**Fish test review**

1. Countercurrent flow is an important concept in maximizing fishes ability to extract oxygen from water. Describe in as much detail as you can, the basic pricipals of countercurrent flow. Use illustrations to enhance your answer.

2. Describe the role diffusion plays in a fishes ability to take oxygen into the blood stream.

3. Why is maintaining water and salt balance a different process for a freshwater fish than for a marine fish? Explain how each type of fish controls water and salt balance. In your answer you should discuss water intake and urine production.

Freshwater fish.

marine fish.

4. Explain the importance of the swim bladder to bony fishes.

5. Describe the direction of blood flow between heart, gills and body tissue. What kind of circulation pattern is this?



6. create a chart showing a detailed list of which group of fish demonstrate the following traits.

Swim bladder operculum jaw bony skeleton parasitic

Overlapping scales Paired fins placoid scales lobe fins heterotrophs

Internal fertilization external fertilization live birth lay eggs

Lateral line jawless taste yummy

7. Draw a fish map, and label the following structures:

nares operculum pelvic fins smooth dorsal fins

caudal fin spiny dorsal fin

pectoral fin vent anal fin lateral line