Name:_____

Lamarck and Darwin: Summary of Theories
Lesson Title: Comparing Theories: Lamarck and Darwin

	Jean Baptiste de Lamarck	Charles Darwin
Conception of species:	Population of individuals all of the same kind (identical characteristics in all members). Individuals capable of transformation.	Population of interbreeding individuals with similar characteristics, though variation is common among all of them at all times. Individuals fixed and unchanging. Population capable of transformation.
Mechanism of new species production:	Internal drive toward greater complexity modified by the inheritance of acquired characteristics. Change directed to meet organism needs.	Natural selection. Variation exists regardless of organism's needs - not directed toward any purpose.
Example of this type of explanation (how the model accounts for some phenomenon):	The giraffe's neck: “At some point in the past, giraffes must have found themselves in an environment where they had difficulty reaching food present on the tops of trees. In order to eat, they must have had to stretch their necks and in doing so physically elongated them some. This longer neck was passed on to the offspring in the next generation, who in turn stretched their necks even further, thus resulting in the giraffe species having very long necks."	Keen eyesight of the hawk: “In a population of hawks, individual variation existed in the power of their vision, just as variation exists in the color of their feathers. In their competition for food, the individuals with keener eyesight could more easily spot their prey (small voles and mice) and thus were successful in securing food to eat. The hawks with poor eyesight had difficulty spotting prey and died for lack of food. The hawks with the keen eyesight passed on this trait to their offspring. The hawks that died were not able to produce any offspring. Over a number of generations, the population of hawks all came to possess extremely powerful vision."
Phenomena the model can account for:	• Adaptation • Fossil record	• Adaptation • Fossil record • Homologous structures • Biogeographical diversity patterns