



# FROM FISH TO YOU



Your great-great-grandfish?

## PEDALISM

Pedalism is simply how animals move with their feet. As humans, we move with two feet, so we have Bipedalism. Animals who move with four limbs/feet, such as horses or lizards, have Quadrupedalism. They're also known as tetrapods!

## NATURAL SELECTION

Aquatic animals experienced something that affected their ability to reproduce & survive. Perhaps it was a predator or some other grueling environmental condition. Within a wide variety of fish, the fish with the most helpful traits could live & reproduce better. Over time, these beneficial traits became more common in the population. Whether it was to avoid predators or something else, the development of limbs and other tetrapod features served as a benefit in their environment.

Think of it like a pickup game in basketball. When the Captains choose teammates, the best players are chosen first due to certain traits: height & skill. Anything for victory! Or rather... survival!

## TIKTAALIK "FISHAPOD"

Tiktaalik, with flipper-like limbs, hobbled onto land, becoming one of the first four-legged animal ancestors with both land and water animal characteristics. It most likely couldn't spend too much time on land, but it became one of the earliest animals to possess tetrapod features. It's an important animal that signals the beginnings of the transition from water animals to land animals.



Photo credit: UMMNH



Photo credit: Wikimedia Commons

## WHY LAND?

It's thought that the growth of plants and the aftermath of volcanic explosions made land a more habitable place for animals. What do plants do that are beneficial? Photosynthesis! Oxygen is a byproduct of photosynthesis, so plants increased oxygen in the air and provided food.



## SO WHAT?

The development of tetrapods led to the emergence of four-legged animals, which led to two-legged animals (bipedalism), which eventually led to you—humans who could walk on two feet! So next time you go on a walk or flick your wrist while shooting some hoops in a game of basketball, you can thank your great-great-grandfish, the tiktaalik.

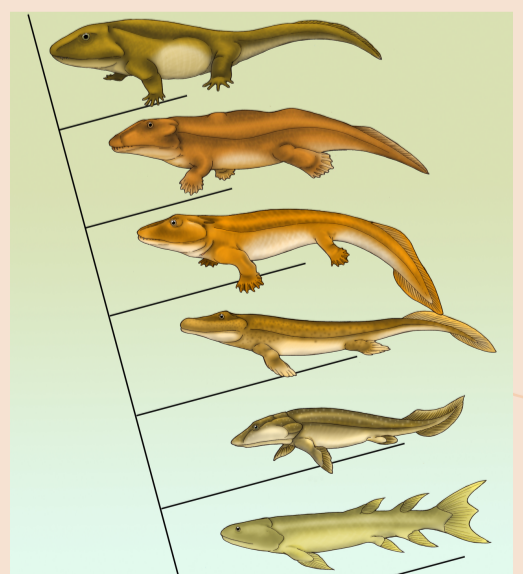


Photo credit: Wikimedia Commons

By: Tasneem Qurashi, Kris Shah, Tess Welch (Bio 173 students)

### SOURCES

- Harvard University. (2020, November 25). Water-to-land transition in early tetrapods. Department of Organismic and Evolutionary Biology. Retrieved from <https://oeb.harvard.edu/news/water-land-transition-early-tetrapods>.
- Nowicki, C. (2021). Lecture on Evolution 1. University of Michigan, Ann Arbor, MI.
- Science Buddies Staff. (2020, November 20). Pedalism and Movement. Retrieved from [https://www.sciencebuddies.org/science-fair-projects/project-ideas/Zoo\\_p035/zoology/pedalism-and-movement](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Zoo_p035/zoology/pedalism-and-movement)
- University of Michigan Museum of Natural History (2021). Evolution: Life Through Time. University of Michigan, Ann Arbor, MI.