

# Seals

## TEACHER'S NOTES

### What this topic is about

Seals belong to a group of animals, which can be divided into three families;

- True Seals ( family Phocidae)
- Eared Seals ~ Sea lions and Fur seals ( family Otariidae)
- Walrus (family Odobenidae)

Two of the 33 different species live around the coasts of Europe and belong to the true seal family; these are the grey seal and common (or harbour seal). The UK is home to around 40% of the world's population of grey seals, **Halichoerus grypus** (110,000 animals), and 40% of European subspecies of the common seal, **Phoca vitulina vitulina** (40,000).

Most of the UK's seals are distributed around the Scottish coast and off shore islands, with smaller colonies in Wales, Cornwall (including the National Seal Sanctuary Gweek) Northumberland and the Wash. The seal facility at Weymouth is a permanent home for seals unable to live in the wild. The seal hospital at Gweek is at its busiest during the winter months. Many hundreds of seal pups have been rescued over the years, and successfully returned to the wild.

### What will pupils learn?

- About the life cycles and needs of these fascinating and unusual native mammals
- About the unique characteristics of seals that help them adapt and survive to different circumstances
- How human action can preserve and protect living things

### Essential information

The word pinnipeds is derived from the Latin **pinna** meaning fin or wing and **pedis** meaning foot. Seals are the fin-footed mammals of our shores.

Pinnipeds share five common characteristics with other mammals. They are warm blooded (maintaining a high and constant body temperature independent of the surroundings), give birth to live young, nurse their young, breathe air and may have hair. Since they live in the marine environment and they find food their food at sea, pinnipeds are called marine mammals.

Although most of their lives are spent in the water, pinnipeds, unlike fellow mammal's whales and dolphins, are also dependent on land. Pinnipeds may come ashore periodically to rest and bask in the sun, and at least once, each year during the breeding season, most species congregate on beaches or sea ice to give birth and breed.

A pinniped's body is insulated with a thick layer of fat called blubber which lies just under the skin. Besides reducing the amount of body heat lost to cooler surrounding waters, blubber contributes to a pinniped's streamlined shape and stores energy. A streamlined shape produces less resistance and helps a pinniped conserve energy as it swims.

Seals are believed to be opportunistic feeders – they feed on different prey depending on what is available, diving as deep as 1.5 km. Grey and common seals main diet consists of fish such as sand eels, herring, and whiting, as well as bottom-dwelling fish like plaice and flounder. They also eat squid and octopus.

Seals are gregarious animals and breed in large colonies where many animals congregate on beaches and sandflats. The greater the number, the better it is to watch for predators.

Seals mate at the end of lactation. Both grey and common seals can mate in the water. Male seals often fight for access to females.



# Seals (continued)

## TEACHER'S NOTES

Grey seals give birth on beaches or in hidden sea caves, from September to January to a single pup, rarely do they have twins. Common seals deliver their pups on beaches and sandflats within the tidal reach from May to July.

Grey seals are born with a silky white coat and are helpless until the coat is moulted after 14 to 21 days. Common seal pups are dark, and lose their white coat before birth, and can swim within five minutes.

Man in the UK, has hunted grey and common seals for thousands of years, mainly for pelts, oil and meat. As recently as the early seventies, 90% of pups were killed for their skins. This resulted in a ban on the fur trade in 1973.

Hunts for the grey seals during the breeding season were outlawed in the early twentieth century, although there remained repeated calls for a cull from fisherman, who perceived seals as detrimental to fish stocks.

The government conceded and a licenced culling programme was introduced in 1962, further reducing numbers of grey seals in the UK. This annual cull continued until 1979, when it was stopped in the face of strong public protest.

Since then, the grey seal populations are increasing by 7% annually, and, common seal numbers appear stable. Even so, a report commissioned by the European Union states that common seal numbers are around one quarter of what they were at the turn of the twentieth century.

## Things your pupils can do:

- Before their visit

## Touch – Vision – Smell – Hearing activities

Use books, magazines, CD-ROMs, Videos and the Internet to find out all they can about the seals highly developed senses and the practical advantages of each gift, as described below.

- **Touch** – seals search for food with their coarse, continuously growing whiskers. The seal sweeps its upper lip to and fro, and detects any movement in the dark murky waters.
- **Vision** – a seal's eye must adapted to focussing in both air and water and so are large with a spherical lens.
- **Smell** – seals have a keen sense of smell in air, which allows them to detect predators. Females also use smell to recognise their pups on crowded breeding beaches. Whilst swimming the nostrils are kept tightly shut..
- **Hearing** - seals hear very well in both water and air. Females and pups often call to each other. Seals also make growls and grunts underwater especially during the breeding season.



# Seals (continued)

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- **During their visit**

Look for the ways that seals are kept active and interested. Feed may be pulled around the pools, giving the seals a chance to chase and catch it. Fish are frozen inside ice blocks so that the seals can play with them and eventually eat the fish. Food is hidden around the pools so that seals can search and find it. Play things – including floats – are put in the pools for games.

- **After their visit**

Write a proposal for a new seal sanctuary – with drawings and design.

### Answers to questions in Pupil Worksheet

- **Question A ~ Answer 2**
- **Question B ~ Answer 3**
- **Question C ~ Answer 1**
- **Question D ~ Answer 4**
- **Question E ~ Answer 6**
- **Question F ~ Answer 5**

