

NMA | NATIONAL MARINE AQUARIUM **LEARNING**

Bespoke Workshops for **pupils with** **Special Educational Needs and** **Disabilities**



Contents

Part 1: Overview

- | | |
|---------------------|----|
| 1. Introduction | P3 |
| 2. Curriculum Links | P3 |
| ○ P scales | |
| ○ EYFS | |
| ○ KS1 and KS2 | |
| 3. Workshop Example | P5 |

Part 2: List of Activities

- | | |
|-----------------------|-----|
| 1. What's for Dinner? | P7 |
| 2. A Turtle's Journey | P9 |
| 3. Homely Habitats | P11 |
| 4. What am I? | P13 |
| 5. Picking Plankton | P15 |
| 6. Octo-Science | P17 |

Part 3: Ocean Literacy and GLO's

- | | |
|------------------------------|-----|
| 1. Ocean Literacy links | P19 |
| 2. Generic Learning Outcomes | P19 |

PART 1: OVERVIEW

1. Introduction

These workshops are designed for groups of no more than 12 pupils at a time who are mainly working at a Key Stage 1 level/lower Key stage 2 level. The sessions however can be easily adapted to focus on many areas of the EYFS curriculum and P scales, so are perfect for children with special educational needs and disabilities from both special and mainstream schools.

The workshops are flexible and are lead in such a way that allows pupils to enjoy their learning in a safe and stimulating environment. A visual timetable will be displayed and step by step instructions provided for the tasks. The workshops take place in a room which is not far from a quiet space and the main Aquarium, should any pupils need some time away from the workshop. We're also open to making any adjustments which you feel would be beneficial for your pupils so that they can have the best experience possible during their visit.

2. Curriculum Links

a. P Scales

For children working on attaining P scales, the activities on offer provide opportunities for pupils to meet a range of performance descriptors.

The activities are particularly relevant to those working towards P scales 4-8 in Science. For instance, many activities involve examining the features of different objects from the sea, such as coral, seaweed and exoskeletons. Pupils can also practise matching, ordering and sorting different items and pictures, activities which are suitable for those working towards higher performance descriptors.

When it comes to English, throughout all the activities pupils will be encouraged to develop their speaking skills, whether it be through the naming of ocean creatures, asking questions or contributing in discussions. Small group tasks will be set, allowing pupils to listen to instructions and take in turns whilst completing an activity.

One activity, 'A Turtle's Journey', also covers elements of Art & Design, as pupils can handle and manipulate a variety of materials as they explore which colours and textures are most suitable to build their models.

If there are any P scales which you would like to be the focus of the workshops, you can provide details of this when you fill out your workshop content form.

b. EYFS

Integral to the activities are areas of the Statutory Framework for Early Years Foundation Stage. Key areas include:

EYFS: The Prime Areas

Communication and Language

- Listening and attention: children listen attentively in a range of situations. They listen to stories, accurately anticipating key events and respond to what they hear with relevant comments, questions or actions

- Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to stories or events

Physical development

- Moving and handling: children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space

EYFS: The Specific Areas

Literacy

- Reading: children read and understand simple sentences. They use phonic knowledge to decode regular words and read them aloud accurately. They also read some common irregular words. They demonstrate understanding when talking with others about what they have read

Understanding the world

- The world: children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another

One activity, 'A Turtle's Journey', will also cover the following:

Expressive Arts and Design

- Exploring and using media and materials: safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes

c. Key Stage 1 and Key Stage 2

Each activity will have links to the Key Stage 1/lower Key stage 2 Science Programmes of Study. Many of the activities also cover areas of Art & Design and English. Please see the list of activities in Part 2 for more information.

3. Example of Workshop

Each activity can take 20-30 minutes to complete, depending on the combination of activities chosen. An hour-long session can consist of a minimum of two or a maximum of three of the activities listed in Part 2 of this document. For instance, your workshop could consist of the following:



To book your session, please contact a member of the team on 01752 275233 or email us at learning@national-aquarium.co.uk. You will be asked to inform us of your choices when you make your booking. After you book your workshop, you will receive a confirmation email with documents attached which you will need complete and return to us, including a booking form and a photo consent document. You will also be provided with the following form on which you may detail any information on the needs of your pupils:

Bespoke Workshop Content Form

School: _____ Class name: _____
Date of workshop: _____ Lead Teacher: _____

Activity Choices

Each activity can take 20-30 minutes to complete, depending on the combination of activities chosen. An hour-long session can consist of a minimum of two or a maximum of three of the activities below (see 'Bespoke Workshops for pupils with Special Educational Needs' for descriptions of the activities). Please confirm your choices by ticking the boxes below:

- | | |
|---|--|
| What's for dinner? <input type="checkbox"/> | Homely Habitats <input type="checkbox"/> |
| A Turtle's Journey <input type="checkbox"/> | What am I? <input type="checkbox"/> |
| Picking Plankton <input type="checkbox"/> | Octo-Science <input type="checkbox"/> |

Additional Information (optional)

Is there anything we can do to support individual students within your group ahead of their arrival? Use the space below to advise us of anything you feel would be beneficial for us to know to ensure everyone gets the best possible experience during their visit.

Please use the space below to provide details of the level your pupils are working at. This will help us to deliver the workshop in a way which ensures all pupils get the most out of their learning.

PART 2: LIST OF ACTIVITIES

This section provides details of the activities on offer, including session overviews, learning objectives/outcomes and curriculum links.



Activity 1: What's for dinner?

Session Overview

Children will be given pictures of animals and tasked with deciding whether they are herbivores, carnivores or omnivores. After sorting them through use of a Venn diagram, they will then check their answers by examining the 'stomach contents' of three different animals, determining the diet of a turtle, crab and shark!

This activity is a fantastic way for pupils to compare the nutritional needs of different animals and learn about what living organisms need to survive.

Learning Objective

- To learn about what different animals eat under the sea

Learning Outcomes

Pupils will be able to:

- Identify and name a variety of common animals that are carnivores, herbivores and omnivores
- Compare the nutritional needs of different animals

Curriculum Links

Science: Key stage 1

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways [Y1/2]
- Identifying and classifying [Y1/2]
- Using their observations and ideas to suggest answers to questions [Y1/2]

Animals, including humans

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals [Y1]
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores [Y1]
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) [Y2]

Living things and their habitats

- Explore and compare the differences between things that are living, dead, and things that have never been alive [Y2]

Everyday Materials

- Describe the simple physical properties of a variety of everyday materials [Y1]
- Compare and group together a variety of everyday materials on the basis of their simple physical properties [Y1]

Science: Lower Key stage 2

Working Scientifically

- Asking relevant questions and using different types of scientific enquiries to answer them [Y3/4]
- Gathering, recording, and presenting data [Y3/4]
- Reporting on findings from enquiries, including oral and written explanations [Y3/4]
- Using results to draw simple conclusions [Y3/4]
- Using straightforward scientific evidence to answer questions or to support their findings [Y3/4]

Animals, including humans

- 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]

English: Key Stage 1

Word reading

- Apply phonic knowledge and skills as the route to decode words [Y1/2]
- Read accurately by blending sounds in words [Y1/2]

Spoken language

- Listen and respond appropriately to adults and their peers [Y1-6] Ask relevant questions to extend their understanding and knowledge [Y1-6]
- Articulate and justify answers, arguments and opinions [Y1-6]
- Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments [Y1-6]
- Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas [Y1-6]

Activity 2: A Turtle's Journey

Session Overview

Pupils start this activity by arranging turtle life cycle cards so that they are in the correct order. Each pair then creates a display of one stage of the life cycle using a variety of materials such as sand, pebbles and playdough. Pupils in need of an extra challenge also have the option of creating some description cards to go with the craft. The pupils finish the activity by putting their crafts in order, the outcome being a visual representation of the life cycle of a turtle.

This craft could be an addition to the 'What am I?' activity, as it builds upon pupils' knowledge of the similarities and differences between animal groups.

Learning Objective

- To describe the life cycle of a turtle

Learning Outcomes

Pupils will be able to:

- Order the stages of an animal's life cycle
- Recognise that animals have offspring that grow into adults

Curriculum Links

Science: Key stage 1

Everyday Materials

- Distinguish between an object and the material from which it is made [Y1]
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock [Y1]
- Describe the simple physical properties of a variety of everyday materials [Y1]

Animals, including humans

- Notice that animals, including humans, have offspring which grow into adults [Y2]

Uses of everyday materials

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching [Y2]

English: Key Stage 1

Word reading

- Apply phonic knowledge and skills as the route to decode words [Y1/2]
- Read accurately by blending sounds in words [Y1/2]

Spoken language

- Listen and respond appropriately to adults and their peers [Y1-6] Ask relevant questions to extend their understanding and knowledge [Y1-6]
- Articulate and justify answers, arguments and opinions [Y1-6]
- Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments [Y1-6]
- Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas [Y1-6]

Art and Design: Key stage 1

- Use a range of materials creatively to design and make products [Y1/2]
- Use drawing, painting and sculpture to develop and share their ideas, experiences and imagination [Y1/2]
- Develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space [Y1/2]

Activity 3: Homely Habitats

Session Overview

Pupils will be presented with several covered trays, each containing a different habitat (e.g. rockpool, seaweed, sand, coral). Children must feel inside the trays and guess the habitats. The pupils will then embark on a treasure hunt for toy animals and match them with the habitat to which they belong. The activity finishes with an interactive discussion on how these animals are well suited to their homes.

This activity is very sensory and allows pupils to be on their feet as they learn about the fascinating world of under the sea habitats.

Learning Objective

- To find out about different habitats under the sea

Learning Objectives

Pupils will be able to:

- Identify a variety of habitats and list animals which can be found there
- Recognise that habitats provide animals with what they need to survive

Curriculum Links

Science: Key stage 1

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways [Y1/2]
- Identifying and classifying [Y1/2]
- Using their observations and ideas to suggest answers to questions [Y1/2]

Animals, including humans

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals [Y1]
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) [Y2]

Living things and their habitats

- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other [Y2]
- Identify and name a variety of plants and animals in their habitats, including microhabitats [Y2]

Everyday materials

- Distinguish between an object and the material from which it is made [Y1]

- Describe the simple physical properties of a variety of everyday materials [Y1]

Science: Lower Key stage 2

Working Scientifically

- Asking relevant questions and using different types of scientific enquiries to answer them [Y3/4]
- Reporting on findings from enquiries, including oral and written explanations [Y3/4]

Living things and their habitats

- Recognise that environments can change and that this can sometimes pose dangers to living things [Y4]

English: Key Stage 1

Word reading

- Apply phonic knowledge and skills as the route to decode words [Y1/2]
- Read accurately by blending sounds in words [Y1/2]

Spoken language

- Listen and respond appropriately to adults and their peers [Y1-6] Ask relevant questions to extend their understanding and knowledge [Y1-6]
- Articulate and justify answers, arguments and opinions [Y1-6]
- Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments [Y1-6]
- Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas [Y1-6]

Activity 4: What am I?

Session Overview

Children are given real life artefacts from sea creatures to examine (e.g. dolphin skull, lobster moult, starfish). This hands-on activity is an ideal introduction to how animals are grouped onto vertebrates and invertebrates. The pupils will then play an interactive detective game which allows them to decide which group different animals belong to.

This session introduces children to the concept of classification in a clear and engaging way while allowing them to investigate real objects from under the sea.

Learning Objective

- To explore how ocean animals are grouped

Learning Objectives

Pupils will be able to:

- Classify different animals based on their features
- Name and compare a variety of different ocean creatures

Curriculum Links

Science: Key stage 1

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways [Y1/2]
- Observing closely, using simple equipment [Y1/2]
- Identifying and classifying [Y1/2]
- Using their observations and ideas to suggest answers to questions [Y1/2]

Animals, including humans

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals [Y1]
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) [Y1]

Everyday Materials

- Distinguish between an object and the material from which it is made [Y1]
- Describe the simple physical properties of a variety of everyday materials [Y1]

Living things and their habitats

- Explore and compare the differences between things that are living, dead, and things that have never been alive [Y2]

Science: Lower Key stage 2

Working Scientifically

- Asking relevant questions and using different types of scientific enquiries to answer them [Y3/4]
- Reporting on findings from enquiries, including oral and written explanations [Y3/4]
- Using straightforward scientific evidence to answer questions or to support their findings [Y3/4]

Animals, including humans

- Identify that humans and some other animals have skeletons and muscles for support, protection and movement [Y3]

Living things and their habitats

- Recognise that living things can be grouped in a variety of ways [Y4]

English: Key Stage 1

Word reading

- Apply phonic knowledge and skills as the route to decode words [Y1/2]
- Read accurately by blending sounds in words [Y1/2]

Spoken language

- Listen and respond appropriately to adults and their peers [Y1-6] Ask relevant questions to extend their understanding and knowledge [Y1-6]
- Articulate and justify answers, arguments and opinions [Y1-6]
- Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments [Y1-6]
- Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas [Y1-6]

Activity 5: Picking Plankton

Session Overview

This activity is a fantastic way for children to learn about how different adaptations allow animals to feed in their habitats! Pupils are given a variety of tools which they can use to scoop artificial 'plankton' out of their ocean. Their challenge is to decide which tool represents which creature's feeding technique and to discuss the similarities and differences between them.

This an ideal addition to 'Homely Habitats' or 'What's for Dinner?', as pupils can build upon their knowledge of the ocean as a habitat and how animals are adapted to survive there.

Learning Objective

- To discover how different ocean animals feed

Learning Outcomes

Pupils will be able to:

- Compare how different animals feed in their ocean habitats
- Understand that animals have their own features that help them to survive in their habitats

Curriculum Links

Science: Key stage 1

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways [Y1/2]
- Identifying and classifying [Y1/2]
- Using their observations and ideas to suggest answers to questions [Y1/2]

Animals, including humans

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals [Y1]
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) [Y1]
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) [Y2]

Living things and their habitats

- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other [Y2]

Science: Lower Key Stage 2

- Reporting on findings from enquiries, including oral and written explanations [Y3/4]
- Using results to draw simple conclusions [Y3/4]
- Using straightforward scientific evidence to answer questions or to support their findings [Y3/4]

Animals, including humans

- 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]

English: Key Stage 1

Word reading

- Apply phonic knowledge and skills as the route to decode words [Y1/2]
- Read accurately by blending sounds in words [Y1/2]

Spoken language

- Listen and respond appropriately to adults and their peers [Y1-6] Ask relevant questions to extend their understanding and knowledge [Y1-6]
- Articulate and justify answers, arguments and opinions [Y1-6]
- Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments [Y1-6]
- Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas [Y1-6]

Activity 6: Octo-Science

Session Overview

This experiment allows pupils to discover their inner scientist as well as their inner octopus! Pupils will be given ice-blocks with mystery toy food items frozen inside which they must uncover, just like our octopuses at feeding time. Pupils will be presented with a bowl of salted water, tap water and vinegar, to which they must add the baking powder ice-blocks to discover which liquid will help them get to their food first. The challenge will finish with pupils sorting the items into categories based on their knowledge of animal groups.

During this activity, your budding scientists will make predictions, develop their scientific thinking skills and discover the wonders of chemical reactions.

Learning Objective

- To predict what will happen when ice-blocks are added to different liquids

Learning Outcomes

Pupils will be able to:

- Develop a hypothesis which states what will happen during an experiment
- Identify changes during a chemical reaction

Curriculum Links

Science: Key stage 1

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways [Y1/2]
- Performing simple tests [Y1/2]
- Identifying and classifying [Y1/2]
- Using their observations and ideas to suggest answers to questions [Y1/2]
- Gathering and recording data to help in answering questions [Y1/2]

Animals, including humans

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals [Y1]
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) [Y1]

Science: Lower Key Stage 2

Working Scientifically

- Asking relevant questions and using different types of scientific enquiries to answer them [Y3/4]
- Setting up simple practical enquiries, comparative and fair tests [Y3/4]

- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units [Y3/4]
- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions [Y3/4]
- Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions [Y3/4]
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions [Y3/4]
- Identifying differences, similarities or changes related to simple scientific ideas and processes [Y3/4]
- Using straightforward scientific evidence to answer questions or to support their findings [Y3/4]

Animals, including humans

- Identify that humans and some other animals have skeletons and muscles for support, protection and movement [Y3]

Living things and their habitats

- Recognise that living things can be grouped in a variety of ways [Y4]

English: Key Stage 1

Word reading

- Apply phonic knowledge and skills as the route to decode words [Y1/2]
- Read accurately by blending sounds in words [Y1/2]

Spoken language

- Listen and respond appropriately to adults and their peers [Y1-6] Ask relevant questions to extend their understanding and knowledge [Y1-6]
- Articulate and justify answers, arguments and opinions [Y1-6]
- Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments [Y1-6]
- Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas [Y1-6]

PART 3: OCEAN LITERACY AND GLO'S

1. Ocean Literacy Principles

The Ocean Literacy Principles are international standards of education. The following Principles are achieved through the above activities:

- | | |
|--|-------------------------------------|
| 1) The Earth has one big ocean with many features | <input type="checkbox"/> |
| 2) The ocean and life in the ocean shape the features of Earth | <input type="checkbox"/> |
| 3) The ocean is a major influence on weather and climate | <input type="checkbox"/> |
| 4) The ocean makes Earth habitable | <input type="checkbox"/> |
| 5) The ocean supports a great diversity of life and ecosystems | <input checked="" type="checkbox"/> |
| 6) The ocean and humans inextricably interconnected | <input checked="" type="checkbox"/> |
| 7) The ocean is largely unexplored | <input type="checkbox"/> |

2. 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 the above activities:

1). Knowledge & Understanding

- | | |
|--|-------------------------------------|
| a) Broaden knowledge of the marine environment and associated species. | <input checked="" type="checkbox"/> |
| b) Deeper understanding of the relationship between myself and the seas. | <input checked="" type="checkbox"/> |
| c) Raise awareness of the role that science plays in understanding our seas. | <input type="checkbox"/> |

2). Skills

- | | |
|--|-------------------------------------|
| a) Develop observation skills. | <input checked="" type="checkbox"/> |
| b) Formulate scientific questions based on observations. | <input type="checkbox"/> |
| c) Develop communication (speaking and listening) and social (learning together, working together, meeting people) skills. | <input checked="" type="checkbox"/> |

3) Attitudes & Values

- | | |
|--|-------------------------------------|
| a) Appreciate the value of the marine environment and develop respect and empathy for its inhabitants. | <input checked="" type="checkbox"/> |
| b) Promote a positive view of science and scientists. | <input type="checkbox"/> |
| c) Recognise that learning can be a positive process. | <input checked="" type="checkbox"/> |

4) Enjoyment, Inspiration, Creativity

- | | |
|--|-------------------------------------|
| a) Have fun with the National Marine Aquarium. | <input checked="" type="checkbox"/> |
| b) Be surprised by the variety of marine life. | <input checked="" type="checkbox"/> |
| c) Be inspired by the experience. | <input checked="" type="checkbox"/> |

5) Activity Behaviour and Progression

- | | |
|--|-------------------------------------|
| a) Motivation to go out and explore the marine environment further. | <input checked="" type="checkbox"/> |
| b) Take steps to further understanding of the relationship between myself, my actions and the sea. | <input type="checkbox"/> |
| c) Take action to reduce my negative impacts & increase my positive impacts on the marine environment. | <input type="checkbox"/> |