

**LS-HHMI Outreach Summer Curriculum Project Classroom Resource Information Form**

<b>Title</b>	<ol style="list-style-type: none"> <li>1. <b>Complete Lesson Packet</b></li> <li>2. <b>Teaching Objective and Resources</b></li> <li>3. <b>Teacher Instructions</b></li> <li>4. <b>Part I: Three Theories Handout</b></li> <li>5. <b>Part II: Storyboard Introduction</b></li> <li>6. <b>*Part II: Storyboard Handout (to be added by Tara)</b></li> <li>7. <b>Part III: Lab Handout</b></li> </ol>		
<b>Resource Type</b>	Lesson Plans, Storyboard Activity, and Model Lab Activity (Scientific Method)		
<b>Description</b>	<p>Our closest relatives the chimpanzee have fur. In this lesson students will explore the mechanisms of natural selection in relation to the loss of fur in humans. Students will further study the homeostatic mechanisms of thermoregulation and the idea that the loss of fur was adaptive and gave humans a temperature regulating advantage.</p>		
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<b>Objective</b>	Through a series of readings, handouts and activities students explore the concepts of natural selection, homeostasis and thermoregulation		
<b>Key Concepts</b>	Evolution, Natural Selection, Homeostasis, Thermoregulation, Scientific Method		
<b>Student Prep</b>	Read Articles Provided		
<b>Materials</b>	Print out Articles and Handouts		
<b>Grade Level(s)</b>	High School Biology, AP Biology		
<b>Teacher Prep Time</b>	Time to read and copy articles	<b>Class Time</b>	45min for each of the 3 lessons
<b>State Standards</b>	<p>Evolution and Biodiversity 5.1 Explain how evolution is demonstrated by evidence from the fossil record, comparative anatomy, genetics, molecular biology, and examples of natural selection. 5.3 Explain how evolution through natural selection can result in changes in biodiversity through the increase or decrease of genetic diversity within a population Anatomy and Physiology 4.8 Recognize that the body’s systems interact to maintain homeostasis. Describe the basic function of a physiological feedback loop.</p>		
<b>References</b>	<ol style="list-style-type: none"> <li>1. “What is the latest theory of why humans lost their body hair? Why are we the only hairless primate?” by Mark Pagel, Scientific American June 4, 2007. <a href="http://www.scientificamerican.com/article.cfm?id=latest-theory-human-body-hair">http://www.scientificamerican.com/article.cfm?id=latest-theory-human-body-hair</a></li> <li>2. “Why Humans and Their Fur Parted Ways” by Nicholas Wade The New York Times, August 19, 2003 . <a href="http://www.nytimes.com/2003/08/19/science/why-humans-and-their-fur-parted-ways.html">http://www.nytimes.com/2003/08/19/science/why-humans-and-their-fur-parted-ways.html</a></li> <li>3. “Why and how long ago did we lose our body hair?” Smithsonian National Museum of Natural History, Department of Anthropology. <a href="http://anthropology.si.edu/HumanOrigins/faq/hair.htm">http://anthropology.si.edu/HumanOrigins/faq/hair.htm</a></li> <li>4. Campbell and Reece, AP Edition Biology, Benjamin Cummings, 8<sup>th</sup> Edition, 2008</li> </ol>		
<b>Assessment</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Three Theories Handout</li> <li><input type="checkbox"/> Natural selection storyboards and storyboard presentations</li> <li><input type="checkbox"/> Model Laboratory/Scientific Method</li> </ul>		