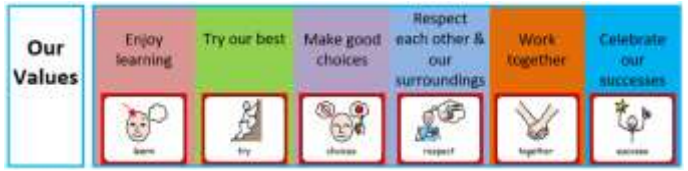
Science



SUBJECT MEDIUM TERM PLANNING - SCIENCE

Year Group: 2	**TERM:** Spring 2	**Theme:** Fins, Fangs and Flippers

National Curriculum:

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- Ocean focus
- identify and name a variety of plants and animals in their habitats, including microhabitats - Ocean focus
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food - Ocean focus

Context: -

Children are building on prior knowledge of ocean habitats and foodchains from the previous term. This term children will be able to provide specific examples of habitats and a food chain for an under water animal. Furthermore, they will be learning about how habitats have changed over the years and how/why this happened.

Children will be developing their displinary knowledge of observations and using secondary resources to discover answers to questions. Children will also be making prodictions about what could happen to certain habitats over the coming years. Drawing on knowledge children will be predicting how habitats will change over the years/ how animals will need to adapt.

Concepts:

Living things and their habitats

Vocabulary:

Key Vocabulary	
habitat	A habitat is the natural place something lives. A habitat provides living things with everything they need to survive such as food, shelter and water.

Key Vocabulary	
Food chains	Transfer of energy from one living thing to another.
Producer	Has the ability to make its own food for example a plant
Consumer	A living thing that consumes (eats) another living thing for energy.

Working scientifically – Asking questions, observations, gathering data (using secondary resources to answer questions)

Prior Substantive Knowledge:

Spring 1 Year 2

- Children learnt about that animals need food, water and shelter to survive.
- Children can label a simple food chain of producer, consumer and preditator.
- Children know that a habitat is a natural environment/home for a plant or animal.
- Children will be able to give an example of an under water habitat.

EYFS and Year 1

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans)
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans)

Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans)

Prior Displinary Knowledge

- Asking Questions with a yes/no question to aid sorting
- Ask 1 or 2 simple research questions linked to a topic
- Observation - compare objects based on obvious features
- Predictions - Children consider in advance what might happen or what they may find out

Future Substantive Knowledge:

- Recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats)
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats)
- Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats)
- Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)

Furture Displinary Knowledge

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

End points /by the end of this unit pupils will…

- Children will be secure in identifing and naming different habitats/micro habitats in the oceans such as coral reef, the deep sea and the polar sea.
- Children will be able to say why an animal is suited for that habitat, in terms of appearance and their food chain
- Children will be to use secondary resources to provide an example of the above.
- Children will be able to make predictions

Critical Knowledge

- Children will need to know that an animal needs food, water and shelter to survive
- Children will need to know that a habitat is a home where animals live.
- Children will need to know that an ocean is a large body of water on Earth.
- Children will need to know that an animal eats to get energy. This creates a food chain which starts with a producer (that makes it's own food), a consumer eats a producer and the end of the food chain is a predator.

Lesson Number 1 and 2 (afternoon research)

Key learning:
Use secondary resources to research key facts about an under water animal

Concepts:
Living things and their animals

Success Criteria:
This should what the children should be able to do by the end of the lesson
I can say what an animal needs to survive.
I can provide an example of an underwater animal
I can use secondary resources to identify their habitat, food chain and how they have adapted to the environment,

Working scientifically:
Identifying and classifying

Suggested resources:

Research fact sheets

Ipad for researching

Post it notes to gather information

Lesson structure: Introduction, direct teaching, activities, key questions

Engage: Recap MRS NERG – what does it stand for?

Introduce
In Writing, children have been looking at Fact Files, remind children of what an effective fact file is.
Recap key learing from previous lessons –

- What is a habitat? Provide under the water examples
- What is a food chain? Provide under the water examples
- Pictures of animals – How have they adapted to their environment.

P and C –
Children to decide on an under water animal of their choice. Discussions as to why they have chosen it (such as I want to find out more, the animal looks interesting)
Children to generate facts that they would like to include in their fact file – such as habitat, micro habitat, food chain, how they have adapted to the environment, interesting fact)

Independent task:

Once children have decided on their animal and the key questions, they are to use the secondary resources to find out the answers.
Link to History lessons about what is a reliable source.

Children will then use the research that they have found to create an exciting fact file in their writing lessons.

Challenge: Why do you think these changes have happened?
Adaptive teaching for SEND:
Make visual and group work,
Word mat of key vocabulary
Provide sentence starts

Lesson Number 3

Key learning:
Understand how habitats have changed

Concepts:
Living things and their habitat

Success Criteria:
This should what the children should be able to do by the end of the lesson
I can say what an animal needs to survive
I can describe how different habitats provide basic needs for an animal
I can say how some habitats have changed
I can predict what will happen to some habitats
I can provide examples of what people have done to stop changes.

Working scientifically

Suggested resources:

Flip chart
Photos of habitats
Greta – Little people, big dreams books

Lesson structure: Introduction, direct teaching, activities, key questions

Engage: Key question: What does an animal need to survive? Generate discussions and explanations.

Introduction:
Provide examples of photos that show how habitats have changed. Can children provide examples (Use as an assessment tool)
Why do they think this has happened?
What impact does it have on an animal?

P and C – Read Greta, little People, Big Dreams
Discussion (P4C) about how she is trying to stop climate change and why (in terms of habitat)
Prediction – What would happen if we continued to cause damage to the oceans?
(refer back to The Deep workshop on caring for our oceans – show pictures to remind children) Record predictions, discussion points, answers to question or new questions that the children generate, have they built on observations that they have noticed/discussions they have had with elderly relatives about habitats (link again to sources)

Introduction:
Create a fact sheet, video to discuss how the habitats have changed and why. What can we do to stop it.

Complete Significant people booklet what impact has she had/wants on the animals habitat (Year 2 booklet that's completed throughout the year – linked to history and art)

Deepening: Promote caring for habitats to outside agencies.

Vocabulary:
Habitat, needs, survive, changes