

Name _____

ANT 2230 Biological Anthropology

Lab 8 The genus *Homo*

Part I

How does the fossil skull from Georgia compare with *Homo ergaster* (Nariokotome) and early *Homo*?

<i>Anatomical Feature</i>	Adolescent early African <i>erectus/ergaster</i>	Pleistocene Homo from Dmanisi	Early Homo (<i>habilis</i> and <i>rudolphensis</i>)
Time	1.9-1.4 mya	1.8 mya	2.5-1.5 mya
Place	East Africa	Republic of Georgia	East and South Africa
Sagittal Keel			
Brow ridge			
Frontal lines			
Anterior tooth size (width)			
Shape of dental arcade?			
Forehead?			
Prognathism?			
Cranial Capacity	700-850	600-800	600-800
Height			
Body Proportions			
Technology?			

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Part II

Middle Pleistocene Homo (the Muddle in the Middle): What features do these fossils share with *Homo erectus*? What features are different from *Homo erectus*? How do they compare with early hominins outside of Africa? The hobbit?

Taxon	<i>A. africanus</i>	Early Homo	<i>H. ergaster</i> (Nariokotome)	Asian <i>erectus</i>	<i>Homo</i> from Georgia	<i>Homo sapiens</i>	LB 1
Time							
Place							
Stature and Proportions (from lecture or readings)							
Brain size (from lecture or readings)							
Brow ridge							
Prognathism							
Forehead?							
Sagittal keel?							
Canine jugum							
Postorbital constriction?							
Tooth size?							

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Part III: Measuring teeth- measure the second premolar (P4) and the first molar (M1). Calculate the molarization index if they are both present for each species.

Taxon	P4 length	P4 breadth	P4 area (L * B)	M1 length	M1 breadth	M1 area	P4 area/ M1 area
<i>A. africanus</i>							
Early Homo (habilis)							
<i>H. ergaster</i> (Nariokotome)							
Asian <i>erectus</i>							
Homo from Georgia							
Pleistocene Homo (Georgia)							
Neanderthal							
<i>Homo sapiens</i>							
LB 1							

The P4 area / M1 area is called the molarization index. How would you interpret tooth size variation in relation to diet? How about taxonomic significance?

Draw the profile of the back of the skull for each hominin listed above. Draw an arrow pointing to the widest part of the skull.

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Describe one similarity or difference between the following fossils. Below, draw a taxonomic chart that incorporates all these taxa (use your notes or the textbook).

africanus and early Homo

Early Homo and Georgia

Georgia and Atapuerca

Atapuerca and erectus

Atapuerca and Neandertal

Neandertal and *H. sapiens*

africanus and the Hobbit

Early Homo and the Hobbit

erectus and the Hobbit

H. sapiens and the Hobbit

Based on lecture notes and lab- which evidence about the Hobbit's taxonomic status do you find most compelling? How would you classify the Hobbit?