

# Biology II: Unit 11 Study Guide

## bio2u11sg (Ichthyology)

### Learning Objectives

1. Use the biological species concept to decide whether two populations represent separate species. (sticklebacks of Paxton Lake)
2. Identify morphological differences in 6 stickleback fish and create a dichotomous key for identifying them. (comparative table and dichotomous key)
3. Explain how natural selection may have acted to favor different morphologies as fish species adapted to different niches. (stickleback article from class on loss of spines)
4. Explain how natural selection may have acted to favor the evolution of reproductive isolation. (sticklebacks of Paxton Lake)
5. Interpret data and understand how data may be used to support or reject hypotheses. (sticklebacks of Paxton Lake)

### Web Resources

Unit Resources in Moodle <http://www.mreclassroom.com/moodle/>  
Strange Fish [http://www.mreclassroom.com/strange\\_fish.pdf](http://www.mreclassroom.com/strange_fish.pdf)

### Assignments

- Readings: pg 787-792; Case Study "Stickleback"
- Notebook **10pts**
  - ✓ "Farming the Seas"
  - ✓ "Morphometrics of Sticklebacks"
  - ✓ Case Study: "Sticklebacks of Paxton Lake"
- Inquiry: Fish Dissection - "A anatomical look at the morphology of a fish along with the collection of the Otoliths" **10pts** (group/homework)
- Comparative Table/Dichotomous Key **10pts** (individual/quiz)
- Unit Test **20pts** (from "Farming the Seas" and "Paxton Lake Activity" and "Anatomy/Adaptations of Fish")

Extension/Extra Credit: "Strange Fish - the case of the Coelacanth" **4pts**  
(individual)

*A United Nations report classified 77% of the world's fish stocks as "fully exploited" or depleted. Simply put, we're removing fish from the seas faster than they can replenish themselves, often damaging their habitat in the process.*