**Fish Review**

1. Vertebrates are characterized by:
2. Know the 5 classes of fish. Be able to tell a story of there evolution and what is gained at each new class and how that benefits them: *- be able to draw the tree* (include agnathan/gnastome in your answer)
3. What is the gill arch theory of jaw evolution?
4. What is required to be an *active* predator?
5. Describe the sensing system fish use to detect movement in the water.
6. **Chondricthyes:**
   1. Who are they?
   2. What is there key characteristic?
   3. What does secondarily derived mean?
   4. Evaluate 3 adaptations of the shark which make it a formidable predator.
   5. 3 types of reproduction:
   6. What are rays adapted for?
7. **Osteichthyes:** 
   1. Who are they?
   2. What is there key characteristic?
   3. What advantages did the development of the opercular plate confer on the bony fish?
   4. Respiratory structure:
      1. 4 adaptations of the gills for efficient gas exchange:
   5. Name 3 external features of the fish and describe how they contribute to success in the aquatic habitat.
   6. **Compare and contrast internal fertilization and external fertilization.**

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| **Internal fertilization** | | **External fertilization** | |
|  | |  | |
| **Pros** | **Cons** | **Pros** | **Cons** |
|  |  |  |  |

* 1. **Compare and contrast:**

|  |  |
| --- | --- |
| **Actinopterygii** | **Sarcopterygii** |
|  |  |

1. **Tiktaalic**:
   1. Who was this/what was the evolutionary significance of this form?
   2. What does it mean to be an intermediate form?
   3. Where did it evolve (under what conditions)
   4. How did this affect the evolution of specific characteristics?