

# Under the Sea : Cross-Curricular Topic : Year 3/4

## Science

1	Investigate the definition of a habitat and explore how animals have adapted to their habitats.
2	Identify and classify different sea animals by groups: vertebrates, invertebrates mammals, crustaceans, molluscs, amphibians and reptiles.
3	Identify the seven life processes.
4	Explore the process of respiration and explore the different ways animals breathe.
5	Explore why movement is necessary for all living things and compare how different animals, including humans, move using muscles.
6	Explore the life process of reproduction and investigate how different sea animals reproduce.

- Year 3 - making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Year 3 - gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- Year 3 - identifying differences, similarities or changes related to simple scientific ideas and processes
- Year 3 - using straightforward scientific evidence to answer questions or to support their findings
- Year 3 - 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
- Year 3 - identify that humans and some other animals have skeletons and muscles for support, protection and movement
- Year 4 - recognise that living things can be grouped in a variety of ways
- Year 4 - explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment

## Computing

1	Create a multimedia presentation about a particular sea creature.
2	Create a digital storybook in a sea setting.

•KS2 - select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

## Under the Sea

### A KS2 cross-curricular topic for Year 3/4

## DT

1	Design, make and evaluate a model aquarium.
2	Design, make and evaluate a soft 'sea' toy.

•KS2 - use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  
 •KS2 - generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  
 •KS2 - select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  
 •KS2 - select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  
 •KS2 - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

## Music

1	Listen and respond to Saint-Saens' <i>Aquarium</i> .
2	Compose and perform a musical sea poem.

•KS2 - play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression  
 •KS2 - improvise and compose music for a range of purposes using the inter-related dimensions of music  
 •KS2 - listen with attention to detail and recall sounds with increasing aural memory  
 •KS2 - appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians

## Art

1	Explore how paper plates can be used to create different shapes to make a fish or other sea creature.
2	Create images to portray the myth of Atlantis.
3	Design and make mosaics of a sea scene of an animal.

•KS2 - to improve their mastery of art and design techniques, including drawing with a range of materials  
 •KS2 - to improve their mastery of art and design techniques, including painting with a range of materials  
 •KS2 - to improve their mastery of art and design techniques, including sculpture with a range of materials

## Geography

1	Define the words 'ocean' and 'sea' and identify them in relation to continents and countries.
2	Investigate the characteristics of each of the five oceans.
3	Investigate the uses of seas and oceans, including food, fuel, transport, tourism etc. as well as how pollution can harm the ocean.

•KS2 - locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities  
 •KS2 - identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)  
 •KS2 - describe and understand key aspects of physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle  
 •KS2 - describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water  
 •KS2 - use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied

# Under the Sea

## Teacher's Topic Planner

Maths

English

Science  
6 Lessons

PlanBee 

Computing  
2 Lessons

PlanBee 

History

Geography  
3 Lessons

PlanBee 

RE

Art  
3 Lessons

PlanBee 

DT  
2 Lessons

PlanBee 

Languages

Music  
2 Lessons

PlanBee 

# The Under the Sea : Cross-Curricular Topic : Year 3/4

Teacher's notes:

**Geography**

**Science**

**Art**

**DT**

**Music**

**Computing**

# Under the Sea: Cross-Curricular Topic : Year 3/4

SCIENCE				
	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To find out what a habitat is and investigate which kinds of organisms can live in a marine habitat and why.	Children will begin by exploring different kinds of habitats to define what a habitat is. They are then encouraged to think about why different animals live in different habitats. They discuss ways in which animals have adapted to their habitats.	<ul style="list-style-type: none"> <li>Can children describe what a habitat is?</li> <li>Can children match different animals to different habitats?</li> <li>Can children explain the ways in which some animals have adapted to living underwater?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C</li> <li>Picture Cards (FSD? activity only)</li> <li>Books, access to internet, etc. if necessary (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To be able to identify and classify animals of the sea according to specific criteria.	Children will learn about and discuss the different features that can help identify and classify different creatures which live in a marine habitat. They are then challenged to classify and sort animals using Carroll diagrams.	<ul style="list-style-type: none"> <li>Do children know why it is important to be able to classify organisms?</li> <li>Can children start to use vocabulary such as mammal, mollusc, amphibian and crustacean when classifying animals?</li> <li>Can children groups sea animals according to different criteria?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 2A/2B</li> <li>Picture Cards</li> <li>Worksheet 2C (FSD? activity only)</li> <li>Books, access to internet, etc. (FSD? activity only)</li> </ul>
<b>Lesson 3</b>	To investigate the life processes that all organisms have in common.	Children are challenged to think of the seven life processes that every living thing must do to be classified as alive. They then apply these to marine creatures to determine how the creature fulfils each process.	<ul style="list-style-type: none"> <li>Do children know that all living things have seven life processes in common?</li> <li>Can children name the seven life processes?</li> <li>Can children suggest differences between land and sea animals and plants?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 3A/3B/3C</li> <li>Information Sheet (FSD? activity only)</li> <li>Books, access to internet, etc. (FSD? activity only)</li> </ul>
<b>Lesson 4</b>	To investigate the differences in respiration between land and sea organisms.	Children are challenged to investigate the process of respiration and how different marine creatures take in oxygen and get rid of carbon dioxide using gills and blowholes.	<ul style="list-style-type: none"> <li>Can children explain what respiration is and why it is necessary?</li> <li>Can children describe how mammals use their lungs to breathe?</li> <li>Can children describe how fish and other sea creatures use gills to breathe?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 4A/4B/4C</li> <li>Picture Cards (FSD? activity only)</li> <li>Large sheets of paper (FSD? activity only)</li> </ul>
<b>Lesson 5</b>	To investigate how living organisms move.	Children explore how the skeleton and muscles work together to help an animal move. They investigate how muscles work in pairs to contract and relax, resulting in the movement of the limb they are part of. They then compare this movement to the movement and skeleton of a fish.	<ul style="list-style-type: none"> <li>Do children know some of the reasons why it is important for animals and plants to move?</li> <li>Do children know how vertebrates use their muscles and skeletons to move?</li> <li>Can children suggest some ways in which invertebrates move?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 5A</li> <li>Picture Cards</li> <li>Question Cards/Question Sheets</li> <li>Skeleton Sheets (FSD? activity only)</li> <li>Art straws/black paper (FSD? activity only)</li> </ul>
<b>Lesson 6</b>	To find out the ways in which different types of animals reproduce.	Children will explore the difference between mammals and other marine creatures as they reproduce. They are asked to think about which animals give birth to live young and which would lay eggs in order to reproduce.	<ul style="list-style-type: none"> <li>Do children know that reproduction is one of the seven life processes?</li> <li>Can children name some of the animals that reproduce by giving birth to live babies?</li> <li>Can children name some of the animals that reproduce by laying eggs?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 6A/6B/6C/6D</li> <li>Fact Cards (FSD? activity only)</li> <li>Question Sheets (FSD? activity only)</li> </ul>

# Under the Sea: Cross-Curricular Topic : Year3/4

GEOGRAPHY				
	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To use a map to identify and locate major oceans and seas.	Children use their knowledge of the continents in the world to help them identify and locate different oceans. They use this understanding to help them define the word ocean before comparing it with the definition of a sea. They then use atlases and maps to locate and label seas and oceans around the world.	<ul style="list-style-type: none"> <li>Can children describe what an ocean is?</li> <li>Can children recognise the difference between seas and oceans?</li> <li>Can children use a map to locate major seas and oceans of the world?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C</li> <li>Atlases/world maps</li> <li>Seas and Oceans maps (FSD? activity only)</li> <li>Seas and Oceans Cards (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To find out about the geographical characteristics of oceans.	Children will explore the different oceans including their size, temperature and deepest points. They are encouraged to predict which ocean will have the highest and lowest temperatures in relation to the equator. Using given statistics the children answer questions and sort the oceans using Venn diagrams.	<ul style="list-style-type: none"> <li>Can children name and locate the five oceans?</li> <li>Can children describe some of the different geographical features of the different oceans?</li> <li>Can children use graphs and statistics to answer questions about the different oceans?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 2A/2B/2C</li> <li>Information Sheet</li> <li>Worksheet 2D (FSD? activity only)</li> <li>Access to computers (FSD? activity only)</li> </ul>
<b>Lesson 3</b>	To investigate the different uses of oceans and seas.	Children discover the different ways that we use the seas and oceans to benefit us, including transport, food, leisure, raw materials and energy. They will also look into how pollution is affecting the seas and oceans and what can be done to reduce these effects.	<ul style="list-style-type: none"> <li>Can children provide reasons for why the oceans are important?</li> <li>Can children describe some of the positive and negative ways in which oceans are used by humans?</li> <li>Can children identify ways of preventing sea pollution?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 3A/3B/3C</li> </ul>

MUSIC				
	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To listen and respond to Saint-Saens' <i>Aquarium</i> .	Children are introduced to Saint-Saens and his work as a composer, in particular his movements within the <i>Carnival of the Animals</i> . When listening to <i>Aquarium</i> the children are challenged to pick out the different instruments used and the effect they create within the composition.	<ul style="list-style-type: none"> <li>Do children know who Saint-Saens was and what he is famous for composing?</li> <li>Can children listen and respond to a piece of music appropriately?</li> <li>Can children give suggestions for why certain instruments and sounds are able to evoke different feelings and mental images?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C</li> <li><i>Aquarium</i> music</li> <li>Art materials (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To be able to compose and perform a musical poem about the sea.	Children begin the lesson by describing different emotions, thoughts and images they associate with the sea. They then associate these with different sounds made by the instruments they have. Using this exploration they then create and perform a musical poem using words and accompanying instruments.	<ul style="list-style-type: none"> <li>Do children know that different instruments can produce different sounds to create effects?</li> <li>Can children explore different musical instruments and the sounds they make?</li> <li>Can children prepare, perform and evaluate a musical sea poem?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 2A/2B</li> <li>Variety of musical instruments</li> <li>Description Cards (FSD? activity only)</li> </ul>

# Under the Sea: Cross-Curricular Topic : Year 3/4

DT				
	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To be able to create a model aquarium.	Children will look at different images of aquariums on larger and smaller scales to inspire their own model of an aquarium. They use this inspiration to design their model, thinking about the way in which they will create the background and the animals they wish to include.	<ul style="list-style-type: none"> <li>Can children design a model aquarium and plan how they will create it?</li> <li>Can children work safely and sensibly with a range of materials and tools?</li> <li>Can children evaluate their work and say what they think and feel about it?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C/1D/1E</li> <li>Animal Outlines sheet</li> <li>Aquarium Background sheets</li> <li>Materials (e.g. boxes, paper, card, paints, tissue paper, blue cellophane, wool, dowelling, thread)</li> <li>Tools (e.g. scissors, sticky tape, glue, etc.)</li> </ul>
<b>Lesson 2</b>	To be able to work with fabric to create a stuffed sea animal.	Children are challenged to use their sewing skills to design and make a simple stuffed fish. They then use their design to decorate their soft toy to look like a tropical fish in different ways. Alternatively they could design a different sea creature and think about how they could use different shapes to make their sea animal.	<ul style="list-style-type: none"> <li>Can children plan and design a stuffed sea animal?</li> <li>Can children work safely and sensibly with a range of materials and tools?</li> <li>Can children evaluate their work and say what they think and feel about it?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 2A/2B/2C/2D</li> <li>Fish Template sheet</li> <li>Fabric (felt)</li> <li>Needles, pins and thread</li> <li>Scissors</li> <li>Glue</li> <li>Materials for decoration (e.g. sequins, fabric off-cuts, ribbons, etc.)</li> </ul>

COMPUTING				
	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To create a multimedia presentation about a particular sea creature.	Children will create a presentation on a marine animal of their choice. They will need to research facts and collect images of their chosen creature and use these to make their presentation interesting to their audience. Children can be challenged to organise the information they find into categories.	<ul style="list-style-type: none"> <li>Can children use the internet and other sources to research a particular sea creature?</li> <li>Can children create a multimedia presentation, including inserting text and graphics, altering the appearance and thinking carefully about the needs of the audience?</li> <li>Can children evaluate their work and the work of others?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C</li> <li>Books, access to internet, etc.</li> <li>Ocean Creature Cards (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To be able to use a computer to create a digital storybook.	Children are challenged to write a short story set in a marine environment. They will discuss how they can make their story exciting and work together to come up with main characters and problems for their stories. They then use computer software to insert text and images to create a story book. Alternatively they can use drawing software to illustrate a story which they have typed using a word processor.	<ul style="list-style-type: none"> <li>Can children type out a story choosing an appropriate font and font style?</li> <li>Can children use graphics software to create digital pictures to accompany their story?</li> <li>Can children evaluate their own work and the work of others?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 2A/2B/2C/2D</li> <li>Character, Problem and Setting Cards (FSD? activity only)</li> </ul>

# Under the Sea: Cross-Curricular Topic : Year 3/4

ART				
	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To be able to create a paper plate fish.	Children are given a plain paper plate and asked to think about how they could create a fish out it. They explore how adding parts and cutting out shapes can create mouths and tails for the fish. They will then explore the different ways their plate can be decorated using different materials to make it look like a fish.	<ul style="list-style-type: none"> <li>Can children design a paper plate sea creature, describing how they will create it and what materials they will need?</li> <li>Can children follow a design to create a paper plate sea creature?</li> <li>Can children evaluate a finished piece of artwork and say what they think and feel about it?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C</li> <li>Paper plates</li> <li>Art materials (e.g. paint, glitter, tissue paper, foil paper, coloured cellophane, ribbon, fabric, etc.)</li> <li>Thread for hanging</li> </ul>
Lesson 2	To be able to create an image based on the myth of Atlantis.	Children listen to the myth of Atlantis and how a city built by Poseidon's sons was destroyed and is believed to be at the bottom of the sea. The children imagine that they have discovered the lost city and are challenged to create an image based on this discovery. They will need to think about what they will portray within their image as well as the colours they will use.	<ul style="list-style-type: none"> <li>Can children use the myth of Atlantis as a starting point for gathering ideas to use in a piece of artwork?</li> <li>Can children choose methods and materials to create an image?</li> <li>Can children evaluate a finished piece of art and say what they think and feel about it?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Picture Sheets</li> <li>A3 paper</li> <li>Art materials (e.g. paints, pastels, collage materials)</li> <li>Access to computers (FSD? activity only)</li> </ul>
Lesson 3	To be able to design, create and evaluate a mosaic.	Children will discover what a mosaic is and what they were used for. They will look at different mosaics of marine creatures and think about how they were made and what they were made from. They are then challenged to create their own mosaic of a sea animal using different materials.	<ul style="list-style-type: none"> <li>Do children know what a mosaic is and where they originated?</li> <li>Can children plan and make a mosaic using appropriate materials and methods?</li> <li>Can children evaluate their finished artwork and say what they think and feel about them?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 3A/3B/3C</li> <li>Template Sheets</li> <li>A3/A4 paper</li> <li>Materials for tiles (e.g. paints, sequins, squares of paper, dried beans, etc.)</li> <li>Clay (FSD? activity only)</li> <li>Rolling pins and clay knives (FSD? activity only)</li> </ul>

