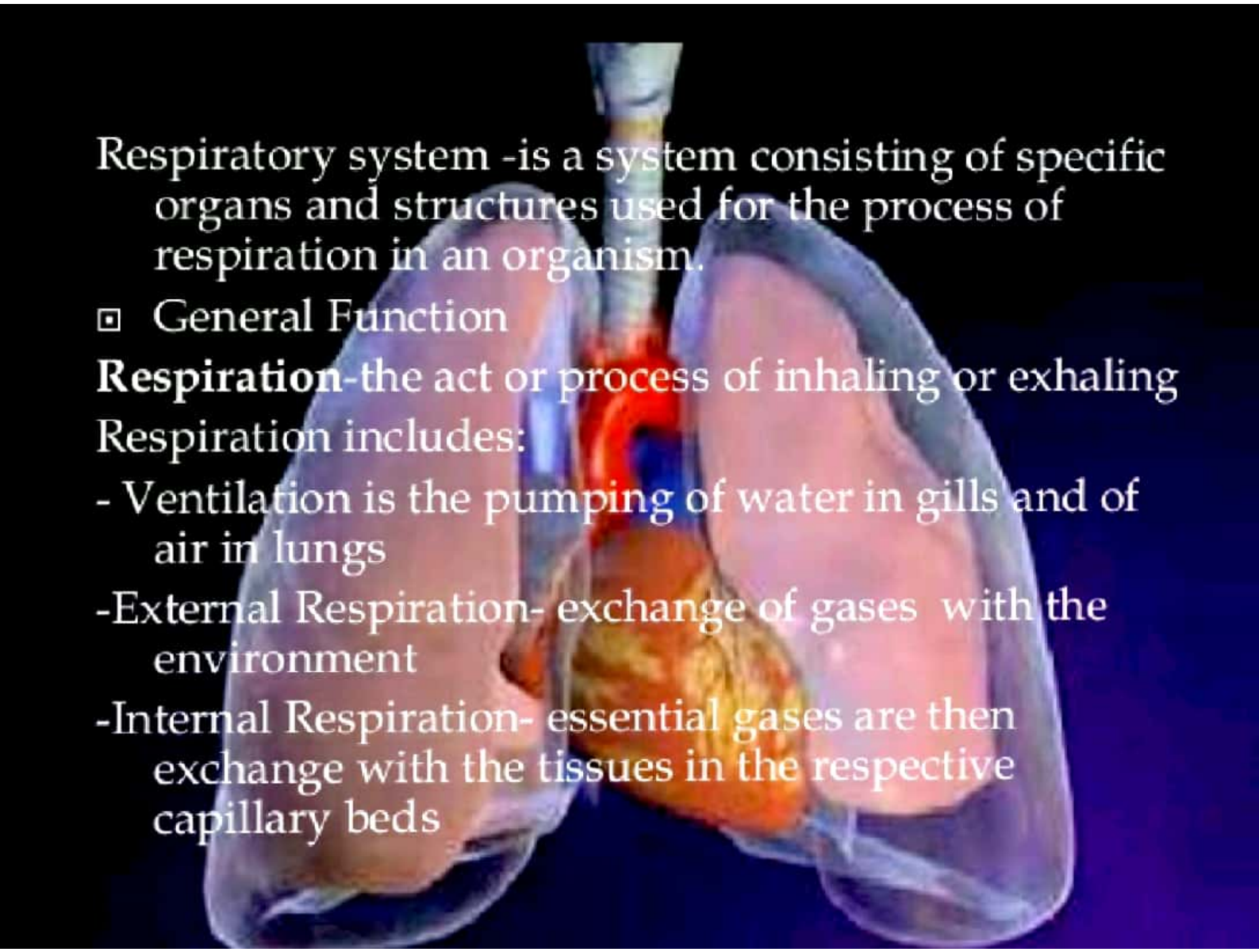
comparative anatomy



Respiratory system -is a system consisting of specific organs and structures used for the process of respiration in an organism.

- General Function

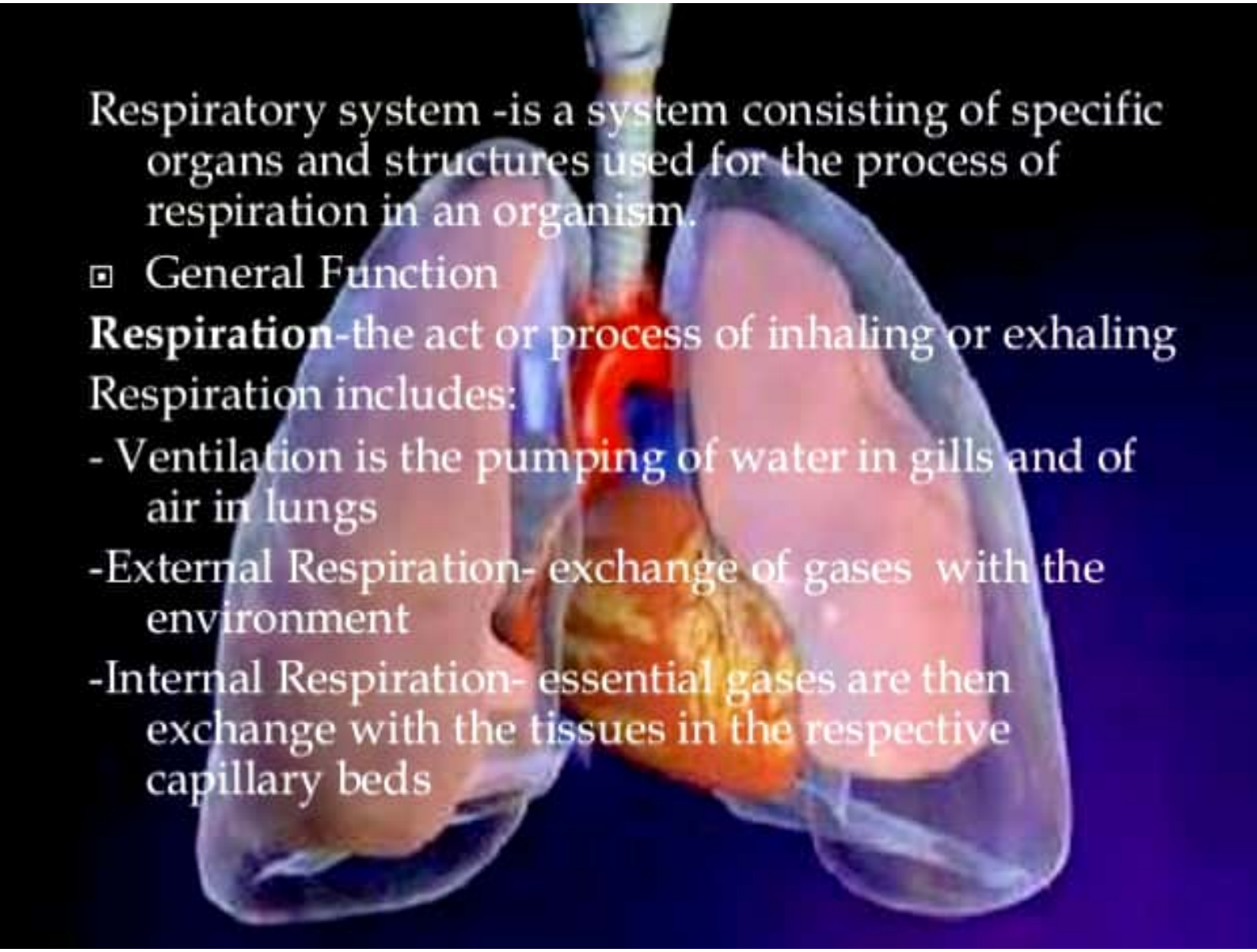
Respiration-the act or process of inhaling or exhaling

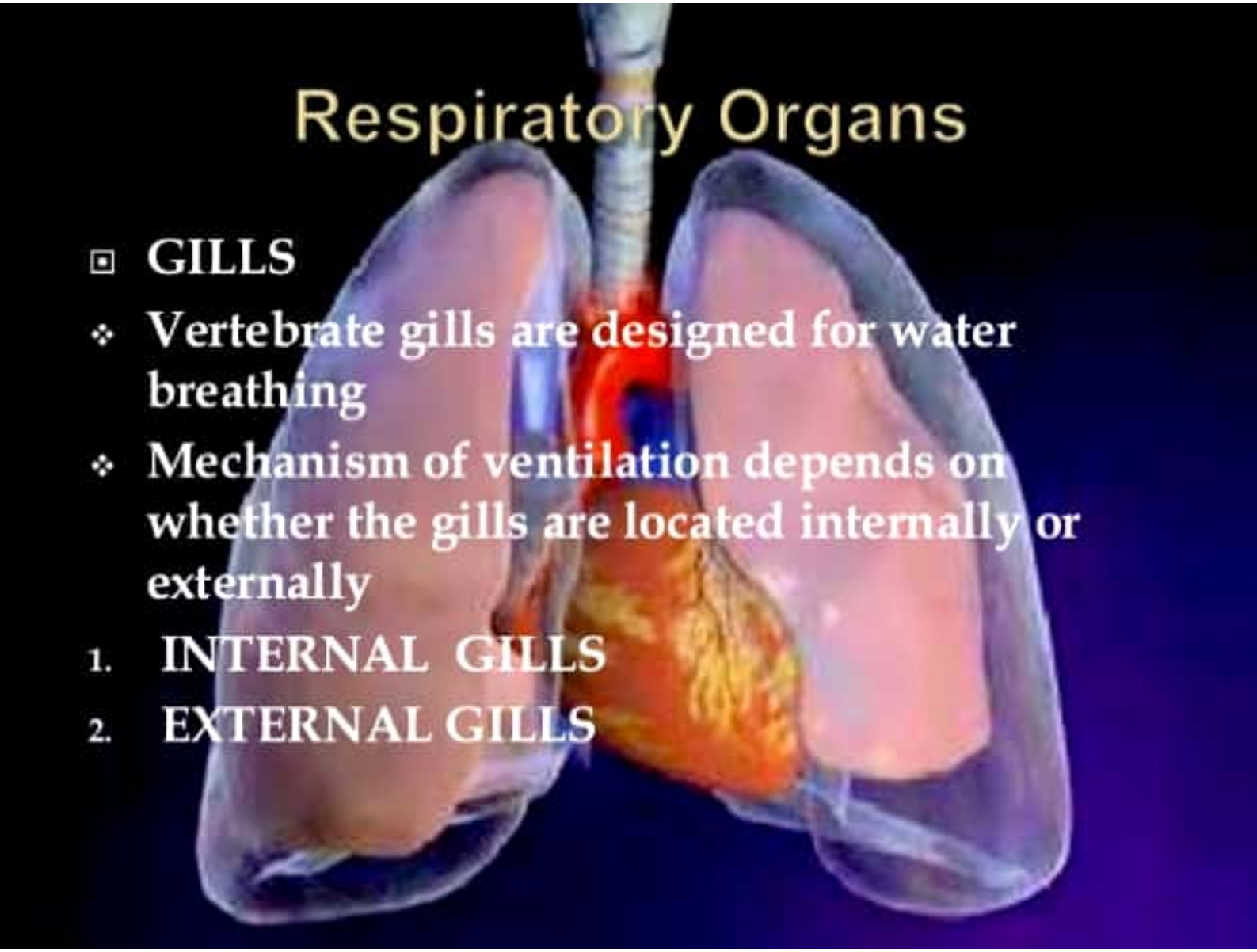
Respiration includes:

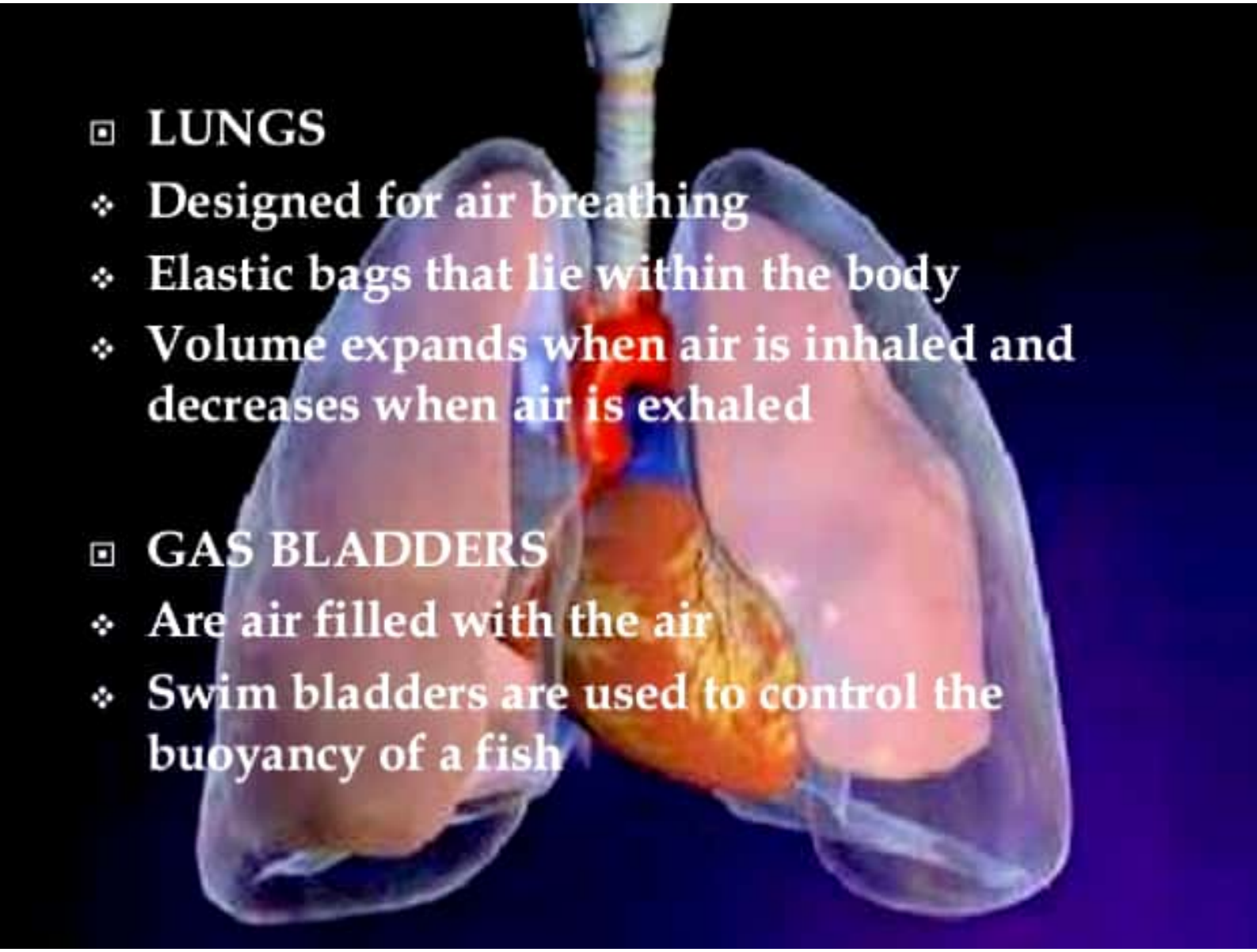
- Ventilation is the pumping of water in gills and of air in lungs

-External Respiration- exchange of gases with the environment

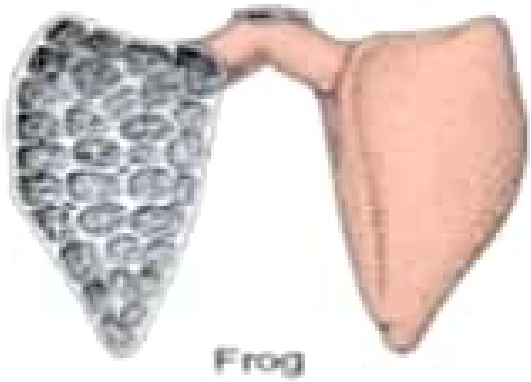
-Internal Respiration- essential gases are then exchange with the tissues in the respective capillary beds





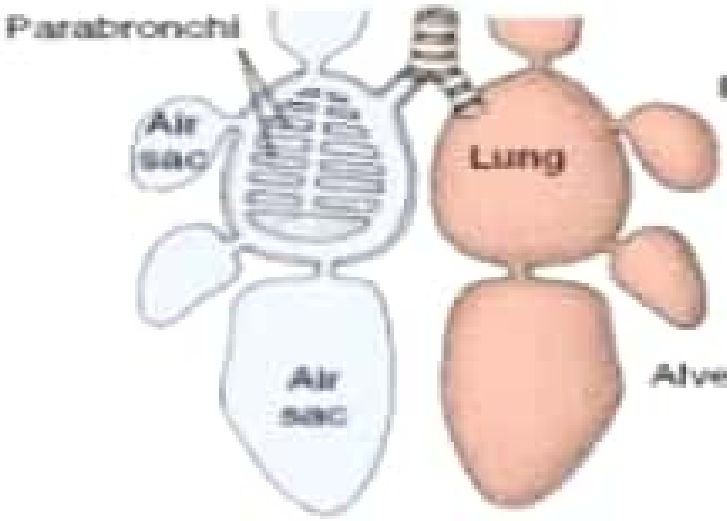


Salamander

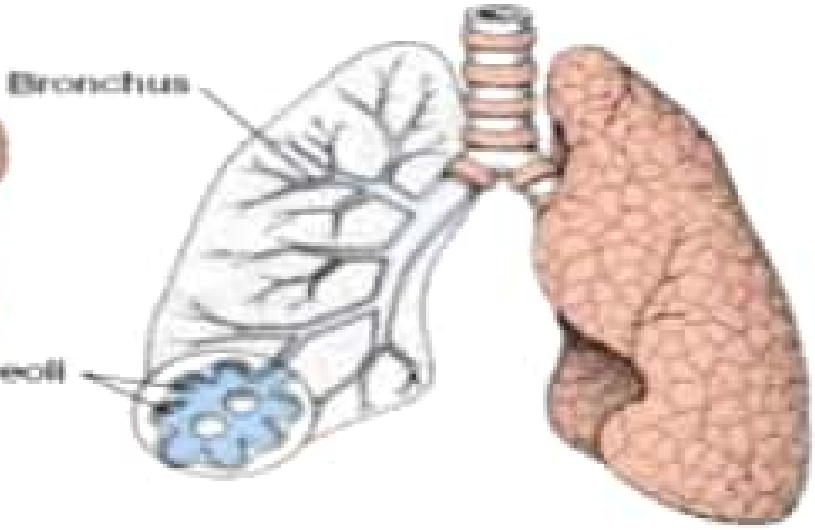


Frog

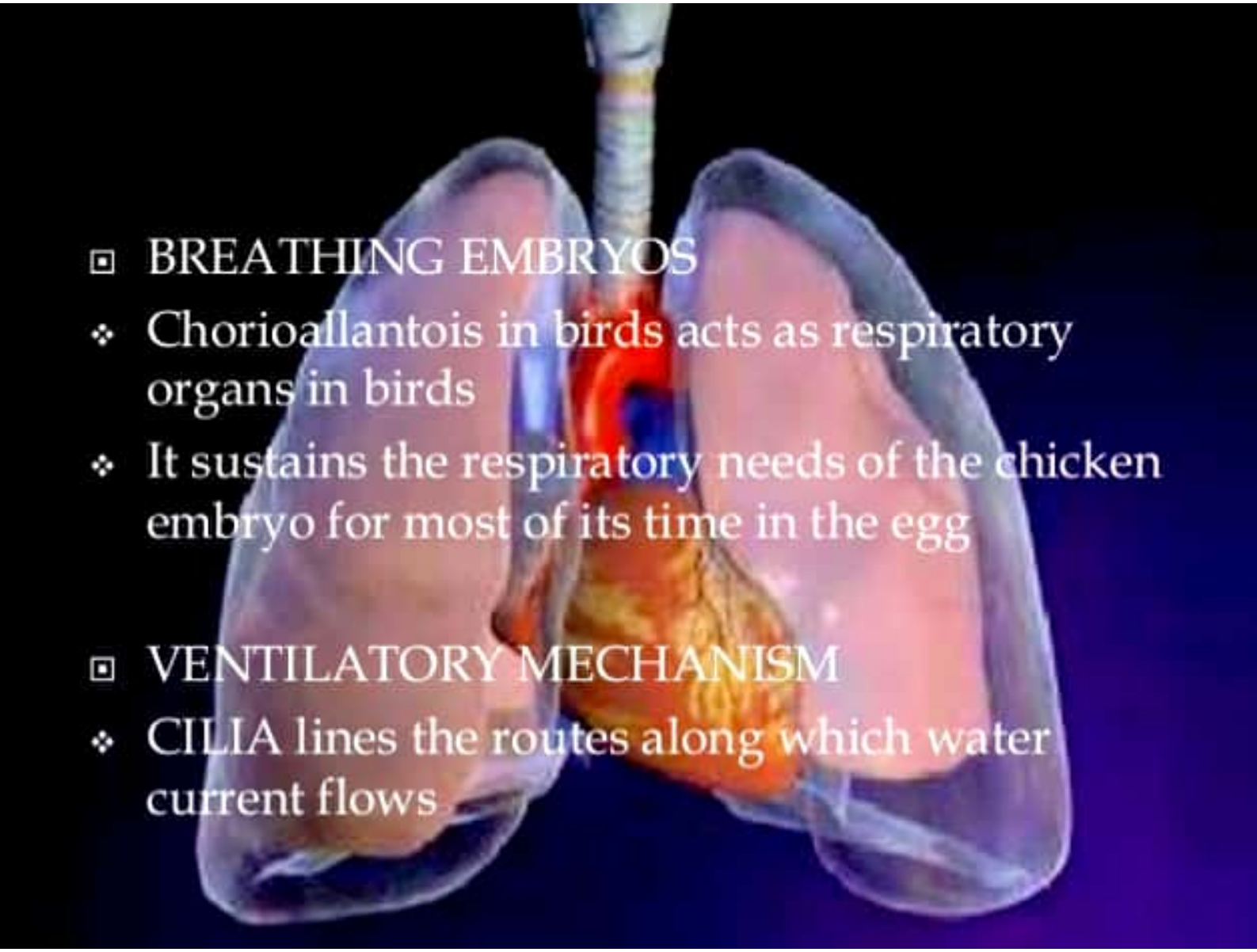
Lizard

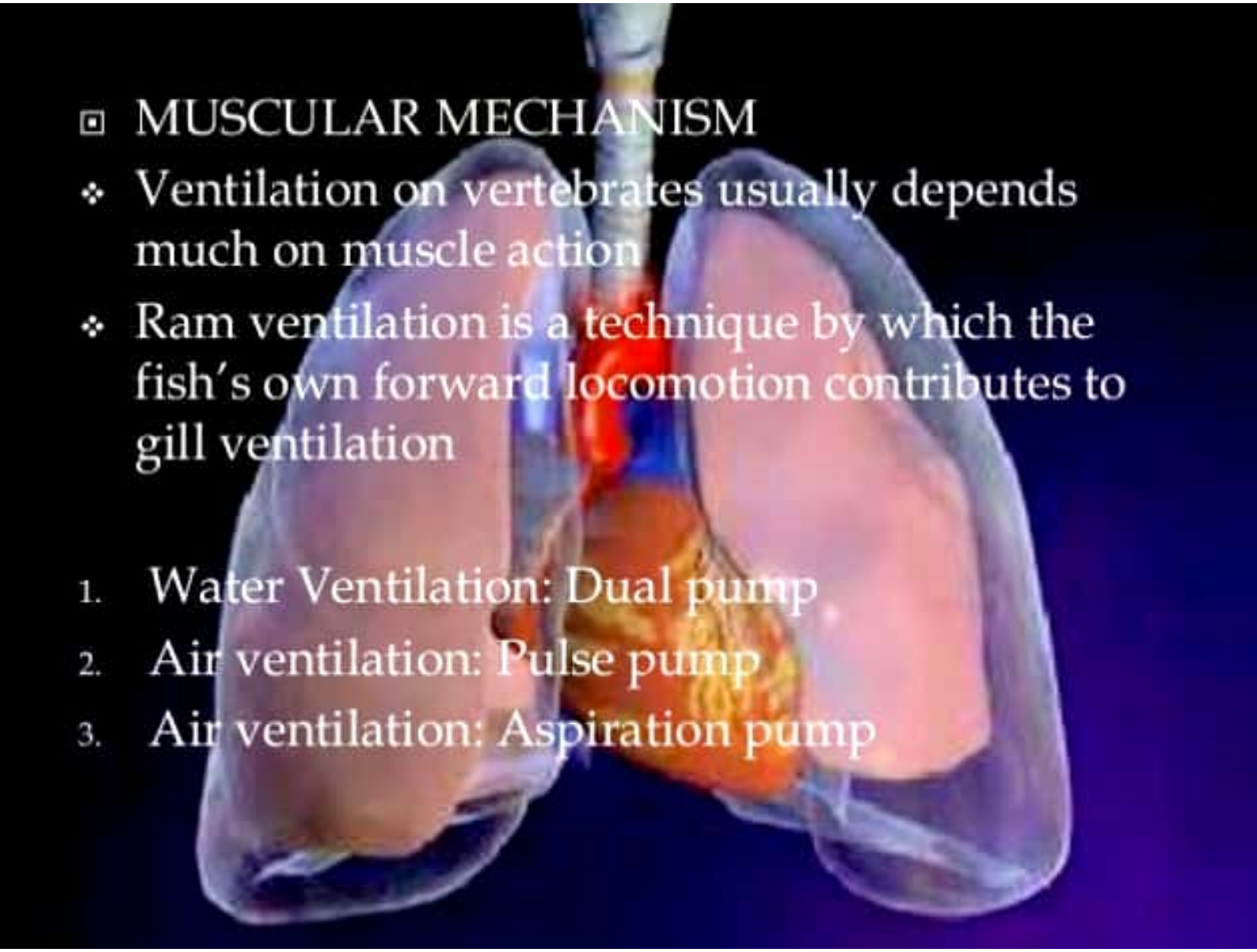


Bird

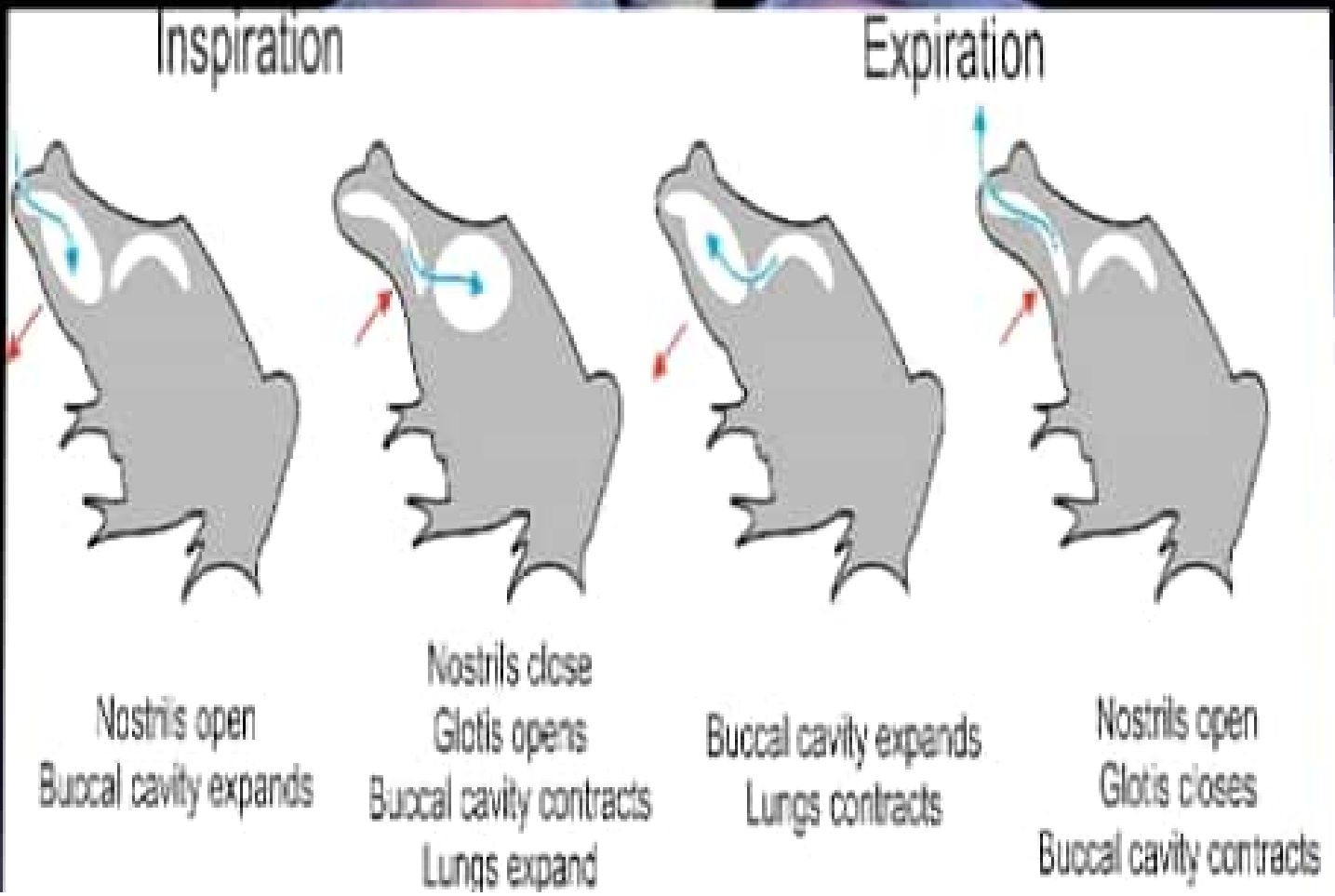


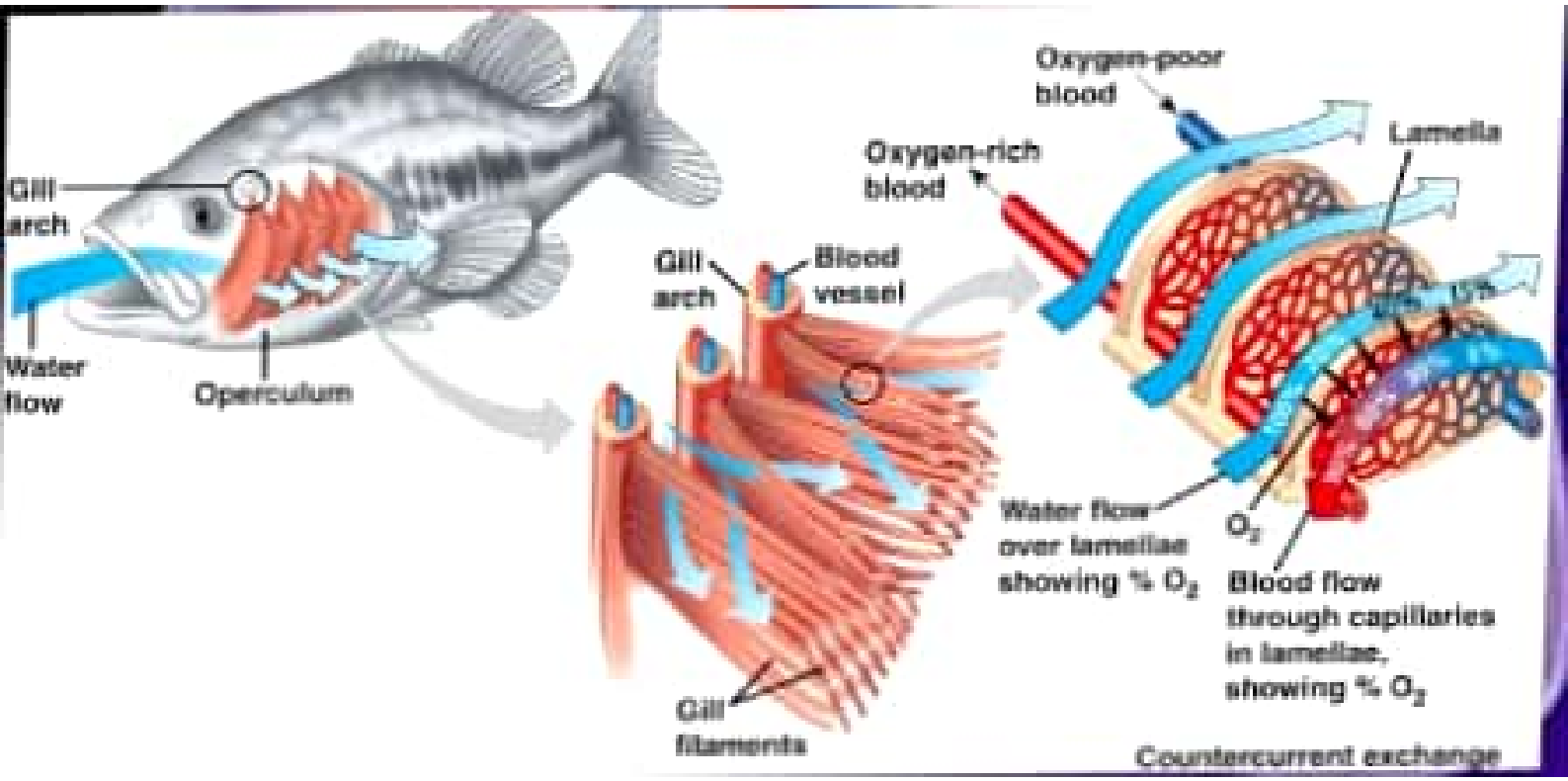
Mammal

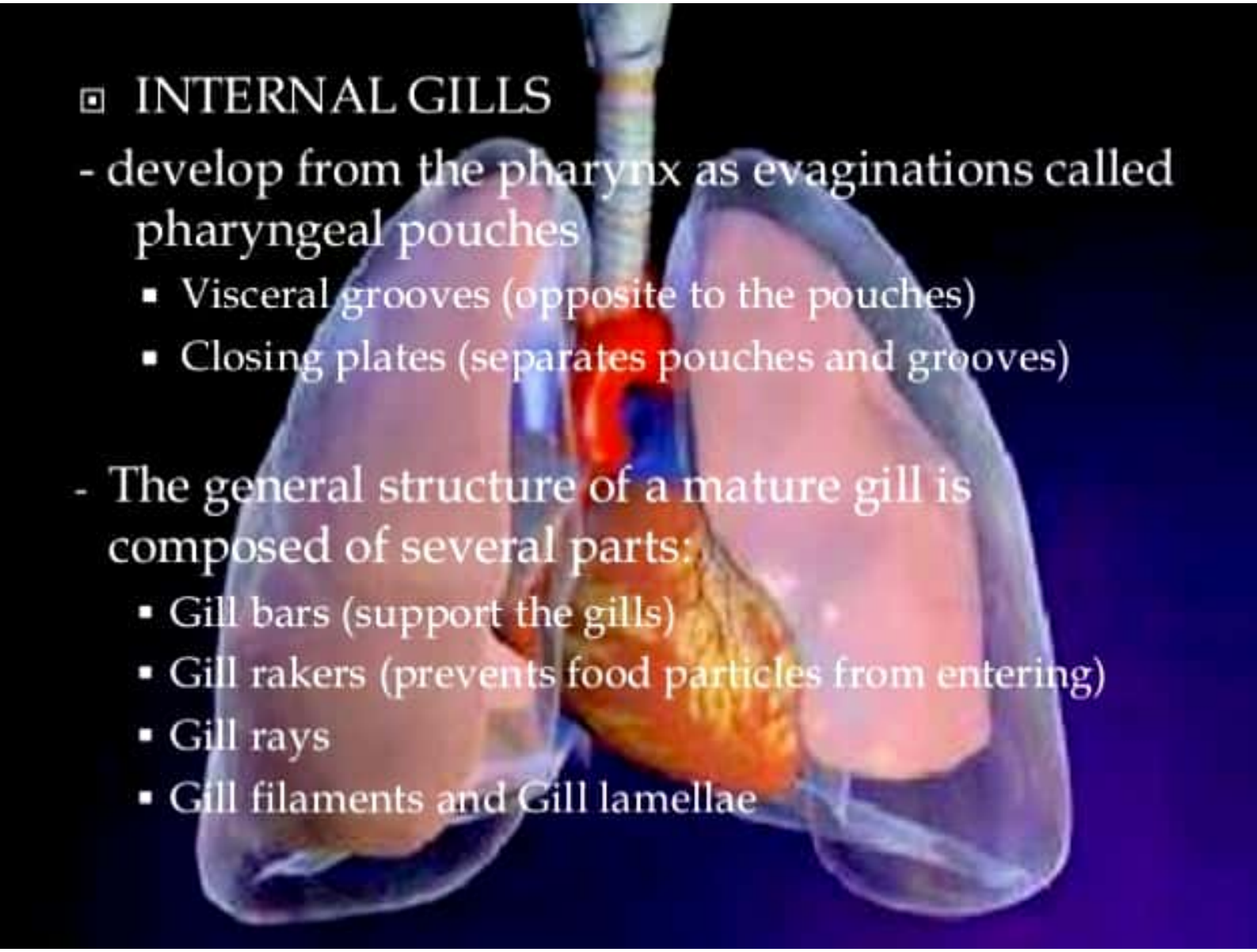


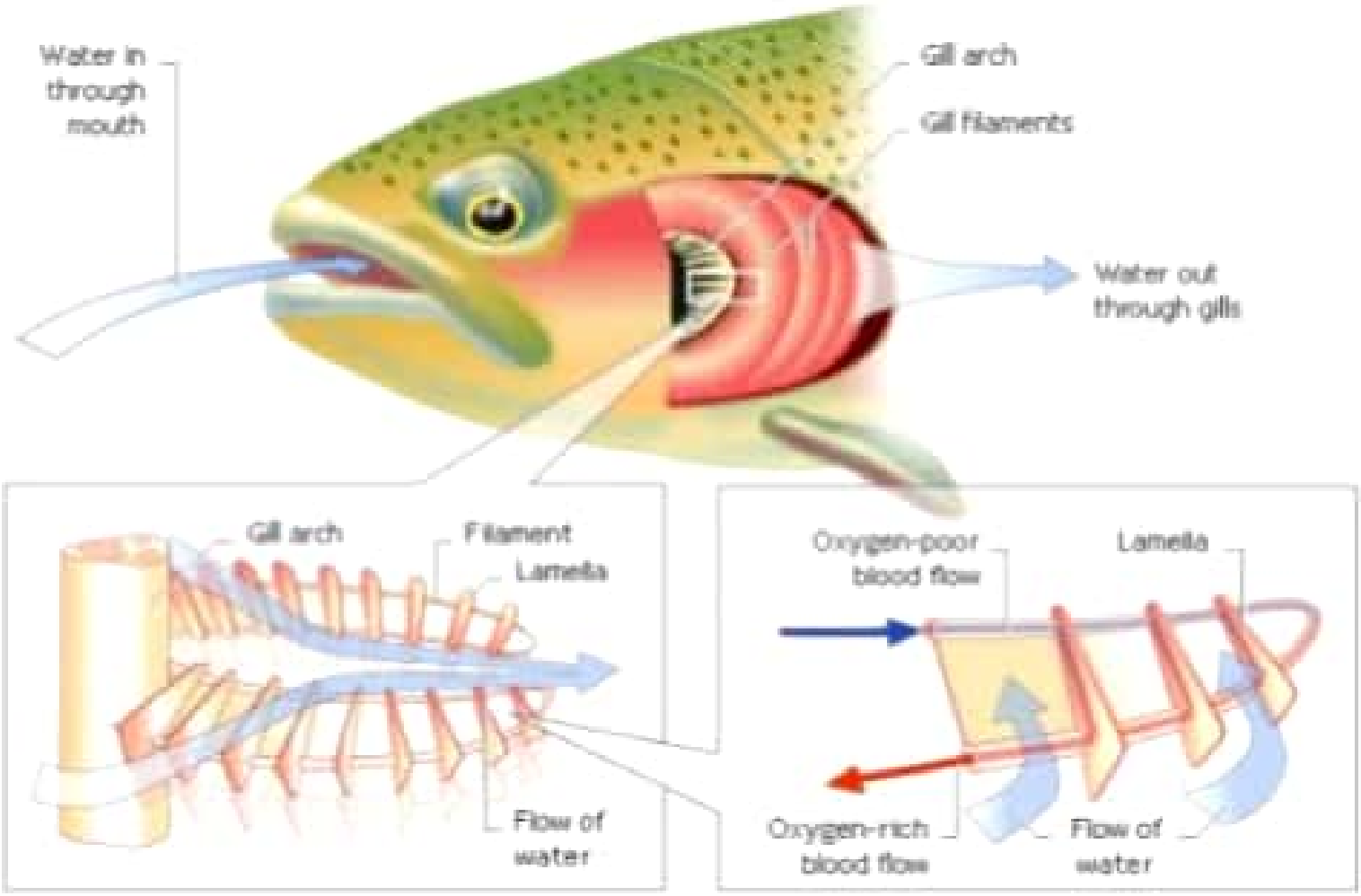


Air Ventilation: Pulse pump



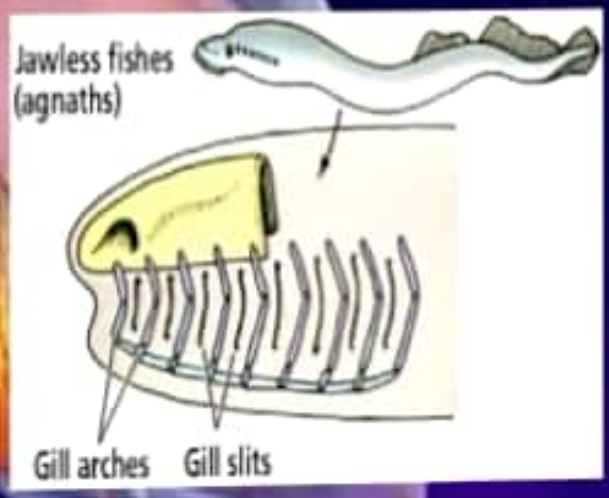






- 3 TYPES OF GILL BARS
  - Holobranch
  - Hemibranch
  - Pseudobranch

- AGNATHAN
  - Pouched gills
  - 6-15 pairs of gill pouches
  - No gill Slits
  - Hagfishes and lampreys



- Cartilaginous fishes
  - Septal Gills
  - 5 "naked" gill slits
  - Shark and rays

- Bony Fihes
  - Opercular gills (operculum)
  - 5 gill slits
  - Eels, salmon and milk fish

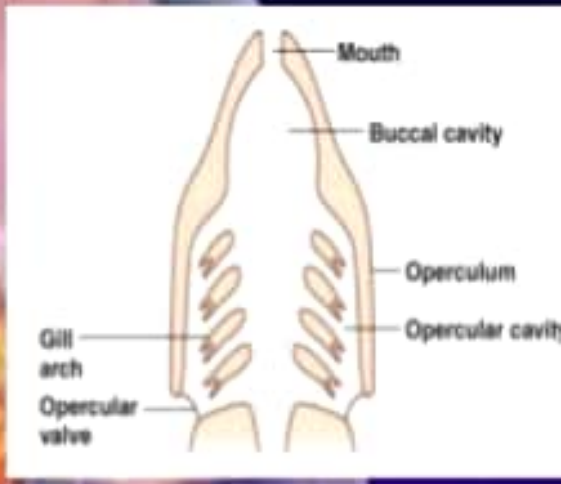
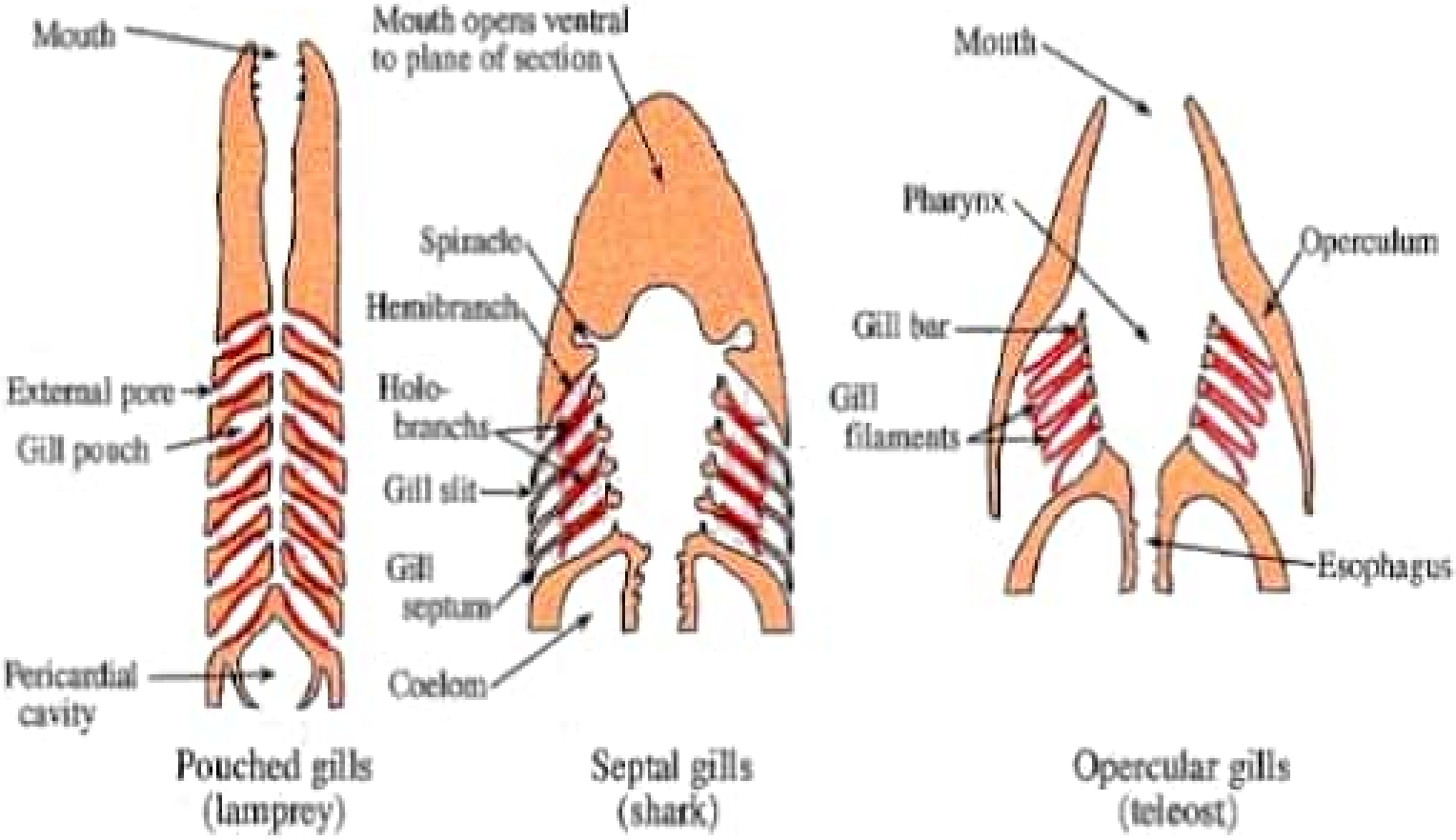


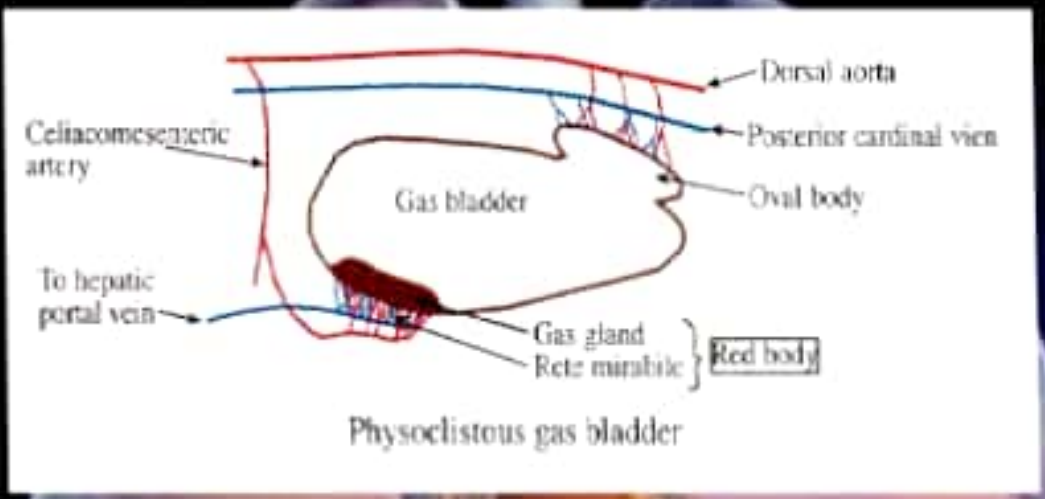
diagram of the circulation of water through the gills (the arrows show the direction of the water)

gill system in cartilaginous fish

gill system in bony fish



SWIM BLADDERS

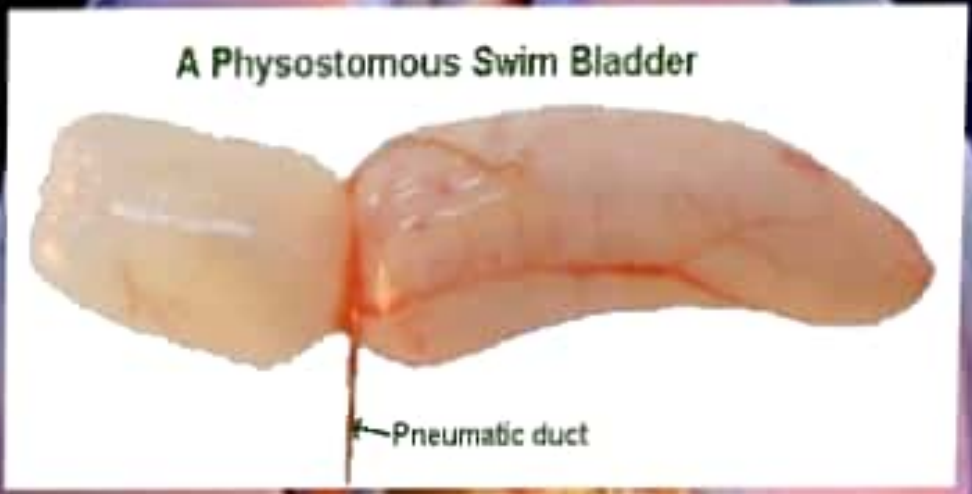


Physoclistous gas bladder

Gas or swim bladders of fishes may be located high in the cavity to remain upright

1. Physostomous

- Function for respiration



2. Physoclitous

- Do not function for respiration