



Polar Animals Comprehension Questions

1. Name **two** animals that are well adapted to polar conditions.

- 1) _____
- 2) _____

2. Draw **one** line from each adaptation to the reason for that adaptation.

Adaptation	Reason
streamlined shape	to be able to see predators and food sources
thick layer of blubber	to defend against predators
antlers	to warm air before it enters the body
ultraviolet vision	to reduce heat loss
chamber in the nostrils	to make swimming more efficient

3. Circle **two** adaptations that reduce heat loss.

layer of blubber	large surface area to volume ratio	
streamlining	large flippers	small surface area to volume ratio

4. Give **two** adaptations that help leopard seals to feed.

- 1) _____
- 2) _____

5. Describe **two** adaptations emperor penguins and polar bears have in common.

- 1) _____
- 2) _____



6. Describe **two** ways polar animals are adapted to be good swimmers.

- 1) _____
- 2) _____

7. Explain why some polar animals have blubber.

8. Explain how a small surface area to volume ratio helps to minimise heat loss.

9. Explain why penguins huddle.

10. Spend some time researching some other polar animals. Explain how they are adapted to survive.



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Answers

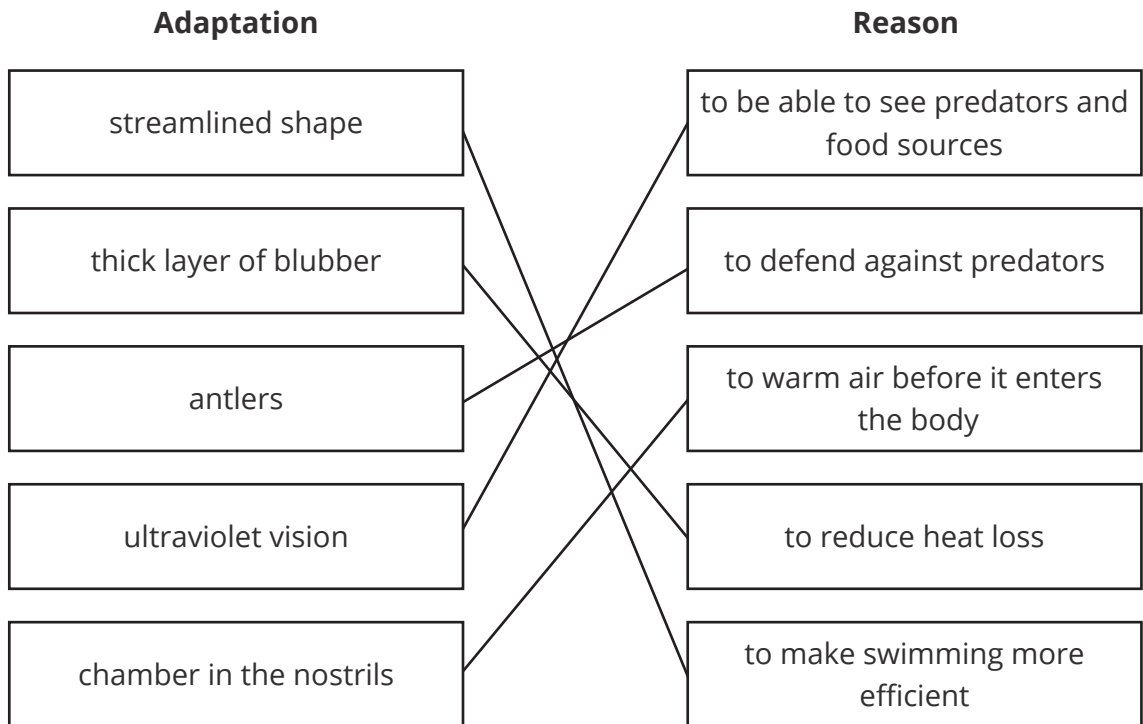
1. Name **two** animals that are well adapted to polar conditions.

Any two from:

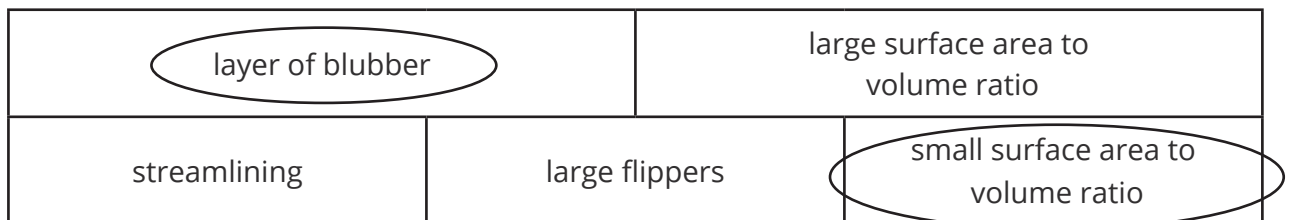
- emperor penguin
- leopard seal
- polar bear
- reindeer

Allow any other sensible suggestion.

2. Draw **one** line from each adaptation to the reason for that adaptation.



3. Circle **two** adaptations that reduce heat loss.



4. Give **two** adaptations that help leopard seals to feed.

Any two from:

- **strong jaws**
- **jaws that opens wide**
- **sharp/strong teeth**
- **whiskers are sensory organs**
- **gaps in their back teeth**
- **high oxygen carrying capacity**

5. Describe **two** adaptations emperor penguins and polar bears have in common.

Any two from:

- **streamlined body shapes**
- **large paws or flippers**
- **small surface area to volume ratio**
- **thick layer of blubber**
- **feathers/fur to trap air**

6. Describe **two** ways polar animals are adapted to be good swimmers.

Any two from:

- **streamlined body shape**
- **large, paddle-like feet or flippers**
- **nostrils that close**
- **blood with a high oxygen carrying capacity**
- **blubber to help them float**

7. Explain why some polar animals have blubber.

Blubber can be up to 10cm thick so it provides insulation in cold conditions, reducing heat loss to the surroundings. Blubber also helps animals float because it is less dense than water and it can make the body shape more streamlined, making swimming more efficient.

8. Explain how a small surface area to volume ratio helps to minimise heat loss.

A small surface area is exposed to the surroundings, in relation to its volume, therefore there is a smaller surface from which heat can be lost.

9. Explain why penguins huddle.

Penguins huddle to keep warm. Individuals take it in turn to be in the middle of the huddle, where it is the warmest. This individual then moves towards the outer edge of the group where they are exposed to the wind and icy conditions.

10. Spend some time researching some other polar animals. Explain how they are adapted to survive.

Students will have their own answers.

