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ANGELS OF WALES EBOOK - TEACHERS' HANDBOOK

This handbook provides additional information on Angelsharks and Angel Shark Project: Wales to complement the eBook.

Our aim for the eBook is to help pupils to learn more about the Critically Endangered Angelshark and how the project is revealing more about the species and its importance in Welsh heritage. The language and illustration have been tailored for 7 to 11 year olds and we have created both English and Welsh language version free to download from www.angelsharkproject.com/ebook.

The eBook has been designed to support a range of subjects and can be used for a long term project, providing various stimuli in different curriculum areas such as biology, geography, history and maths - and is closely supports **National Curriculum for Wales 2022**. It has been designed to support children and young people to be ethical, informed citizens of Wales and the world, in particular through the Science and Technology Area of Learning and Experience:

- **What Matters** - The world around us is full of living things which depend on each other for survival.
- **What Matters** - Being curious and searching for answers helps further our understanding of the natural world and helps society progress.

WHAT IS AN ANGELSHARK:

The Angelshark (*Squatina squatina*) is a large, flat-bodied shark reaching up to 2.4m in length. Also known as monkfish or angel fish, they are sometimes mistaken for a ray or mis-recorded as Anglerfish (*Lophius piscatorius*). Angelsharks feed on a range of fish, crustaceans and molluscs and have an important role in maintaining a balanced marine ecosystem. They are not threatening to humans, living mainly on sand or mud at the bottom of the sea, laying in wait to ambush unsuspecting prey.

Once widespread across Europe, the Angelshark has dramatically declined over much of its former range in last 50 to 100 years and is now listed as Critically Endangered on the IUCN Red List. The waters around the Canary Islands have been identified as a unique stronghold for the species, where they are frequently sighted, but an important population also remains in Wales – one of the last places in the North East Atlantic where this species is still present.

The family of angel sharks (*Squatinaidae*) are the second most threatened species of elasmobranchs (sharks, skates & rays) in the world, behind the sawfish family (*Pristidae*). Angelsharks are protected under Schedule 5 of the Wildlife and Countryside Act 1981 and it is illegal to intentionally disturb, target, injure or kill Angelsharks within 12 nautical miles of Welsh and English coastlines.

ANGEL SHARK PROJECT: WALES

Angel Shark Project: Wales (ASP:W) is a pioneering project launched in July 2018, to better understand and safeguard the Angelshark (*Squatina squatina*) in Wales through fisher-participation, heritage and citizen-science.

Over the past two years, we have achieved a number of major outcomes:

- Over 50 million people reached through press releases and social media;
- 523 people directly engaged through roadshows and citizen science;
- trusted relationships developed with 75 recreational, charter boat and small-scale commercial fishers;
- 2,165 new Angelshark records gathered;
- Angelshark hotspots and possible important habitat identified through species distribution model outputs and other analyses;
- Wales Angelshark Action Plan developed through cross-sectorial remote workshops to identify the next steps to secure the future of Angelsharks in Wales

The Angelshark records date back to 1558, and have been shared with ASP:W by fishers, local communities during the Angelshark History Roadshow and through citizen science research. These records help to better understand Angelsharks distribution and habitat use along the Welsh coast and we're really grateful to everyone who has taken part in the project.

LESSON PLAN IDEAS

Angelshark records have been found around the coast of Wales, so this eBook could be used to highlight the importance of your local marine environment to the species. It could be incorporated as part of Biology Week or during biology, geography, history or maths lessons. An example lesson plan can be found below:

Lesson Title : Where do Angelsharks Live?
How to build the perfect home for an Angelshark

Class: Key Stage 2

Areas of Learning:

- Science and Technology
- Expressive Arts

Resources

www.angelsharkproject.com/ebook

Lesson Aim: To help pupils become more familiar with Angelsharks and their anatomy. Pupils will also explore the Welsh marine habitats in which Angelsharks are found and how they have adapted to their surroundings.

- Objectives:**
- Correctly label an Angelshark
 - Use and extend biology vocabulary
 - Enhance knowledge of animal habitats

LESSON TASKS AND ANSWERS

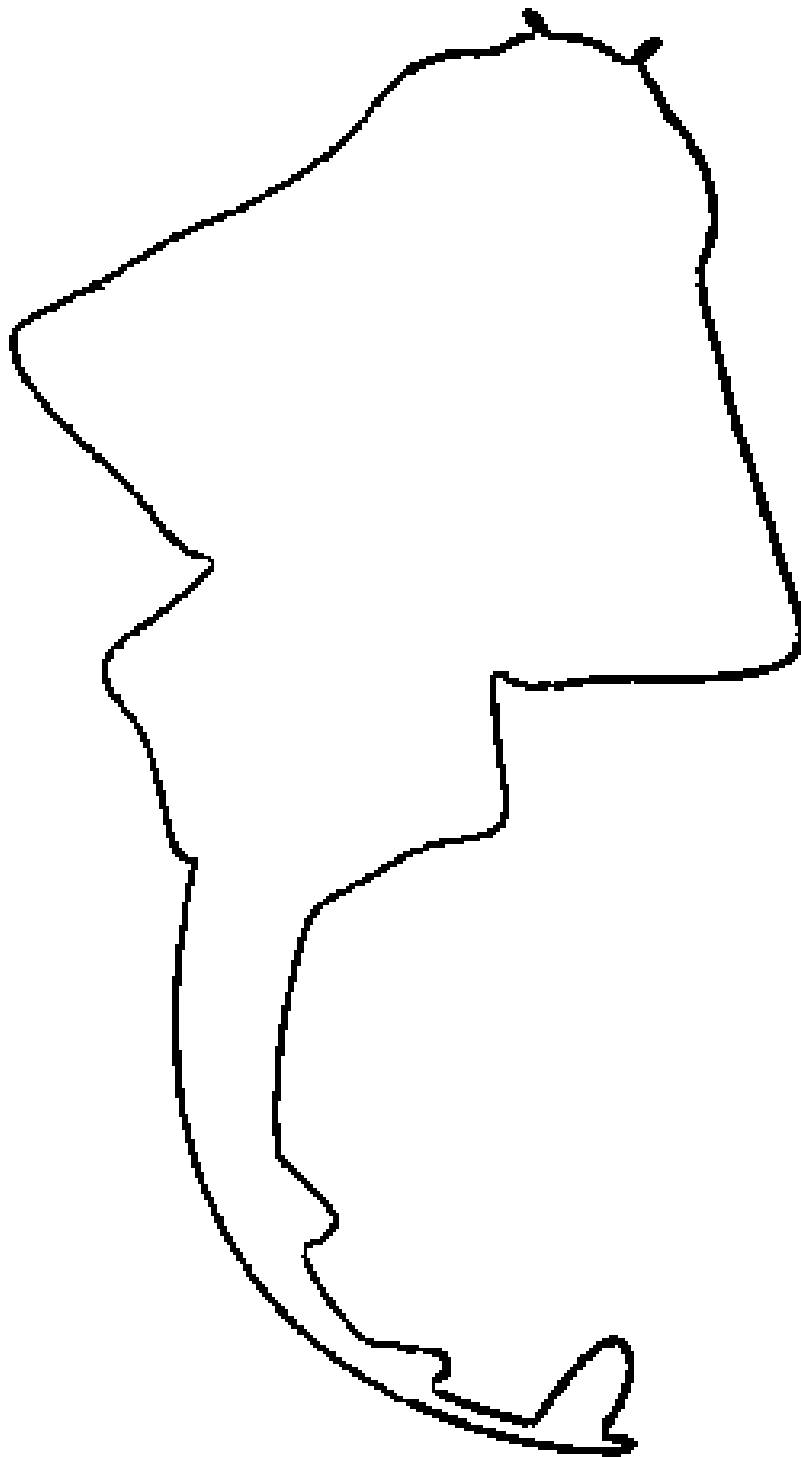
Ask children what they know about camouflage? If not explain the principle – i.e. how an animal hides amongst its environment with features such as their colouring blending with their surroundings. Ask learners to identify animals that have camouflage.

Ask learners why an animal would need camouflage - to hide from predators or to seek prey. Ask for any examples they may know. Use page 6 of the eBook to reinforce this point

Now that learners have a basic knowledge of camouflage, use page 4 of the resource to label the Angelshark. Start the task by reading the 'helpful hints' section aloud. Encourage trial and error. Refer back to 'helpful hints' to explain why an Angelshark has evolved to have that feature.

SUGGESTED INDEPENDENT FOCUS ACTIVITY

- Ask the children to use colouring pencils to create a marine environment.
- Encourage them to think about when they have been to the seaside in the past and what they have encountered.
- Ask them to use their imagination to imagine the underwater habitats around Wales and factor that into their work, by blending the Angelshark outline into the environment.



SUPPORTED BY:

ASP:W is led by the Zoological Society of London and Natural Resources Wales with support from the National Lottery Heritage Fund and Welsh Government.

FURTHER INFORMATION:

Find out more about the project at www.angelsharkproject.com/wales

Email: angelsharks@zsl.org