

# Under the Knife

## Overview and Learning Outcomes

### Session Overview:

Through participating in this workshop, pupils will get a close and detailed look at the external and internal anatomy of a squid through a teacher led dissection, understanding the role that science plays in learning about animals. This workshop gives an opportunity to explore what makes a squid different from other animals – including humans. Pupils will also take part in a discussion about the role of the animal care team at the National Marine Aquarium and the range of careers available.

This scientific workshop provides a hands-on memorable experience, getting the students fully immersed in learning about the anatomy and physiology of a squid.

	Foundation Phase:	Key Stage 2:	Key Stage 3:
<b>Learning Outcomes</b>	Our younger learners will explore the internal and external structures of a squid. They will be introduced to the body systems and look closer at the different body parts. This session focuses on creating an environment of empathy and respect for living creatures.	Our Junior pupils will discover the structures and function of body parts within a squid. Together we dissect organs and compare it's unique body systems with our own. Developing a respect for animals and skills that will enable them to be more confident with future dissections.	Our Key Stage 3 pupils will explore the key external and internal features of a squid that taxonomists use to classify this animal. They will examine internal and external organs and features, drawing comparisons in structure and function with that of our own bodies.
	<ol style="list-style-type: none"> <li>1. Develop empathy and respect for living creatures</li> <li>2. Recall external and internal body parts of a squid</li> <li>3. Describe the function of some organs in both squid and humans</li> </ol>	<ol style="list-style-type: none"> <li>1. Recognise the moral implications of carrying out a dissection</li> <li>2. Identify key anatomical features of a squid and compare to humans</li> <li>3. Discover the range of careers available which involve working with animals</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify and external features of a squid that are used to classify individual species</li> <li>2. Independently carry out a scientific dissection</li> <li>3. Compare structural and functional differences between organ systems in a squid and in humans.</li> </ol>

Pre-Workshop Ideas	Post-Workshop Ideas
<ul style="list-style-type: none"> <li>• Learn about classification of different invertebrate and vertebrate groups</li> <li>• Research different marine habitats and identify key adaptations that animals need to survive in those habitats</li> <li>• Research what other animals can be found in these habitats and construct a food chain/web</li> </ul>	<ul style="list-style-type: none"> <li>• Draw a scientific diagram of a squid based on what pupils learned in the workshop</li> <li>• 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</li> <li>• Carry out research on different careers that involve working with animals</li> </ul>

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## Welsh Curriculum links

### National Curriculum for Wales 2022: SCIENCE AND TECHNOLOGY

The world around us is full of living things which depend on each other for survival.

	Progression Step 2:	Progression Step 3:	Progression Step 4:
Diversity of Life	<p>I can recognise and compare some features of living things and discuss similarities and differences.</p> <p>I can compare and contrast how living things develop and have off-spring.</p>	<p>I can use scientific criteria to describe the features of living things and use these to classify.</p> <p>I can describe how living things have changed over generations.</p>	<p>I can explain how adaptation of organisms can affect their chances of survival.</p> <p>I can explain how reproduction, mutations and the environment can lead to variation.</p>
Biological Processes	<p>I can identify parts of living things and their function.</p>	<p>I can name and describe the functions of organs within my body and in plants.</p> <p>I can describe how some organs work together to perform a function.</p>	<p>I can describe cells within organisms and relate structure to function.</p> <p>I can describe biological processes within organisms and explain how these contribute to their development and survival.</p>

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## Ocean Conservation links

### 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

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

### OCT Generic Learning Outcomes

The Generic Learning Outcomes are a collection of conservation guiding principles that the OCT 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.

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#### 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.

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#### 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.

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#### 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.

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#### 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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