

Hominid Evolution
(Do Not Write on This Page!)

Part 1: On your own sheet of paper, write down 20 observable differences between the skulls you are observing.

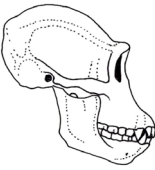
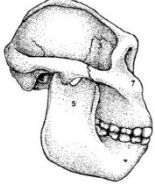




Part 2: Using the Trait Table below, complete the Hominid Skull Comparison Data Sheet.

Trait Table	
Skull Trait	Description
Braincase	Measure both length and width of the cranium with calipers.
Sagittal Crest	This is a bony ridge along the top of the cranium to which chewing muscles attach. Note whether it is absent, barely present or very pronounced.
Forehead	Record whether it is absent, vertical or flat.
Foramen Magnum	This is the opening at the base of the skull where the spine attaches to the skull. It is underneath or towards the back of the skull?
Supraorbital Ridge	This is the brow which protrudes above the eyes. Note whether it is absent, small, medium or large.
Prognathism	This is the jaw angle. Examine it for forward projection of teeth and jaw. Record this value as small, medium or large.
Chin	Does the chin stick out or slope back?
Length of Canine Teeth	Measure these in mm.
Canine Diastema	This is the gap between the upper incisors and canines. Record whether it is present or absent.

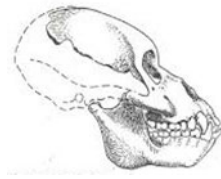
Part 3: On your own sheet of paper, sketch a preliminary phylogenetic tree showing how you believe the skulls are related. Consider how similar/different the skulls are based on the information obtained in your data table. Indicate each skull letter as you place it on the tree and explain why you placed each skull where you did.

Part 4: After completing Part 3, you will be given a sheet with pictures, names and the age of each skull. You will now need to make a revised tree. Cut out the pictures and their information and place them on your new tree. Explain in one well-organized paragraph, why you re-organized the tree based on the new radiometric dating information.

Part 4

<p><i>Pan troglodytes</i> (chimpanzee) 6 million years ago - Present</p>	
<p><i>Australopithecus boisei</i> 2.0 – 1.0 million years ago</p>	
<p><i>Homo sapiens</i> (modern) 195,000 years ago - Present</p>	
<p><i>Australopithecus africanus</i> 3.0 – 2.0 million years ago</p>	
<p><i>Homo sapiens neanderthalensis</i> 230,000 – 30,000 years ago</p>	
<p><i>Homo erectus</i> 1.8 million – 300,000 years ago</p>	

Proconsul africanus
23.0 – 14.0 million years ago



Homo sapiens cro-magnon
35,000 – 10,000 years ago

