**Active Learning Exercise 12.2**

to accompany

*Vertebrate Life*, Tenth Edition

Pough • Janis

**The Fish That Walks**

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**Sources:** This activity is based on the following papers:

Milius, S. *Fish reared out of water gives clues to land transition*. www.sciencenews.org, October 4, 2014.

Standen, E. M., T. Y. Du, H. C. E. Larsson. 2014. Developmental plasticity and the origin of tetrapods. *Nature* 513: 54–58. doi:10.1038/nature13708

**Level of Difficulty:** Medium

**Relevant Terminology:** developmental plasticity

**Activity**

As a way of introducing Chapter 12, watch the video of the bichir *Polypterus senegalus* swimming: <https://youtu.be/Z2ohwLI--us>

Imagine that you are in charge of driving the transition of this fish to life on land.

* *First, what would have to change about this fish for it to live on land?*

Now watch a video of the fish “walking”: <https://youtu.be/mKxRe0hAQmg>

* *What does change when this fish grows up walking?*

Review both articles referenced above to find answers.

* *What has changed to allow tetrapods to live on land?*