates	The Great Barrier Reef The midnight zone Rocky shores The National Marine Park

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Virtual Workshop Programmes of Study

Programmes of Study

Each Virtual Workshop has its own Programme of Study (POS), these have been developed to provide a more detailed overview of the contents, curriculum links, and recommended workshops to accompany the experience. See below for an example POS.

Each two-page Virtual Workshop POS contains the following information:

Session Title – Name of the workshop

Duration – Expected run time

Key Stage - Intended audience age (based on curriculum links, but not a requirement)

Session Overview – Description of how the workshop flows

Learning Objectives – Describes what students will do during the workshop

Learning Outcomes –What students will be able to do after the workshop

Pre & Post visit suggestions – Supporting activity ideas to do before & after session

EYFS & National Curriculum links – Key points of the NC covered by this workshop

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Fantastic Fossils

Duration: 90 minutes

Key Stage: EYFS - KS1 (Year 1)

Availability: All year

Pricing tier: Standard Workshop



Session Overview

Fantastic Fossils presents opportunities for your pupils to explore interactive sensory activities and make exciting discoveries. The activities encourage group co-operation, and verbalization of their ideas. Pupils handle real life fossils from the ocean and imagine the animals they came from. In small groups, pupils use tools to unearth fossils, piece them back together, and identify other items they might unearth in the sand. We take a closer look at how extinct animals might have looked, and finally get creative with textures to make their own fossils from modelling clay and colour-in images to create 3D models of extinct animals using augmented reality software on [hand-held](#) tablets.

Learning Objectives

1. Learn about fossils and where they come from
2. Discover and reconstruct a creature from the ancient seas
3. Find out what we can learn about animals from fossils

Learning Outcomes

1. Describe the range of shapes, sizes and textures that fossils come in
2. Explain how fossils are formed
3. Use your knowledge of extant organisms to formulate an idea of what an extinct organism may have looked like

Pre-Visit Suggestions

- Research prehistoric marine animals (there are lots of images of prehistoric fish online)
- Go for a nature walk in your school, observing and noting down any live animals, things that were alive (e.g. leaves, pinecones etc.), and things that have never been alive

Post-Visit Suggestions

- Collect & explore different rock types, observe & comment on differences between them
- Look up other examples of prehistoric marine animals and create your own interpretations
- Make and paint your own fossils at school using a Plaster of Paris kit

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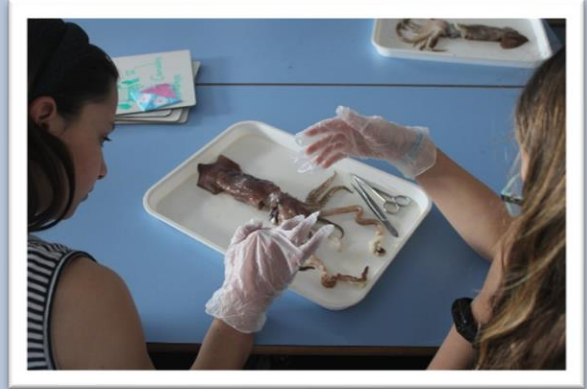
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Virtual Workshop - Dissection

Duration: 90 minutes

Key Stage: Upper KS2, KS3 & KS4



Session Overview

This guided dissection workshop gives students an opportunity to gain an in depth understanding of the biology, anatomy and behaviour of a squid in real detail. Led by a member of our Learning Team, the students will watch a live dissection, following along in the classroom on the resources provided to enhance their learning. Through a process of sequential dissection, observation and comparison students will identify organs widely found across the *Animalia* kingdom, including in humans, such as hearts and eyes. Students will also explore the role and function of a range of features unique to the *Cephalopoda* including ink sacks, and the remnants of internalised shells. Schools Officers will draw on their detailed knowledge of squid behaviour and life cycles to make sure no questions go unanswered.

Learning Objectives (in this session your students will...)

1. Discuss the need for scientific dissections.
2. Explore the internal and external anatomy of a squid, identifying its key features
3. Discover how a squid is uniquely adapted to life in the Ocean

Learning Outcomes (following this session your students will be able to...)

1. Recognise the moral implications of carrying out a dissection
2. Identify key anatomical features of a squid and compare to humans
3. Locate and explain the function of the respiratory, circulatory and digestive systems

Pre-Visit Suggestions

- Learn about classification of different invertebrate and vertebrate groups
- Research different marine habitats and identify key adaptations that animals need to survive in those habitats
- Research other animals found in these habitats and construct a food chain/web

Post-Visit Suggestions

- Draw a scientific diagram of a squid based on what pupils learned in the workshop
- Compare the anatomy of a squid to an animal in a different habitat, identifying key similarities and differences. Investigate how each are adapted to suit their habitats
- Carry out research on different careers that involve working with animals

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National Curriculum Links

1. Science: Key Stage 2: Working Scientifically

- a) Asking relevant questions & using different types of scientific enquiries to answer them
- b) Making systematic observations and taking accurate measurements using units, using a range of equipment, including thermometers and data loggers

2. Science: Key Stage 2: Animals, including humans

- a) Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- b) Identify that humans and some other animals have skeletons and muscles for support, protection and movement
- c) Describe the simple functions of the basic parts of the digestive system in humans
- d) Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood

3. Science: Key Stage 2: Living things and their habitats

- a) Recognise that living things can be grouped in a variety of ways
- b) Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- c) Give reasons for classifying plants and animals based on specific characteristics

4. Biology: Key Stage 3: Structure and function of living organisms

- a) The structure and functions of the human skeleton, to include support, protection, movement and making blood cells
- b) The interaction between skeleton and muscles
- c) The tissues & organs of the human digestive system, including adaptations to function & how the digestive system digests food.
- d) Content of a healthy human diet: carbohydrates, lipids (fats and oils), proteins, vitamins, minerals, dietary fibre and water, and why each is needed

5. Biology: Key Stage 3: Material cycles and energy

- a) Cellular respiration - Aerobic and anaerobic respiration in living organisms

6. Biology: Key Stage 3: Interactions and interdependencies

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

7. Science: Key Stage 4: Working Scientifically

- a) Appreciating the power and limitations of science and considering ethical issues which may arise

8. Biology: Key Stage 4: Ecosystems

- a) Living organisms are interdependent and show adaptations to their environment
- b) Organisms are interdependent and are adapted to their environment
- c) The importance of biodiversity
- d) Positive and negative human interactions with ecosystems.

9. English: Years 1-6: Spoken language

- a) Ask relevant questions to extend their understanding and knowledge
- b) Articulate and justify answers, arguments and opinions
- c) Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas

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Virtual Workshop - Evolution

Duration: 90 minutes

Key Stage: KS2 & KS3



Session Overview

How do you fit 800 million years of evolution into a single 90-minute activity? – By choosing the OCT's Underwater Evolution Workshop of course!

The best learning is fun learning, and this workshop is one of our most enjoyable for teachers and students alike. The session begins with a simple introduction to essential evolution-linked terminology; adaptation, inheritance, variation, and natural selection, before taking participants on a journey from the origins of life on earth all the way through to the modern age. Pencils and dice in hand, students will create and track the evolution of their own single celled organisms through it all, but who will make it to the modern age, and what new challenges await in an uncertain future?

Learning Objectives (in this session your students will...)

1. Create a new and unique creature by playing a fun game
2. Test the principles of survival of the fittest in an ever-changing environment
3. Think about how human actions can change the environment.

Learning Outcomes (following this session your students will be able to...)

1. Describe the process of evolution
2. Explain the process of natural selection
3. Talk confidently about the threat posed to some animal and plant species by environmental change

Pre-Visit Suggestions

- Look at some animals in different habitats and notice similarities and differences between them – what makes them separate species?
- Discuss how we have similar traits in very different species (e.g., flight or eyesight)– why do you think that is?

Post-Visit Suggestions

- Take the creatures created in the session and design a whole ecosystem for them, placing the animals in habitats that suit them.
- Make some food chains with the animals created in the session
- Create a 3D model of your animals out of clay or plasticine

To book, or for more information:

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National Curriculum Links

1. Science: Key Stage 2: Evolution and inheritance

- a) Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago [Y6]
- b) Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents [Y6]
- c) Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution [Y6]

2. Science: Key Stage 2: Animals, including humans

- a) Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat [Y3]
- b) Identify that humans and some other animals have skeletons and muscles for support, protection and movement [Y3]
- c) Identify the different types of teeth in humans and their simple functions [Y4]
- d) Construct and interpret a variety of food chains, identifying producers, predators and prey [Y4]

3. Science: Key Stage 2: Living things and their habitats

- a) Recognise that living things can be grouped in a variety of ways [Y4]
- b) Recognise that environments can change and that this can sometimes pose dangers to living things [Y4]
- c) Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals [Y6]
- d) Give reasons for classifying plants and animals based on specific characteristic [Y6]

4. Science: Key Stage 3: Genetics and evolution

- a) Heredity as the process by which genetic information is transmitted from one generation to the next
- b) The variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection
- c) 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

5. English: Years 1-6 Spoken language

- a) Listen and respond appropriately to adults and their peers
- b) Articulate and justify answers, arguments and opinions
- c) Give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings
- 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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Virtual Workshop - Mermaid

Duration: 45 minutes

Key Stage: EYFS & KS1



Session Overview

A shorter virtual workshop for younger children. This magical experience works equally well as an enchanting introduction to the underwater world for those taking their first steps in learning about the Ocean, or as a special treat for those already familiar with some of the wonders of the Ocean.

Through the workshop pupils will meet one of our resident mermaids in the Rockpool Room – a special, hidden space in the Aquarium, not part of the usual visitor experience. Here your pupils will enjoy playing guessing games and learning fun facts with one of our mermaids before settling down for a story written special for us. (See page 3 of this POS for story choices).

Learning Objectives (in this session your students will...)

1. Name a range of Ocean animals, identifying their key features.
2. Observe a variety of items from the Ocean and use words to describe them.
3. Listen to a story about the sea and answer questions about it.

Learning Outcomes (following this session your students will be able to...)

1. Recognise the key features of different sea creatures.
2. Identify objects from the Ocean and the animals they came from.
3. Anticipate what will happen in a story that is read to them.

Pre-Visit Suggestions

- Can the pupils come up with an Ocean animal for each letter of the alphabet? Task more able pupils with spelling the animal names and putting them into sentences
- Read books featuring Mermaids and discuss what it would be like to live under the sea

Post-Visit Suggestions

- Take a trip to the seaside for a treasure hunt! Can the pupils spot any items that their mermaid told them about?
- Write a class letter to their mermaid telling them about their favourite sea creatures.

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EYFS Statutory Framework Links

1. Communication and Language

ELG: Listening, Attention and Understanding

- a) Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions
- b) Make comments about what they have heard and ask questions to clarify their understanding

ELG: Speaking

- a) Participate in small group, class, and one-to-one discussions, offering their own ideas, using recently introduced vocabulary
- b) Offer explanations for why things might happen

2. Literacy: ELG: Comprehension

- a) Anticipate – where appropriate – key events in stories
- b) Use and understand recently introduced vocabulary during discussions about stories

3. Understanding the World: ELG: The Natural World

- a) Explore the natural world around them, making observations
- b) Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences

National Curriculum Links

1. English 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) Give well-structured descriptions, explanations, and narratives for different purposes, including for expressing feelings
- d) Use spoken language to develop understanding through speculating, hypothesising, imagining, and exploring ideas

2. Key Stage 1 Science: Animals, including humans

- a) Identify and name a variety of common animals including fish, amphibians, reptiles, birds, and mammals [Y1]
- b) Identify and name a variety of common animals that are carnivores, herbivores and omnivore [Y1]
- c) Describe and compare the structure of a variety of common animal (fish, amphibians, reptiles, birds and mammals, including pets) [Y1]
- d) Notice that animals, including humans, have offspring which grow into adults [Y2]

3. Key Stage 1 Science: Living things and their habitats

- a) Explore and compare the differences between things that are living, dead, and things that have never been alive [Y2]
- b) Identify that most living things live in habitats to which they are suited and describe [Y2]
- c) How different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other [Y2]
- d) Identify and name a variety of plants and animals in their habitats, including micro-habitats [Y2]

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Mermaid Tales

Our 'Mermaid Tales' stories have been written by one of our Schools Officers specialising in Early Years and SEN education. Each story is around 15 minutes long and constructed entirely through rhyming couplets. As part of your booking, we'll ask you to select a story from the table below.

During the workshop, your mermaid will read the story from the 'Mermaid Book of Tales', pausing at key points to discuss things with the children and show their drawings of characters from the story while encouraging children to draw their own later in the day.

Title	Description	Topics
Hulk's New Home	A hermit crab embarks on a mission across the beach to find himself a new home, finding friends in need of help along the way.	Materials, pollution, habitats (rockpools/beach) body form & function
Am I A Dragon?	As a confused sea creature tries to find out what kind of animal she is, her friends teach her all about the variety of life under the sea.	Classification, habitats (kelp/seagrass/sand) body form & function
Something's Not Quite Right	After discovering their coral reef home is in trouble, a group of sea creatures go on an adventure to find a new place to live.	Climate change, habitats (coral reefs) predators/prey, colours & patterns
What A Mystery!	A sperm whale comes across a mysterious object drifting through the Ocean and tries to discover what it is with the help of her deep-sea friends.	Habitats (deep/shipwrecks) body form & function, pollution
A Toothy Tale	A lost whale shark attempts to find the owner of a shark tooth and learns a lot about the similarities and differences between sharks along the way.	Dentition/feeding, fishing, predators/prey, body form & function, habitats (open ocean/sand)
What's That Sound?	A dolphin attempts to discover the source of a mysterious noise, and in doing so learns about the weird and wonderful ways that animals use sound under the sea.	Senses, habitats (seagrass/mangroves/corals) body form & function, noise pollution
The Unusual Unicorn	A mother narwhal leaves the pod to search for her lost son, finding a range of arctic creatures in need of help during her journey.	Lifecycles, habitats (polar) body form & function, pollution

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Price list

This price list is correct as of February 2023 and reflects the programme prices for the academic year 2023-2024. Please check our website (www.national-aquarium.co.uk) for the latest prices, deals and special offers available for schools.

Activity option	Cost <i>(All prices are inclusive of VAT)</i>
<p>Virtual Tour <i>(Choose from...)</i></p> <ul style="list-style-type: none"> • <i>Beneath the Waves</i> • <i>Changing Seas</i> • <i>Enchanted Seas</i> 	<ul style="list-style-type: none"> • £120 for a class up to 32 students • £60 per additional class
<p>Virtual Workshop <i>(Choose from...)</i></p> <ul style="list-style-type: none"> • <i>Virtual Dissection</i> • <i>Virtual Evolution</i> • <i>Virtual Mermaid</i> 	<ul style="list-style-type: none"> • £120 for a class up to 32 students • £60 per additional class • £120 for a class up to 32 students • £60 per additional class • £60 for a class up to 32 students • £30 per additional class

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Booking process

Step 1: Pick your session: Refer to the Activity tables and individual Programs of Study featured in this guide to find out more about the options available to you and your students

If you're not sure which session to pick, give us a call and we'll happily recommend the best option based on your group needs, learning outcomes and budget

Step 2: Check your setup: You'll need access to a Zoom or Microsoft Teams account, and a computer with a webcam and microphone in each room your students will be connecting from.

Don't worry if you've not done this before, or you're not confident with the setup: Our Schools Officers can help with the technical arrangements, and if you would like to arrange a free test call before the event for added peace of mind, just let us know.

Step 3: Get in touch: Email or call the Schools Team at the National Marine Aquarium to confirm your interest in booking a session or ask advice on the recommendations for your group. Provide as much detail as you are able about dates, times and participant numbers at the time, as this will help us confirm our availability.

Our Schools Officers will send you a part completed Enquiry Form by email containing any details you discussed, and a weblink to use on the day.

Step 4: Confirm your booking: Complete any outstanding elements of the booking form, ensuring you state any specific topics, learning outcomes or objectives you would like to focus on during the experience and return it to our team at the NMA

Our Schools Officers will enter your booking into our system. You're all booked in. Use the unique code on your booking enquiry form to access the exclusive resources associated with your Virtual Learning activity.

Don't forget you can contact us at any time to arrange a test call, or make changes to your booking.

Step 5: Dial in on the day: Today's the day! Use the weblink on your enquiry form to access the session.

We recommend joining the session a few minutes early to discuss any final points with your Schools' Officer before they begin the session with your students.

To book any of the experiences contained in this brochure, please contact the Schools Team directly on 01752 275 233, or email learning@oceanconservationtrust.org

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