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**WORKSHEET 1: Video & Discussion Notes**

**Part 1: Introduction**

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| *What traits, behaviors, and/or structures do YOU think make humans (Homo sapiens) different from animals?* ***List 4 or more traits, behaviors, or structures.*** |
|  |
| **CLASS SHARE**  *As other students share, add to your own list above any answers with which you agree.* |
| **Watch Video #1, part 1: How Did We Get Here?**  *After watching, consider the question “why are we here and none of the others are?” Review your list above; which traits/behaviors/structures may contribute to this answer.* |
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| **Watch Video #1, part 2: How did humans survive evolution?**  *After watching, think about what it means to you that humans pursue meaning.* |
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| **CLASS SHARE**  *As other students share, you may add any answers with which you agree.* |

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| **Listen to Lecture on Human Uniqueness**  *Take notes as your teacher describes the distinctiveness of the human species. What is symbolic language? What does symbolic language allow humans to do?* |
|  |

**Evolution – The Emergence of *Homo sapiens* via evolutionary processes**

(Natural Selection, Speciation, Cladograms, Hominins)

**Helpful terminology:**

* Hominin = the group consisting of modern humans, extinct human species and all our immediate ancestors
* Trait = a genetically determined characteristic.
* Behavior = the way in which an animal or person acts in response to a particular situation or stimulus.
* Structure = a particular anatomical part of a living thing.
* Adaptation = any trait/behavior/structure that increases/improves an organism’s fitness.
* Fitness = describes how successful an organism is at producing offspring.
* Speciation = a lineage-splitting event that produces two or more separate species.
* Gene flow = occurs when organisms move in or out of a population, thus causing their genes/alleles to move with them.

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| *Annotate the following diagrams that illustrate important evolutionary concepts* |
| **Figure #1: Natural Selection** |
| **Figure #2: Speciation** |
| **Figure #3: Cladograms** |
| **Figure #4: Primate Cladogram** |
| **Figure #5: Hominin Cladogram (simple)** |
| **Figure #6: Hominin Cladogram (complex)** |
| **DAY 1 HOMEWORK ASSIGNMENT**  **Listen to “From Grunting to Gabbing: Why Humans Can Talk”**  **(from NPR’s show “All Things Considered”)**  *Annotate the accompanying article OR take notes below & answer the questions:*  *1. When (how long ago) did our vocal tract anatomy evolve to give us the kind of vocal control & flexibility we see in humans today?*  *2. Compare this time point to the evolutionary tree in Figure #6. In addition to* Homo sapiens*, what hominin species existed at this point in time?*  *3. Name another important structure that would have to* ***differ*** *between humans and these other hominins (mentioned in question #2) to allow for the evolution of symbolic language that most likely differentiates these species?*  **Then read the abstract from the paper “Reconstructing the Neanderthal brain using computational anatomy” published in the journal Nature in 2018.**  *According to this paper, what is different between the brains of Neanderthals and the brains of modern-day humans?* |

**Figure credits**

Figure #1: <https://www.khanacademy.org/science/high-school-biology/hs-evolution/hs-evolution-and-natural-selection/a/hs-evolution-and-natural-selection-review>

Figure #2:<https://michitobler.github.io/primer-of-evolution/speciation-1.html>

Figure #3:<https://brainly.com/question/22273060>

Figure #4:<https://blogs.iu.edu/sciu/2017/09/26/why-are-there-still-apes/>

Figure #5:<https://www.britannica.com/science/human-evolution>

Figure #6:Bergstrom & Dugatkin. Evolution, 1st edition. 2012. Figure 14.33.