

Bio 112 Handout for Animals 5

This handout contains:

- Today's iClicker Questions
- Handout for today's lecture

iClicker Question #20A - before lecture

Which of the following are true?

- (A) All chordates have a backbone made of bone and cartilage.
- (B) All chordates have a dorsal nerve cord.
- (C) All chordates have a backbone made of bone and/or cartilage.
- (D) More than one of the above.
- (E) None of the above.

iClicker Question #20B - after lecture

Which of the following animals eats (ingests food) and breathes (takes in air or water for respiration) through their mouth?

- (A) trout
- (B) squid
- (C) caterpillar
- (D) planarian
- (E) more than one of the above

Beaming in your answers

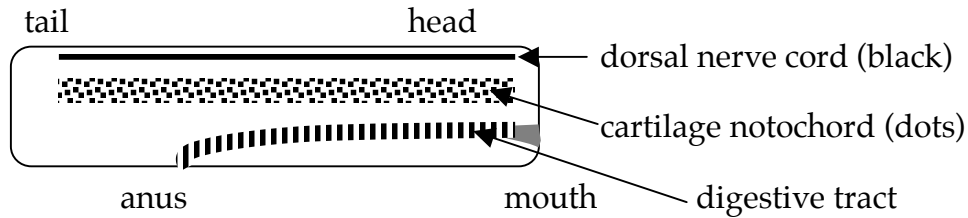
1. Figure out your answer and select the appropriate letter (A-E).
2. Turn on your iClicker by pressing the "ON/OFF" button; the blue "POWER" light should come on. If the red "LOW BATTERY" light comes on, you should replace your batteries soon.
3. Transmit your answer as follows:
 - a. Press the button corresponding to the answer you've selected (A thru E).
 - b. The "STATUS" light will flash green to indicate that your answer has been received. If the "STATUS" light flashed red, your answer was not received; you should re-send it until you get a green "STATUS" light.

Notochord, backbone, etc.

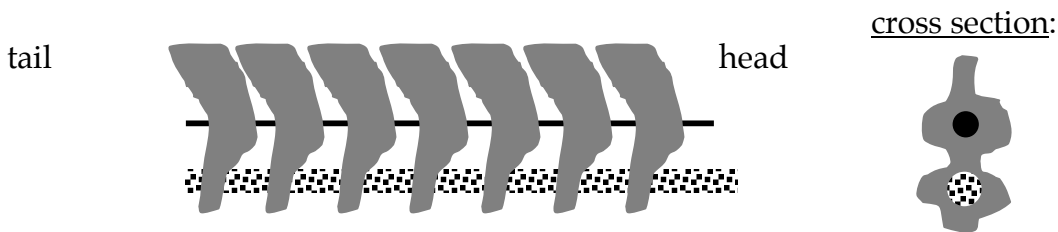
These terms can be confusing as these structures are highly modified in advanced vertebrates like us.

There are two parts of the primitive chordate (for example, a cephalochordate) to keep track of:

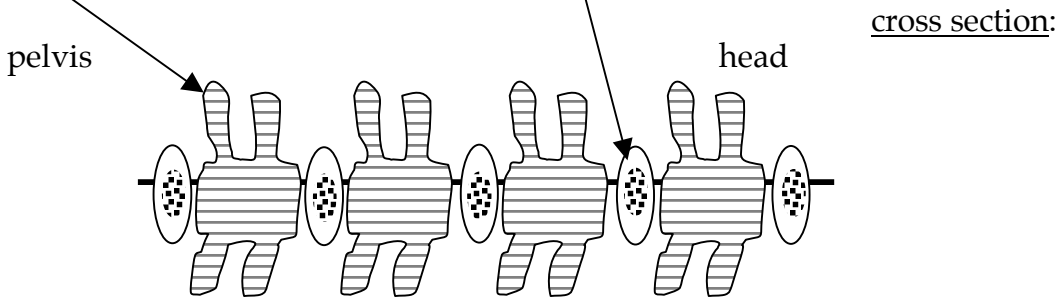
- the nerve cord
- the notochord



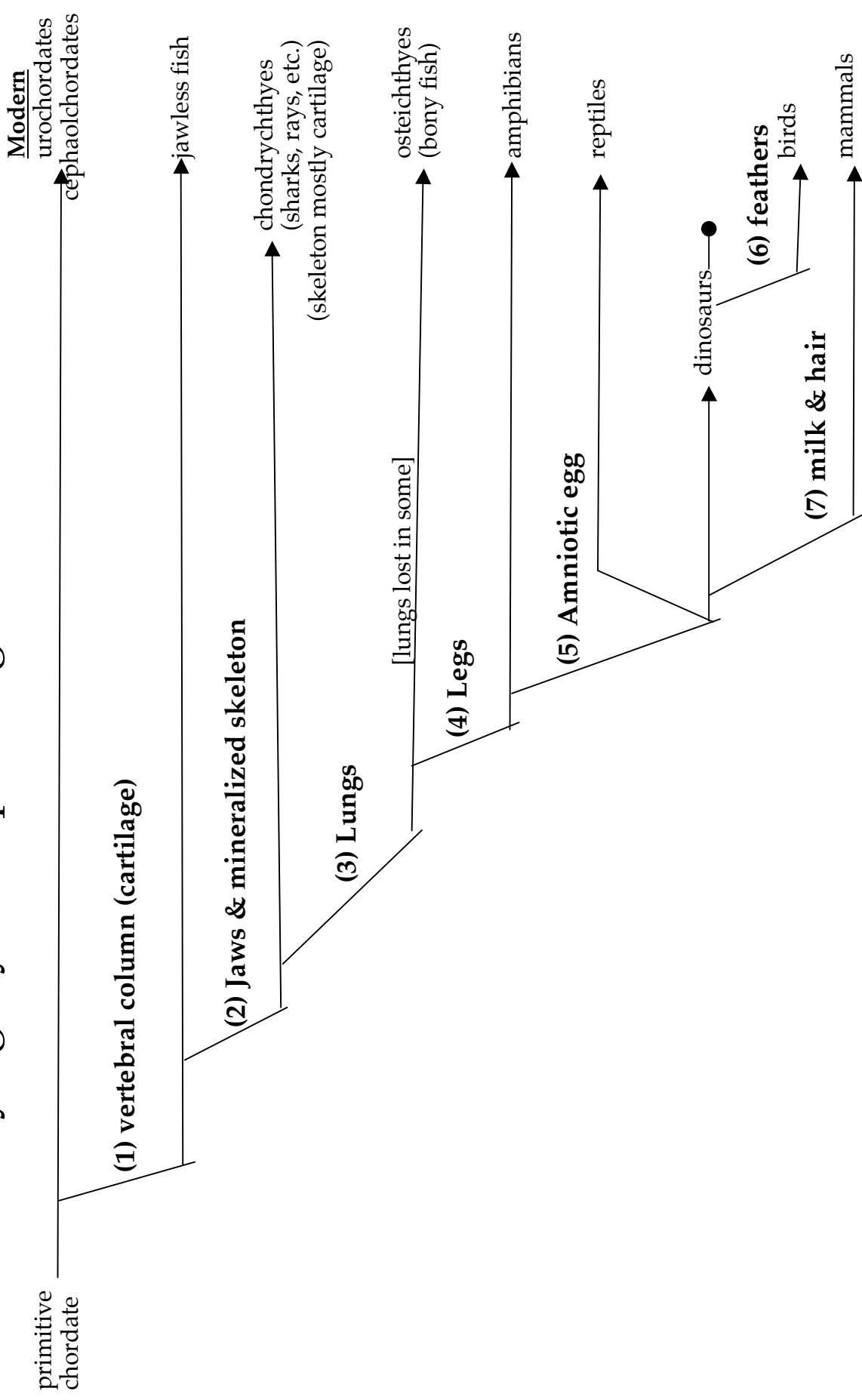
In more advanced chordates, like a shark, cartilage 'vertebrae' (gray) begin to wrap and protect the nerve cord and the notochord like this (a small section of the backbone):



In terrestrial vertebrates like us, the notochord only provides structural support during embryonic development. In mature terrestrial vertebrates, the notochord has been reduced to the nucleus pulposus - a small part of the cartilage discs that sit between each vertebral bone (striped):



Chordate Phylogeny (Campbell fig. 34.2)



Bio 112 Trout

