



Pathfinder Honour: Trainer's Notes

Cetaceans



Instructions to Trainers / Instructors of this Honour

Thankyou for being involved with this Honour. These notes have been developed to assist in teaching / instructing this honour. We recognise that there is much more information available and we are grateful that you should share your expertise.

Please remember that Honours are designed to develop our Pathfinders in many ways; their interests, their knowledge and their relationship with their Saviour and Creator. Your enthusiasm and creativity will have a huge impact on those doing the honour.

To complete an Honour, the following (where applicable) must be completed satisfactorily:

- Physical and Practical Requirements.
- Honour Workbook.
- Honour Test Sheet. (*On SPD Honour Website but Leader's level access is required*)

Additional Reference Material

enchantedlearning.com

<http://www.ambergris.co.nz/odies>

<http://www.oceania.org.au/> Whales in Hervey Bay, Queensland. Great pictures.

Acknowledgements

These notes are based on Wikibooks at the following website:

http://en.wikibooks.org/wiki/Adventist_Youth_Honors_Answer_Book/Division/Cetaceans

"Note: A useful site, but be aware that material on any Wikibooks site is beyond the control of the SPD".

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REQUIREMENT 1. In what way is the Cetacean family different from most other sea life?

The Cetacean family is different from most other sea life because Cetaceans are mammals. This means:

1. They give birth to live babies.
The largest whale is the Blue Whale and its newborn baby will be up to 7 metres long and weigh up to 2700kgs, (about as much as two cars).

The large whale mothers move to warm tropical waters to give birth and spend about six months there so their babies can grow a layer of fat (blubber) to help them survive the cold frigid waters where they live for the other six months. While in the warm waters the adult whales do not eat at all.
2. They feed their babies milk.
The baby will drink 400litres of milk and gain 90kgs a day for the first seven months of its life.
3. They have warm blood.
A blue whale's heart is the size of a small car and its aorta (the main heart artery) is the diameter of a netball.
4. They breathe air.
They breathe air just like us. This means that they must hold their breath while under the water. A Sperm Whale can hold its breath for 30 minutes. When they want to breathe they come to the surface, blow out moist air from their lungs and snatch a new breath. Their nostrils are called blowholes. Baleen whales have two blowholes and toothed whales one blowhole. The whale hunters could tell what sort of whale it was by the shape of the spout blown out.
5. They have some hair on their bodies.
You may not easily see the hair on a whale but most have small whiskers on the chin.

Size

A blue whale at 50 metres would be this long.
BLUE WHALE BLUE WHALE BLUE WHALE

A brachiosaurus at 25metres would be this long.
BRACHIOSAURUS BR

A giraffe would be this high
GIRAFFE

A man would be this high.
HUMAN

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REQUIREMENT 2: Explain the difference between Baleen and Toothed Whales.

There are two different types of whales, baleen whales and toothed whales.

Baleen Whales

The baleen whales have plates of baleen. Baleen is a type of hair but stiff like a soft fingernail. It grows from the roof of the mouth in two rows and is used to filter out food from water. The whale is able to take in a huge mouthful of water and then squeeze its mouth shut and squeeze out the water while straining out the food. Baleen whales feed on tiny creatures called krill and need lots of these to fuel their bodies. Most of the big whales are baleen whales, e.g. Blue whale, humpback whale and fin whale. Krill is one of their major foods, which they strain through their baleen.

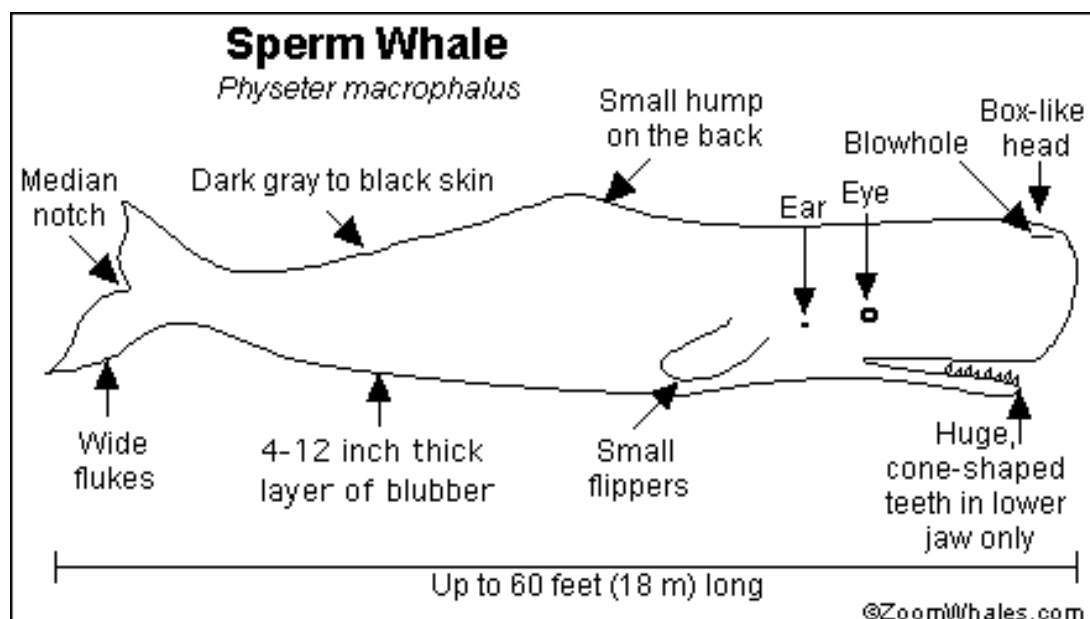
Toothed Whales

The toothed whales have teeth because they feed on larger creature such as squid, fish seals and even larger whales. These whales are the dolphins and porpoises, the killer whale and the giant sperm whale.

Dolphins and porpoises mainly feed on fish and may in hunt groups called pods.

Killer whales eat seals, fish, dolphins and even blue whales. They are called the Wolves of the Sea.

The sperm whale is the largest toothed whale. It will eat fish and octopus but its favourite food is giant squid that live in the deep ocean. A sperm whale has been known to dive to 3200 metres looking for squid.



(With thanks to enchantlearning.com)

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REQUIREMENT 3: In what way have whales and dolphins been a benefit to man?

For centuries whales were the centre of communities that have hunted them. Even today men still hunt whales for meat for humans and animals. Some people such as the Inuit do it in a fairly traditional way, however some nations such as Norway and Japan hunt whales under a so-called scientific research programme.

Whale oil at first was used for lamps but later for soaps, face creams, margarine, lubricating oil, cosmetics, perfumes and medicines.

During the 1700's, 1800's and into the 1950's whole towns were set up for commercial whaling. Today an abandoned whaling station may be a tourist attraction.

At first whaling was done from the shore in log rowing boats but gradually these were replaced by special ships.

The baleen from whales was used to make corsets and other things needing firm springy holder, but baleen has been replaced by plastic.

The sperm whale was particularly prized. Its head was full of a jelly called spermaceti which was used in expensive cosmetics.

Some sperm whales also had a black/grey substance produced by their stomach called ambergris. This may still be found on the beaches in New Zealand where it has washed up after being coughed up by a sperm whale and a lucky find of quality and size may be enough to buy you a new house. It is still used today in the most expensive perfumes.

See this site on the internet for more information <http://www.ambergris.co.nz/odies>

Today instead of hunting whales with harpoons many seaside towns use cameras and take tourists to see their whales.

REQUIREMENT 4: Explain how it is that a whale that breeds in the warm waters of the tropics can also survive the ice-cold water of the Antarctica where they go to feed. (Considering a Whale is a warm blooded mammal like humans)

Whales have a very thick lining of special fat under their outer skin called blubber. This may be over 30cms thick and may make up half of the weight of the animal.

The baleen whales only eat during the autumn and winter so they only have six months in which to build this layer that must help keep them alive during the spring and summer.

REQUIREMENT 5: Memorise the following scriptures concerning whales:-

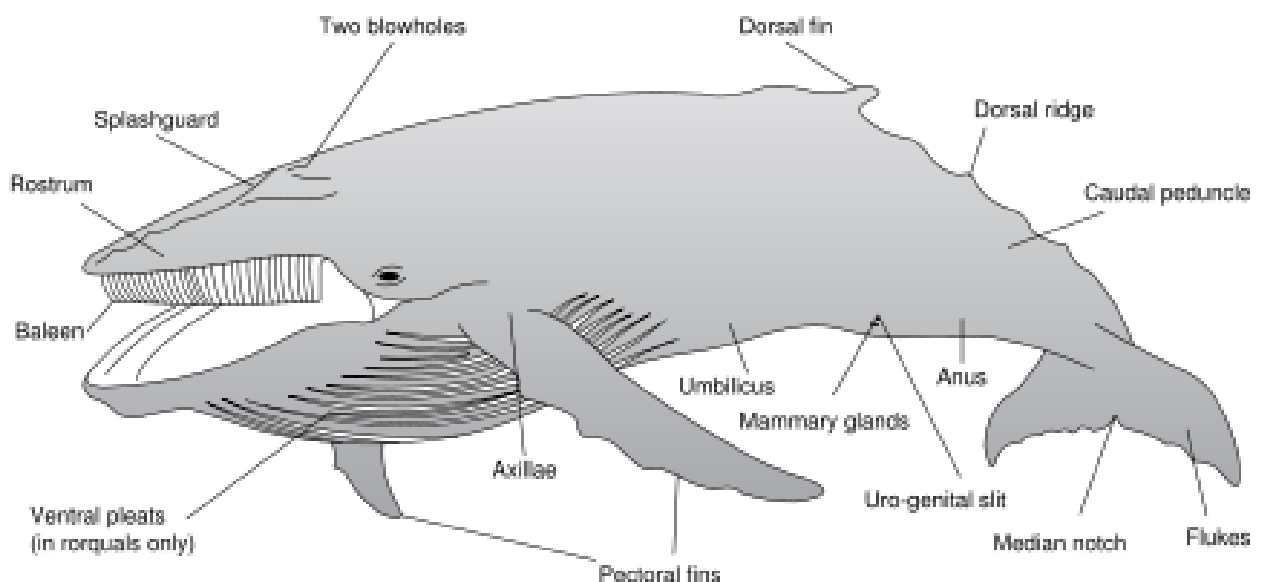
- a. Genesis 1:21**
- b. Ezekiel 32:2**
- c. Job 7:12**
- d. Matthew 12:40**

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REQUIREMENT 6: Write and read to a group or tell from memory the story of Jonah.
Please refer to the book of Jonah in the Bible

REQUIREMENT 7: Successfully draw a Baleen Whale and identify where the following body parts are:

- a. **Baleen Plates.** These are the "strainers" in a baleen whale's mouth
- b. **Blowhole.** A cetacean breaths through this little hole in the top of its head.
- c. **Dorsal Fin.** The fin on the top of many cetaceans.
- d. **Ear.** These are hard to see because they're so small, but cetaceans all have them on the sides of their heads.
- e. **Eye**
- f. **Throat Pleats.** These are the folds in a baleen whale's throat and allow the whale's throat to expand when it fills its mouth with water to filter its food through its baleen.
- g. **Flukes.** The tail.
- h. **Flippers.** The fins on the side.
- i. **Genital Slit.** The reproductive organ of a female cetacean.
- j. **Median Notch.** The notch in the middle of the trailing edge of the fluke.
- k. **Peduncle.** The part of the body to which the fluke is attached.



Baleen Whale (Mysticeti) Physical Characteristics

http://iu.wikipedia.org/wiki/Image:Baleen_Whale_Physical_Characteristics.svg

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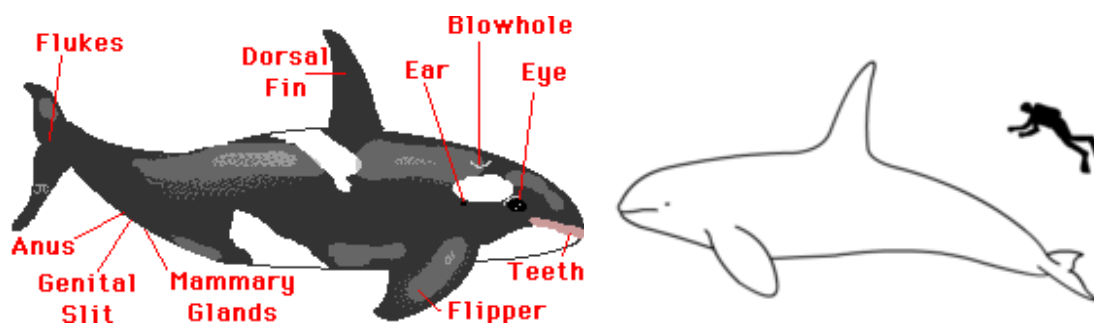
REQUIREMENT 8: Be able to identify at least 15 cetaceans.

Here are some to help you.

Toothed whales

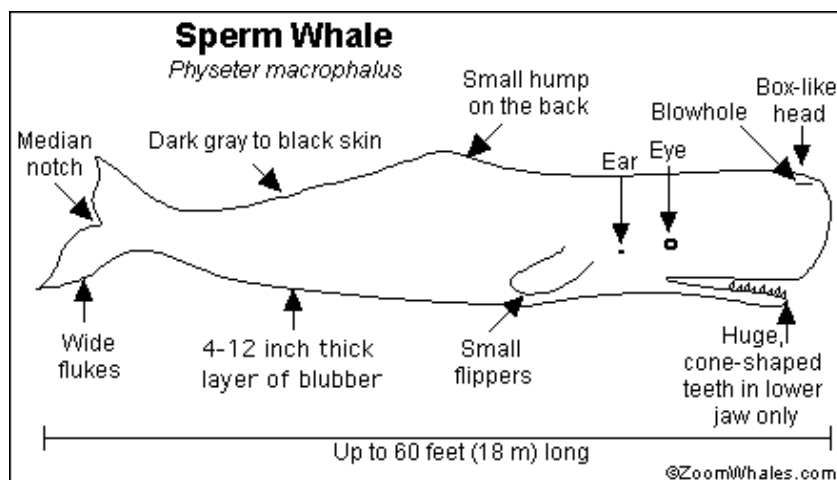
Orca or killer whale

This shows the size of a man and orca. The orca is the largest member of the dolphin family. It has a very large dorsal fin. Thanks to enchantedlearning.com for these images



Sperm Whale

The sperm whale is the largest toothed whale. It has a huge blunt head. Thanks to enchantedlearnin.com for this image



Bottle Nosed Dolphin

These are very common throughout the tropical world. They have a set of jaws which jut forward like a bottle. Thanks to Wikipedia for this image.



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Harbour Porpoise.

This is a porpoise found in harbours in the northern hemisphere. It does not have a very long beak. The porpoises have a short beak or snout and the dolphins a long one.

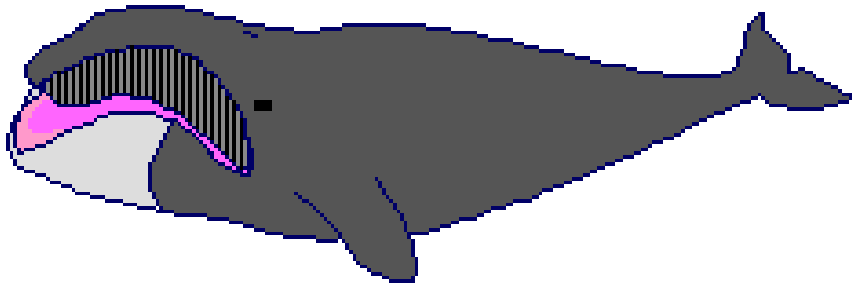
Narwhal

The narwhal lives in the Arctic and weighs about 1500 kg. It has a modified tooth or tusk which may be up to 3 metres long.

Baleen Whales

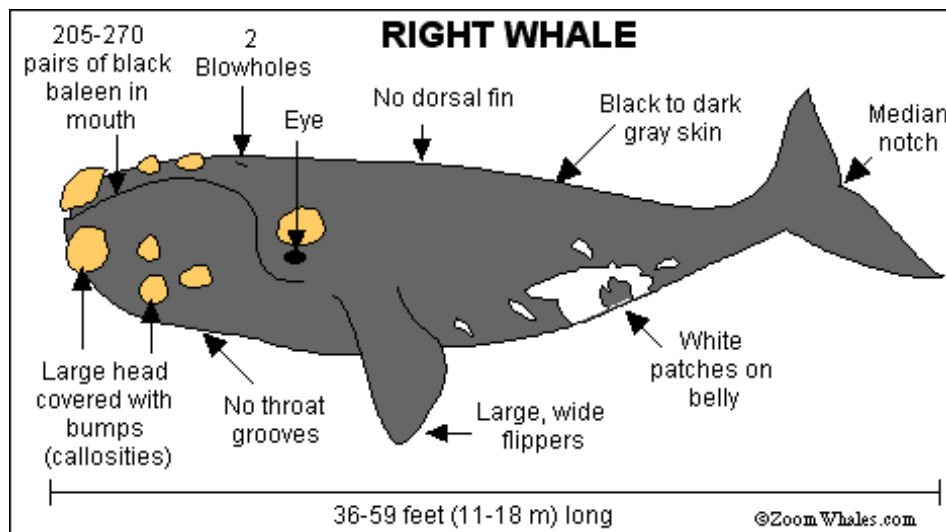
Bowhead Whale.

This whale has a large head that is up to half of its body. The mouth may be 3 metres wide and six metres deep.



Right Whale.

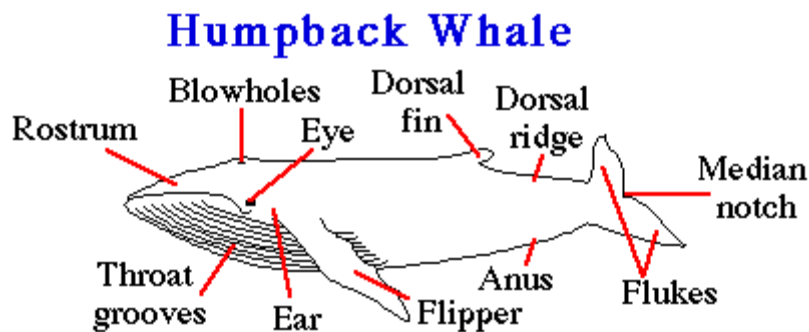
The right whale was given its name because it was the right whale to catch. It did not sink when killed and gave plenty of oil. Right whales are seen from Sydney south. Thanks to Wikipedia for this image.



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Humpback Whale

This whale is seen all along the coast of Australia in the spring and summer.



Other cetaceans you might like to research are listed below. There are many others as well. Wikipedia has pictures and information on all these whales.

- Hectors Dolphin,
- Spotted Dolphin
- Spinner Dolphin
- Irrawaddy Dolphin
- Pygmy Killer Whale
- Minke Whale
- Pygmy Right Whale
- Fin Whale
- Gray Whale
- Beluga Whale
- Melon-headed Whale
- Orca
- Pilot Whale
- Sperm Whale
- Blue Whale

Finally,

Cetaceans are wonderful, intelligent and fascinating. I hope you enjoy studying for your honour and are fortunate enough to see one soon.