

**How do structural and behavioral adaptations increase the chances for organisms to survive in their environments?**

- Evolution occurs in populations or species
- Organisms able to produce fertile offspring make up a species
- Isolation can lead to speciation
- Variations in species arise from many sources
- Organism who survive pass their genes on to the next generation

Key Vocabulary	Assignments	
Adaptation	1. Answer questions 1,2,3,4,5 on page 239	Due:
Comparative anatomy		Comparative embryology
Competition	2. Genetically Modified Foods Brochure	Due:
Evolution		Extinct
Fossil		
Homologous		
Mutation		
Natural selection		
Population		
Random		
Species		
Survival of the fittest		
Variation		
Vestigial		
<p><b>Vocabulary, Notes and Homework Sheets are available 24 hours a day on <a href="http://www.otterspoor.com">www.otterspoor.com</a></b></p>		

# Evolution

<p><b>Aristotle (350 BC)</b> Placed all of life into a “scala naturae” or a ladder of complexity. Organisms were placed in order of complexity and fulfill a permanent and unchanging role.</p>	<p><b>Natural selection</b> The mechanism for creating new species based on individual variation within a species.</p>	<p><b>Adaptation</b></p>
<p><b>James Hutton (1795)</b> Gradualism: the features on Earth are changing (ex. canyons are formed by the flow of water).</p>	<p><b>Sedimentary Rock</b> Made from layers of silt and sand Lower layers of rock are from earlier in the earth’s history</p>	<p><b>Survival of the Fittest</b></p>
<p><b>Lamarck (1809)</b> Early theory of biological evolution. All life on earth came from lines of decent of abiotically generated microbes. Evolution could create complexity via two methods 1. Use and disuse of structures 2. Inheritance of acquired characteristics  Even if <b>his reasons for evolution are flawed</b> his ideas are important because it established that evolution was a response of an organism to its environment</p>	<p><b>Darwin’s Evolution: Decent with modification</b></p> <ol style="list-style-type: none"> <li>1. Competition</li> <li>2. Over production</li> <li>3. Variation</li> <li>4. Adaptation</li> <li>5. Natural Selection</li> <li>6. Speciation</li> </ol>	<p><b>Evidence of Evolution</b></p> <p>Fossils</p> <p>Homologous Structures</p> <p>Vestigial Structures</p> <p>Comparative Embryology</p> <p>Comparative Biochemistry</p> <p>Biogeography</p>
<p><b>Darwin (1859)</b> Took a trip to the Galapagos Islands Observed diversity of species Eventually wrote the book: On the Origin of Species by Means of Natural Selection.</p>		
<p><b>Mutations</b></p>		
<p><b>Darwin did not know about DNA</b></p>		<p><b>Niche</b></p>