

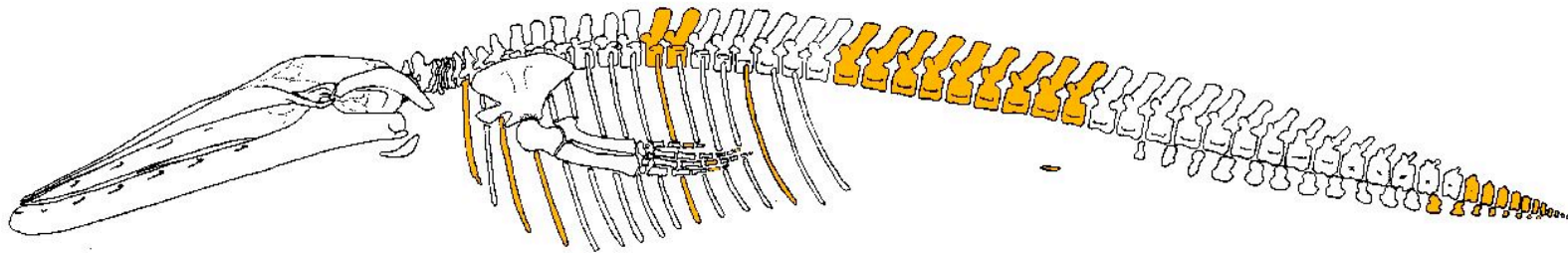


SEYMOUR CENTER AT LONG MARINE LABORATORY

Name _____

Blue Whale Skeleton: Observations and Questions

Form and Function: The blue whale is a mammal adapted to life in the open ocean. Compare its skeleton to your skeleton. How are the bones different in shape and number? How do these differences help the whale survive in its environment? Write down your observations and questions about the following body parts. Shaded areas of the diagram indicate where replica bones are placed in the skeleton.



Skull:

Neck:

Front limbs:

Hind limbs:

Tail:

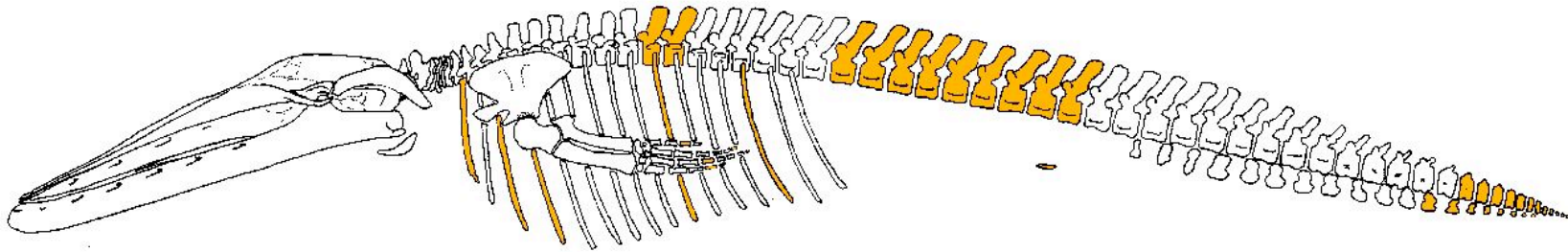
Overall body shape:



Blue Whale Skeleton: Observations and Questions ANSWER KEY

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Skull: telescoped (elongated) to provide large scooping mouth, nostrils (blowholes) up top to ease breathing, large hyoid bones for tongue attachment (important for feeding).

Neck: compacted vertebrae to stiffen neck when diving and swimming fast.

Front limbs: shortened humerus to stiffen into paddle, extra phalanges, but only four sets (fingers) to form flipper to steer.

Hind limbs: reduced to vestigial pelvis— a remnant from four-legged land ancestor = evidence of evolution.

Tail: numerous vertebra behind pelvis = lots of flexible movement for up/down powering of fluke, tall dorsal processes for muscle attachment to power fluke, added chevron bones for muscle attachment. Fluke starts where chevron bones stop.

Overall body shape: torpedo-shaped (fusiform), fused/rigid in front while flexible, powered in rear to move through water efficiently. Large, gaping mouth to catch massive amounts of small krill. Limbs reduced and modified for steering, less drag.