

Round: 11B

One way teleosts—or “ray-finned”—fishes can alter their buoyancy is by adding or removing air from the main buoyancy organ, the swim or gas bladder. Gas bladders are categorized as either physostomous or physoclistous, based on the pathway of the air into the bladder.

1. Describe the process of inflation in each type of swim bladder. (8 pts)
 - a) Physostomous / Open swim bladder:
 - b) Physoclistous / Closed swim bladder:
2. If a fish descends the water column and wants to maintain a lower position, but doesn't want to be on the bottom, would the fish have to expel or take in air? Describe how this action would work. (8 pts)
3. Not all fish regulate buoyancy through a gas bladder. Name two (2) other adaptations a fish might have to deal with maintaining position in the water column. (4 pts)