



# Science

## Year 4

# Ocean Life

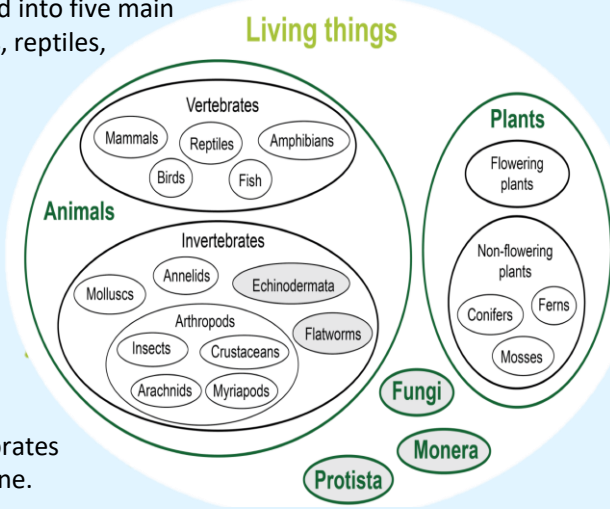
How do humans impact marine environments locally and around the world?

Shakespeare Primary School and Nursery



### Classification

Living things are classified into five groups and animals and plants are two of the groups. Animals are subdivided into vertebrates and invertebrates. Vertebrates are classified into five main groups: fish, amphibians, reptiles, mammals and birds. Vertebrates have an internal backbone for support. Invertebrates are classified into three main groups: arthropods, molluscs and annelids. Arthropods are subdivided into insects, arachnids, crustaceans and myriapods. Invertebrates have no internal backbone.



### Human Impact on Environments

Litter is things that have been thrown away and are lying on the ground. Some waste materials can be processed so that they can be reused. Littering is something that humans do, and litter can be harmful to wildlife. If a material is non-biodegradable, it means that it can't be broken down naturally by living organisms and may be materials such as plastic, metal and glass. Pollution is the introduction of harmful, non-biodegradable materials into the environment. Ocean pollution is a mixture of pollutants (such as oil) that gather in the ocean and have devastating effects on the marine life living in these environments.

### A Scientist Just Like Me!



Prem Singh Gill is a Polar Scientist from Cambridge. He studies Antarctic seals and his work enables us to learn more about the Antarctic ecosystem. This helps us to protect things living there and the whole region itself. Prem's favourite part of his job is witnessing rare moments, such as a baby seal lying beside its mother.

### Working Like a Scientist and Working Scientifically

Scientists group and classify things as a way of organising them. Branching keys are a helpful tool for scientists to represent differences between species when identifying and naming them. Scientists ask, plan and answer their own scientific questions to explore possibilities and help explain how human activity has made an impact on the world.

Careers: Marine Biologist, Ecologist, Polar Scientist

### If you want to be a Polar Scientist, you need...

- ★ **to care** about protecting all life in our world, from humans to the cute seals and penguins
- ★ **to be confident** and not to be afraid of **thinking creatively**
- ★ **to be flexible in** how you think, so that you can apply your knowledge to many areas, as there is an economic, social, cultural and environmental impact to climate change



### Project Questions

- How are living things classified?
- How are vertebrates classified?
- How are invertebrates classified?
- What is a classification key?
- How do human actions impact the environment?
- What is the impact of litter in our school?
- What is pollution?
- How does Ocean pollution affect marine life?

### Speak Like a Scientist

**Previously learned vocabulary:** compare, characteristic, feature

**New vocabulary:** vertebrates, invertebrates, micro-organism, organism, decompose, pollution