

CHAPTER 4	Thought Lab 4.3: Comparing the Ideas of Lamarck and Darwin	BLM 4.2.4
HANDOUT		
Purpose: Compare, evaluate and communicate alternative explanations of evolutionary change.		

Read the following quotations from the writings of Lamarck and Darwin:

“The environment exercises a great influence over the activities of animals, and as a result of this influence the increased and sustained use or disuse of any organ are causes of modification of the organization and shape of animals and give rise to the anomalies observed in the progress of the complexity of animal organization.” —Jean-Baptiste Lamarck in *Philosophie zoologique*, 1809

“... natural selection, or the survival of the fittest, does not necessarily include progressive development—it only takes advantage of such variations as arise and are beneficial to each creature under its complex relations of life. And it may be asked what advantage, as far as we can see, would it be to an ... intestinal worm ... to be highly organised. If it were no advantage, these forms would be left, by natural selection, unimproved or but little improved, and might remain for indefinite ages in their present lowly condition.”—Charles Darwin in *On the Origin of Species*, 1859

Procedure

1. Rewrite each quotation in your own words.
2. How does Lamarck’s idea of “use or disuse” differ from Darwin’s idea, which was later called “descent with modification?”

CHAPTER 4	Thought Lab 4.3: Comparing the Ideas of Lamarck and Darwin (cont'd)	BLM 4.2.4
HANDOUT		

Analysis

1. Flying fish use large pectoral fins to glide in air. Explain how (a) Lamarck and (b) Darwin might account for the origin of the large pectoral fins and the ability to glide.
2. Lamarck suggested that organisms arise spontaneously and then become increasingly more complex. With a partner, discuss why this idea is not supported by the theory of natural selection. (**Hint:** You might want to consider an organism such as a snake, which evolved from a population of animals that had legs.)