

**DIAGRAM SET-1**

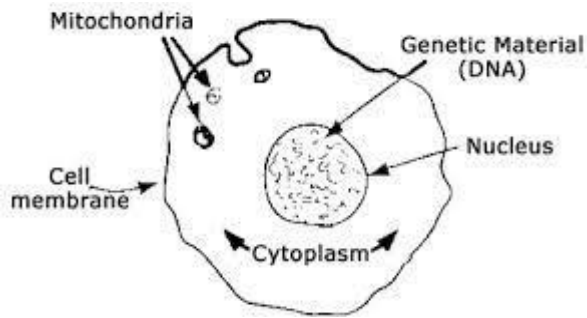


Figure 2: human cell

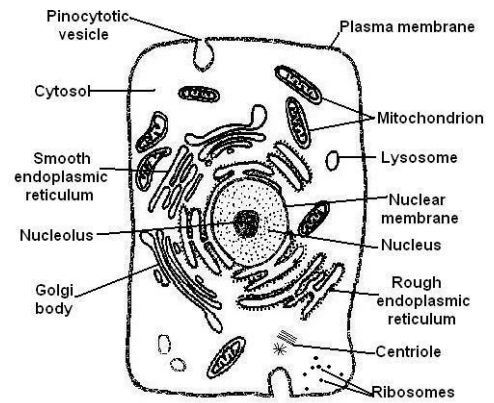


Figure 1 human cell

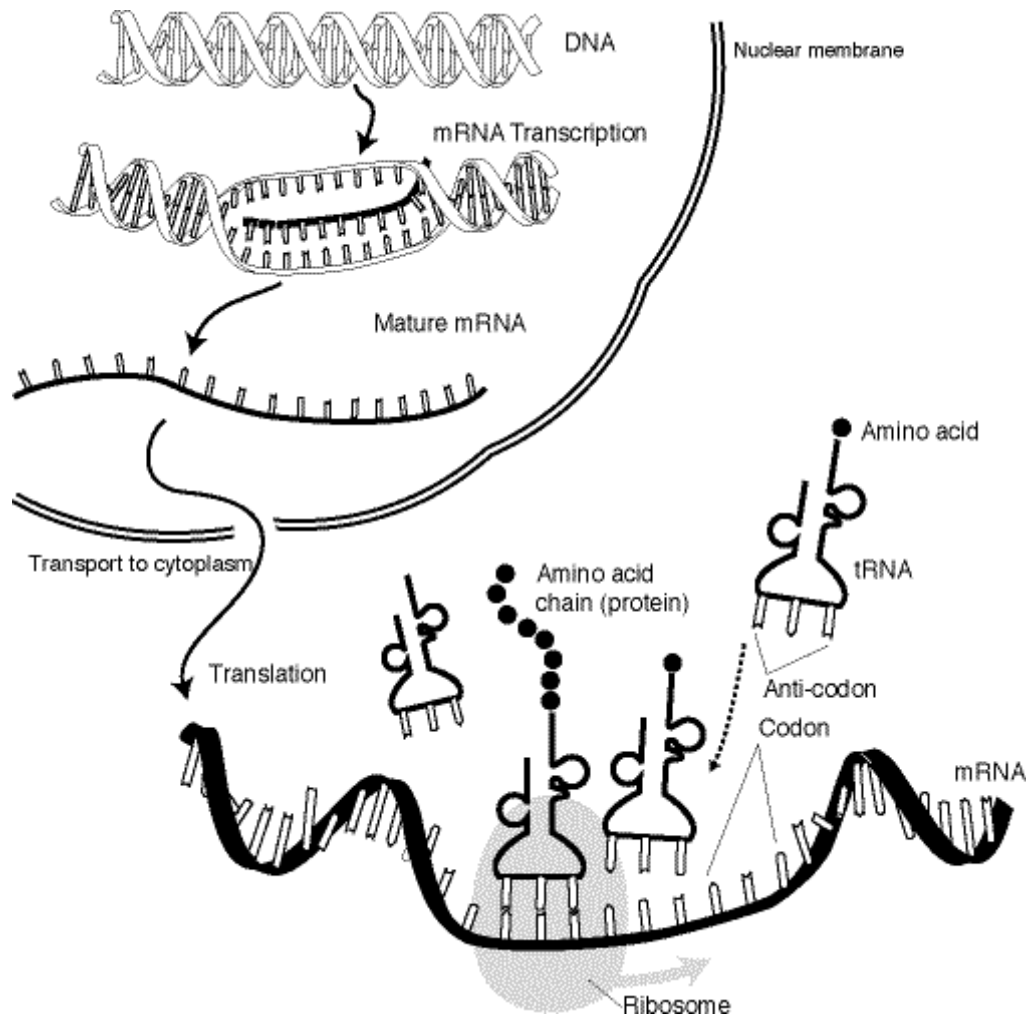


Figure 3 Protein synthesis

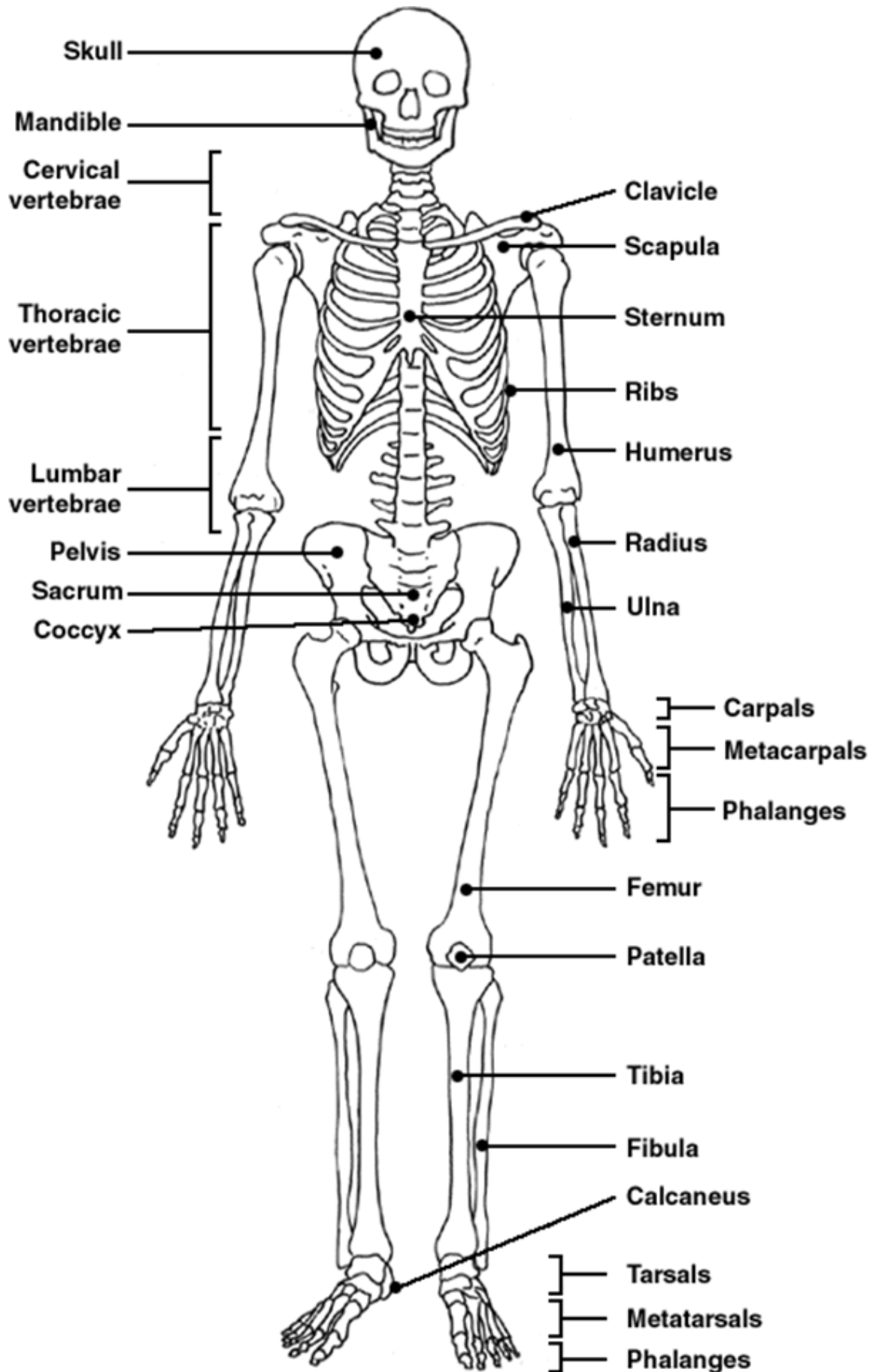


Figure 4: HUMAN SKELETON

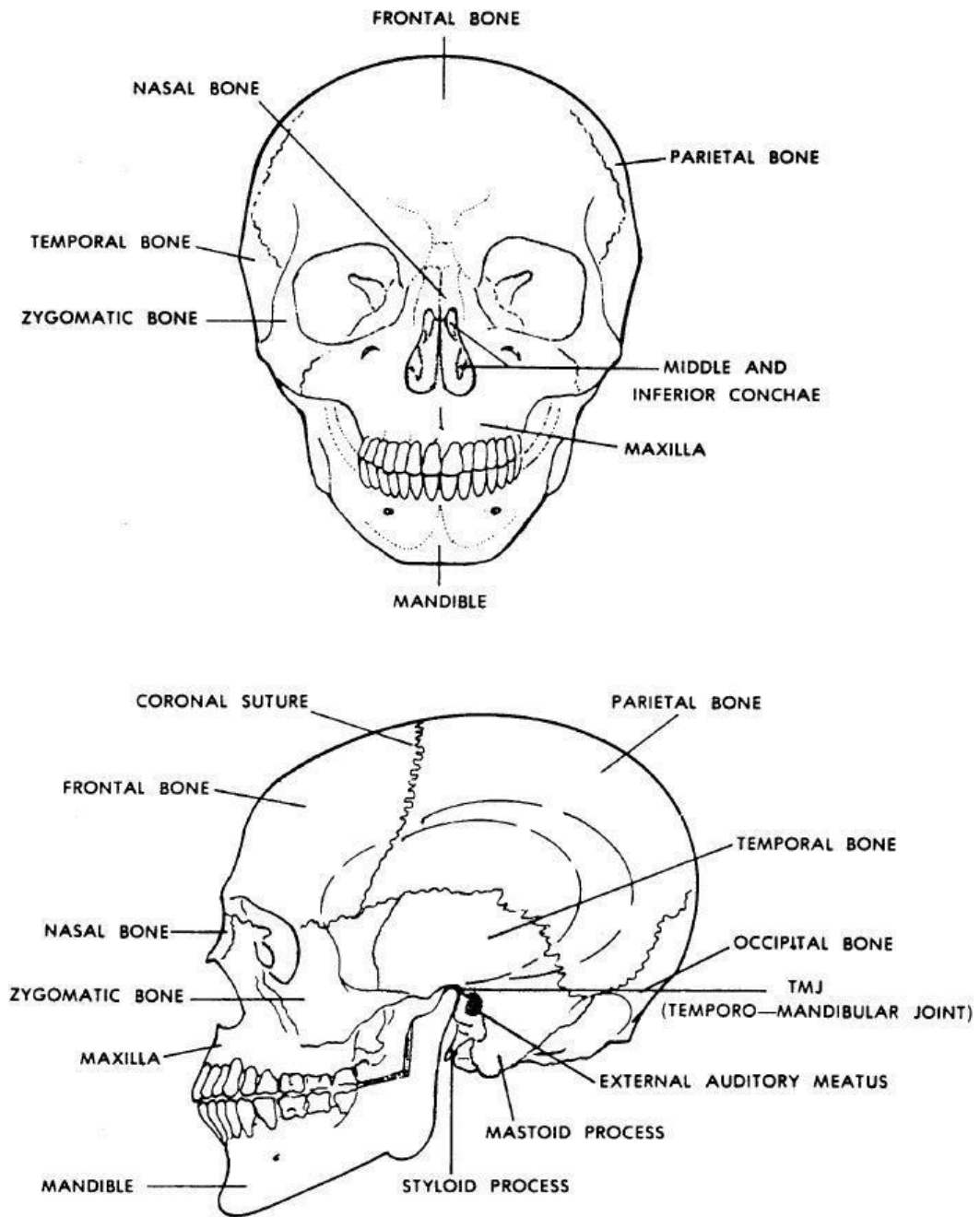
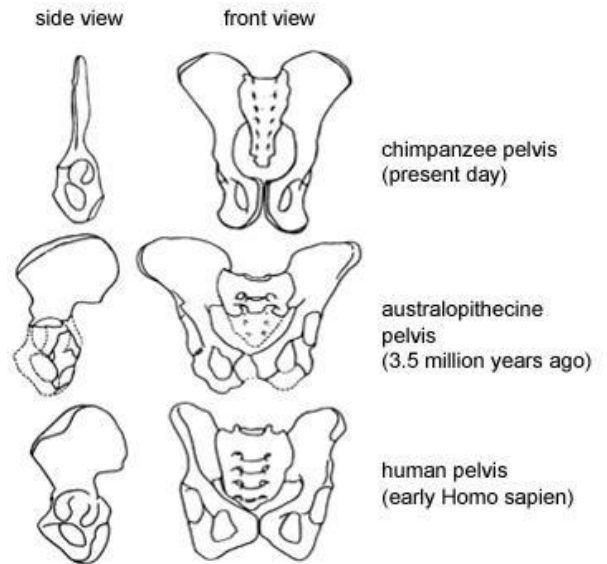
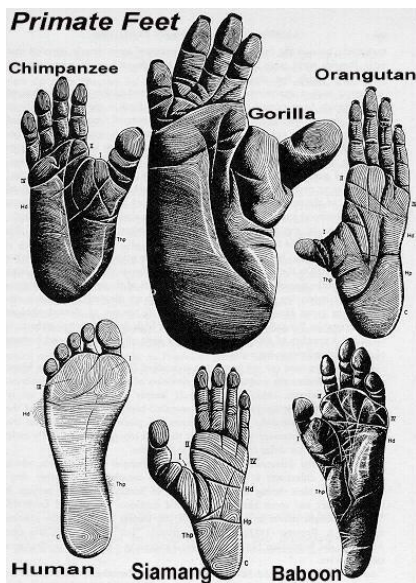
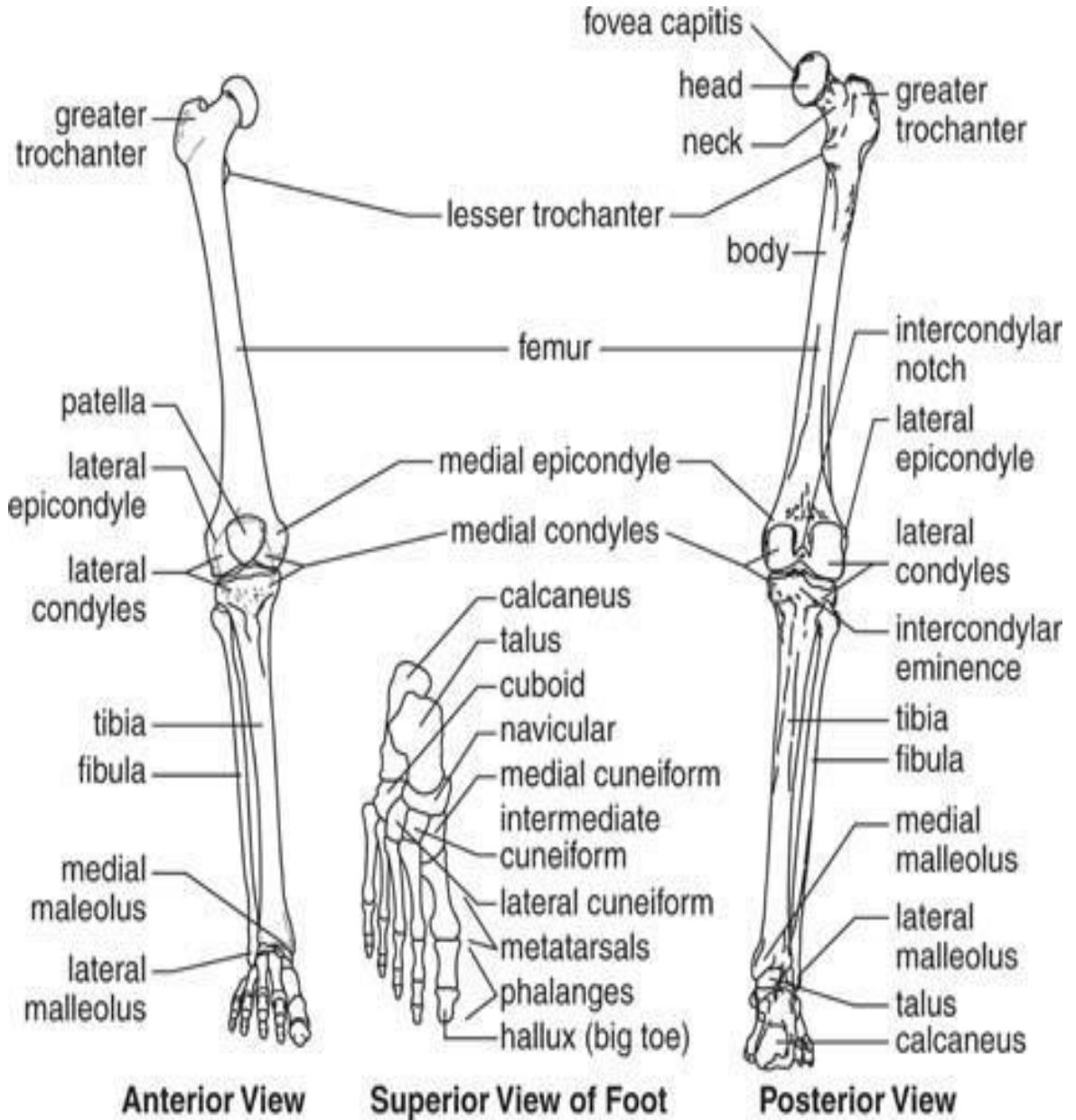


Figure 5: HUMAN SKULL

Figure 6: BONES OF THE LOWER LIMB



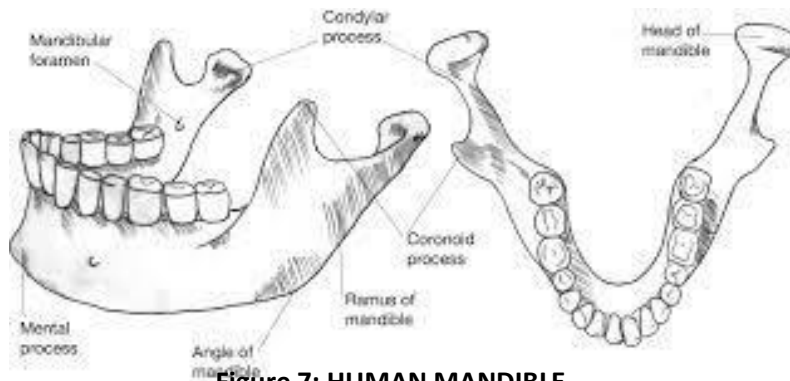
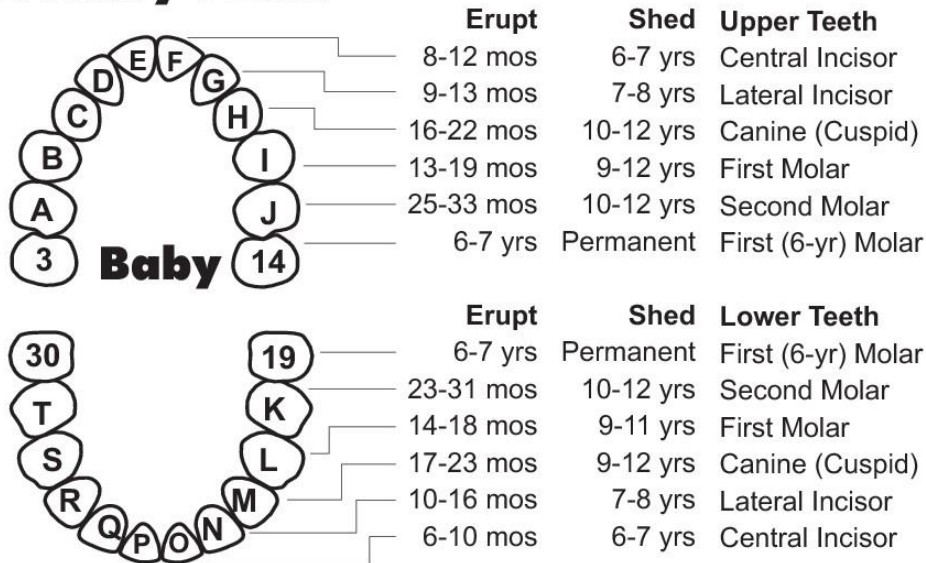


Figure 7: HUMAN MANDIBLE

**Primary Teeth**



**Permanent Teeth**

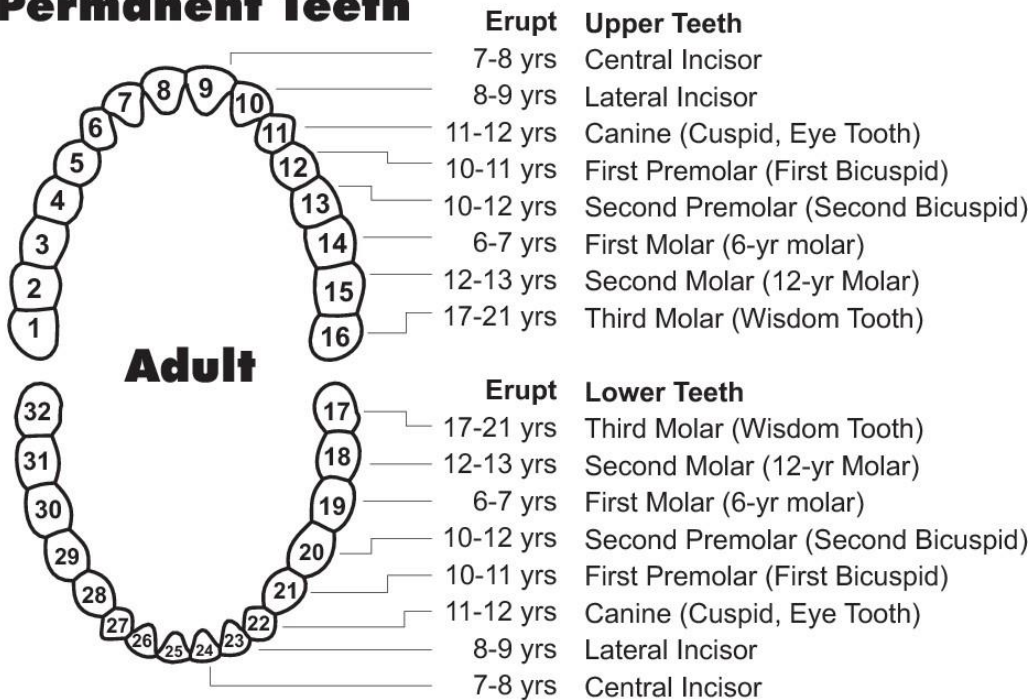
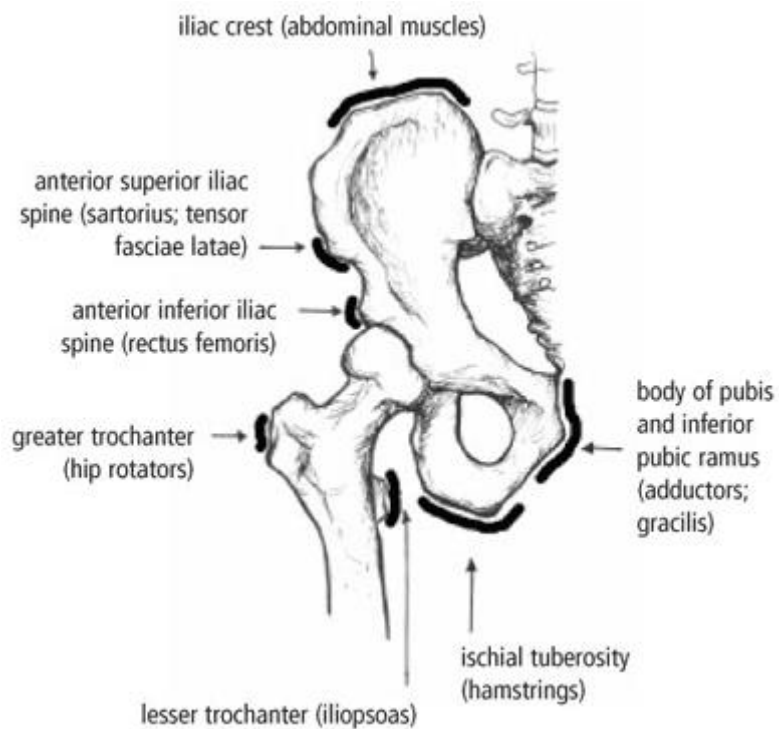


Figure 8: HUMAN TEETH ERUPTION



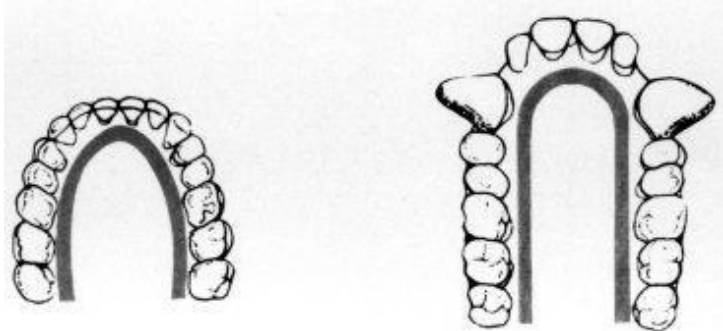
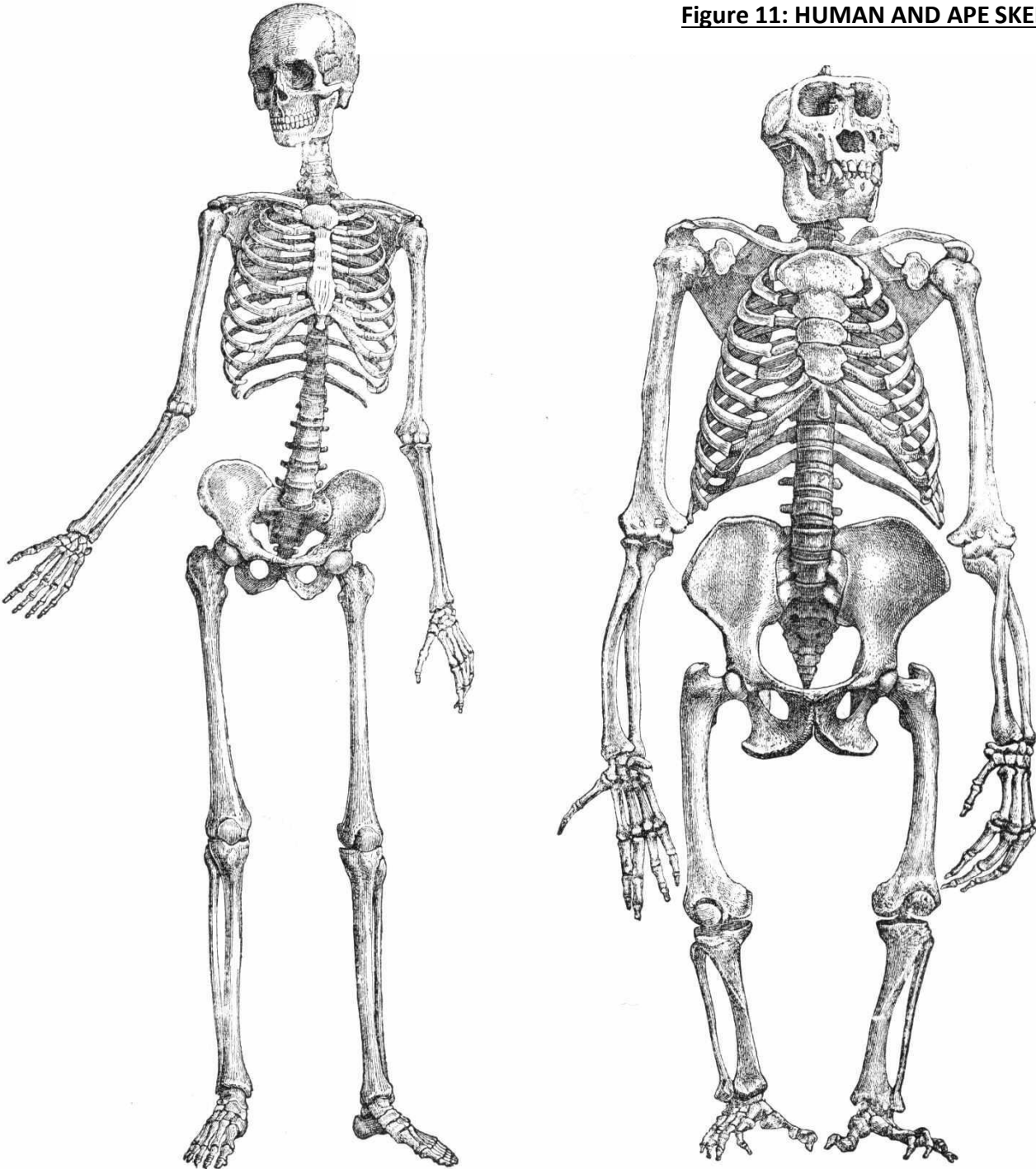


**Figure 9: HUMAN PELVIS**



**Figure 10: HUMAN PELVIS**

**Figure 11: HUMAN AND APE SKELETON**



**MAN**

**APE**

**Figure 12: DENTITION**

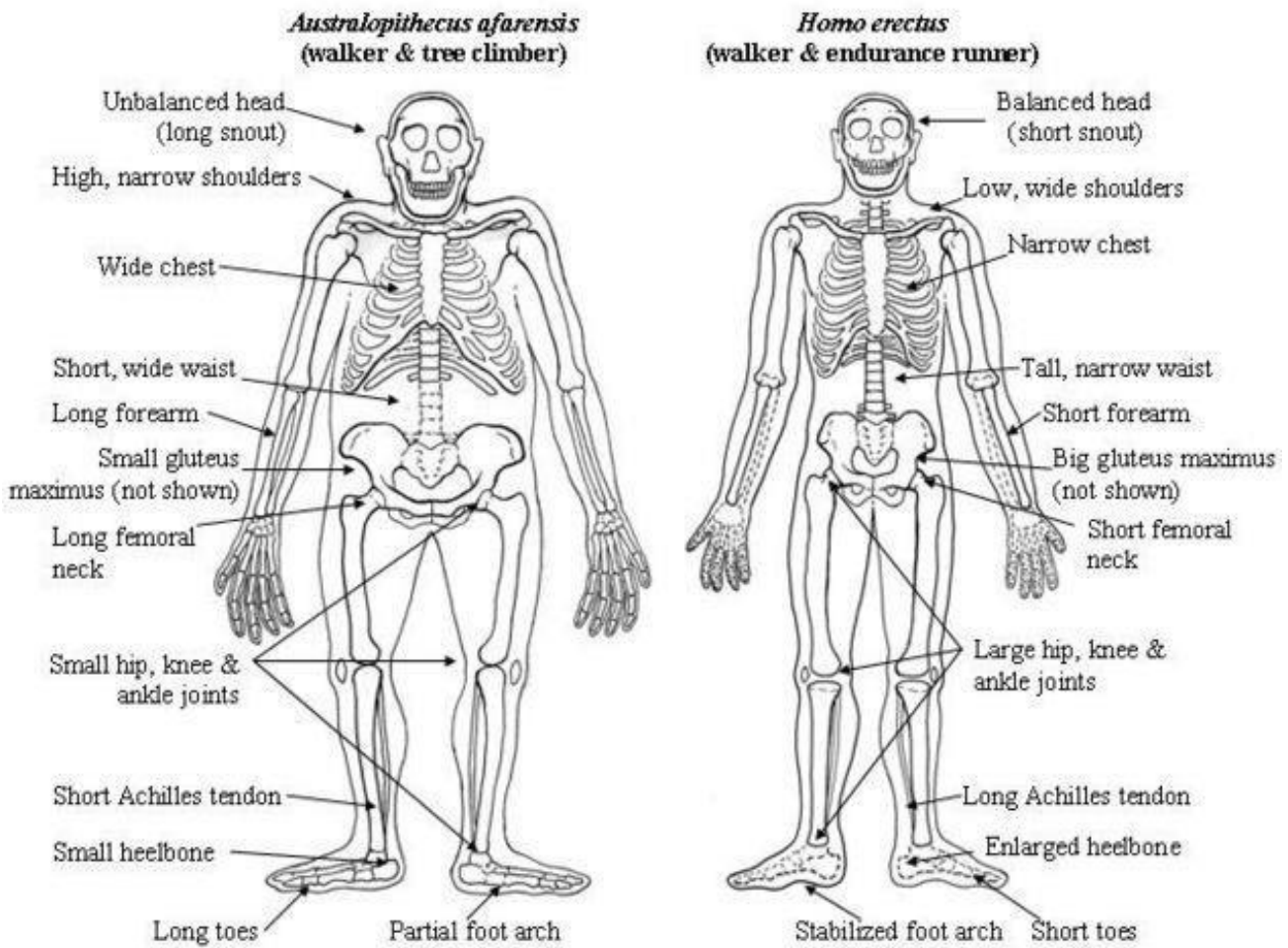
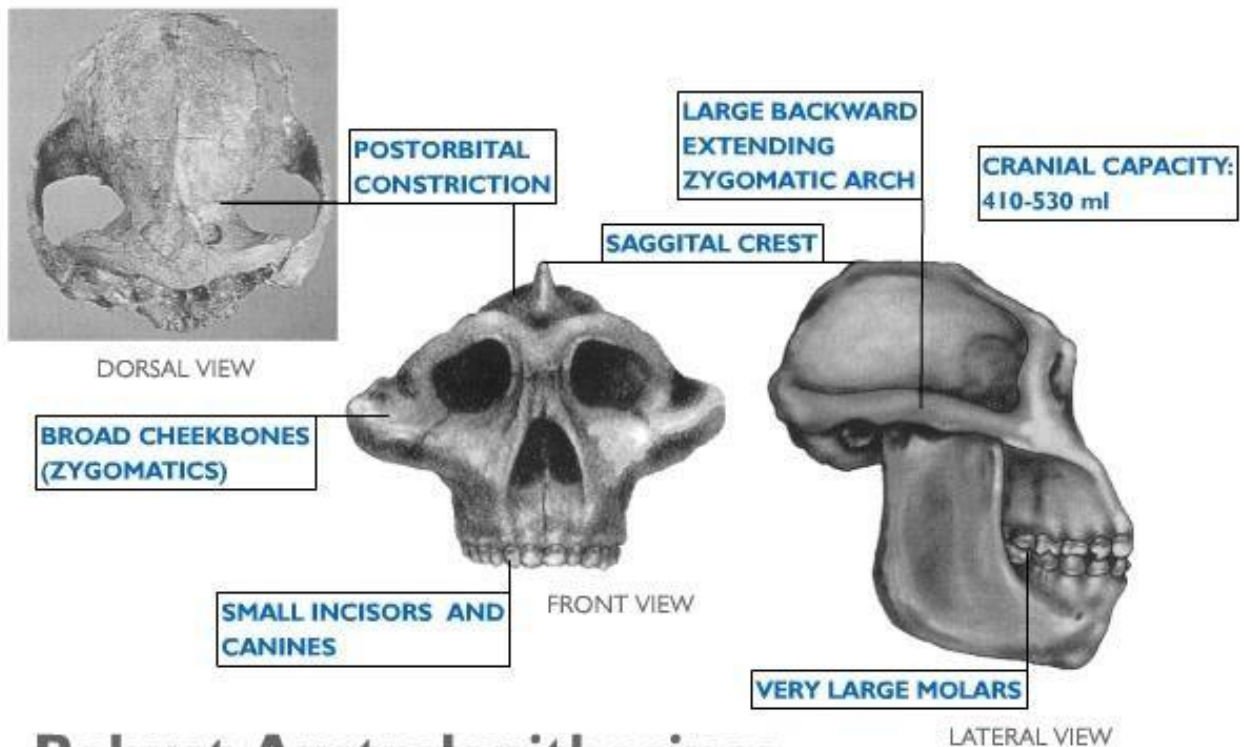
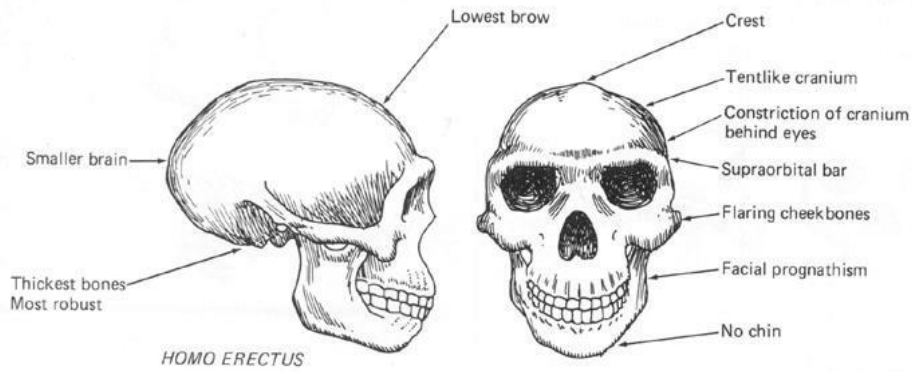


Figure 13: Australopithecus

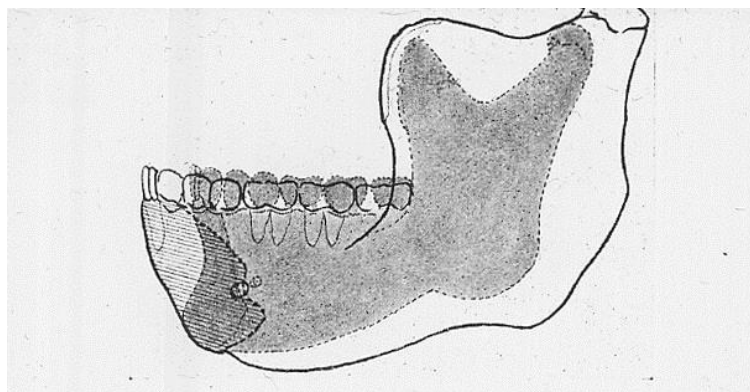
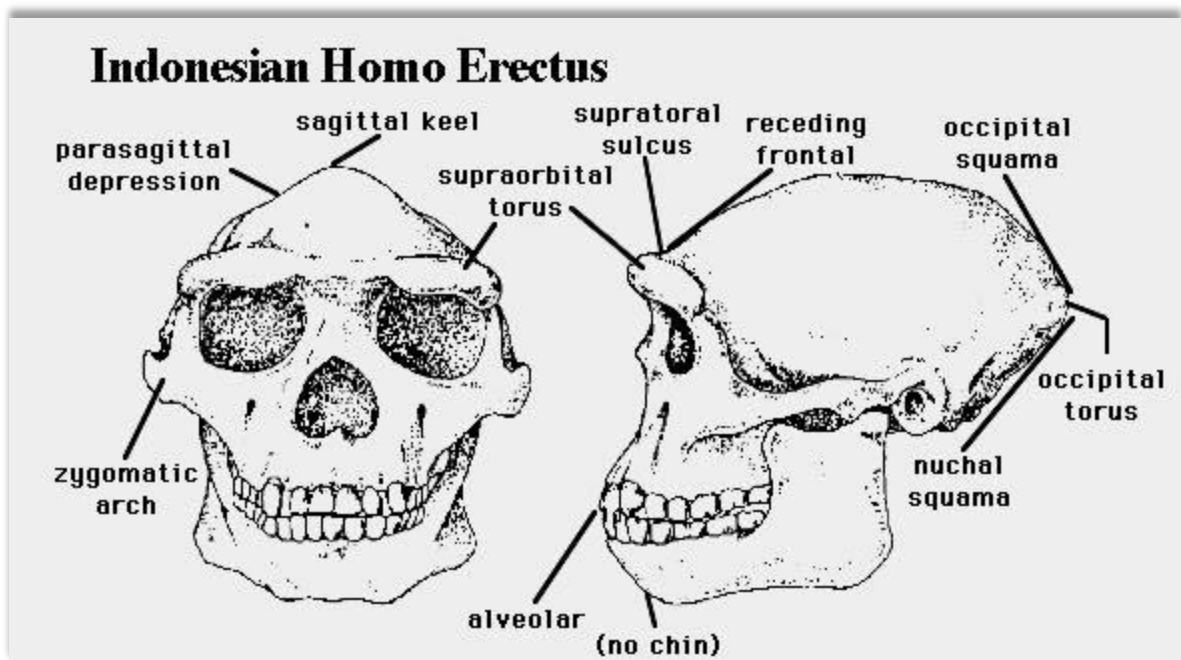


## Robust Australopithecines





**Figure 14: HOMO ERECTUS**



**Figure 15: HEIDELBERG MANDIBLE (IN OUTLINE)  
CONTRASTED WITH THE LOWER JAW OF MODERN MAN**

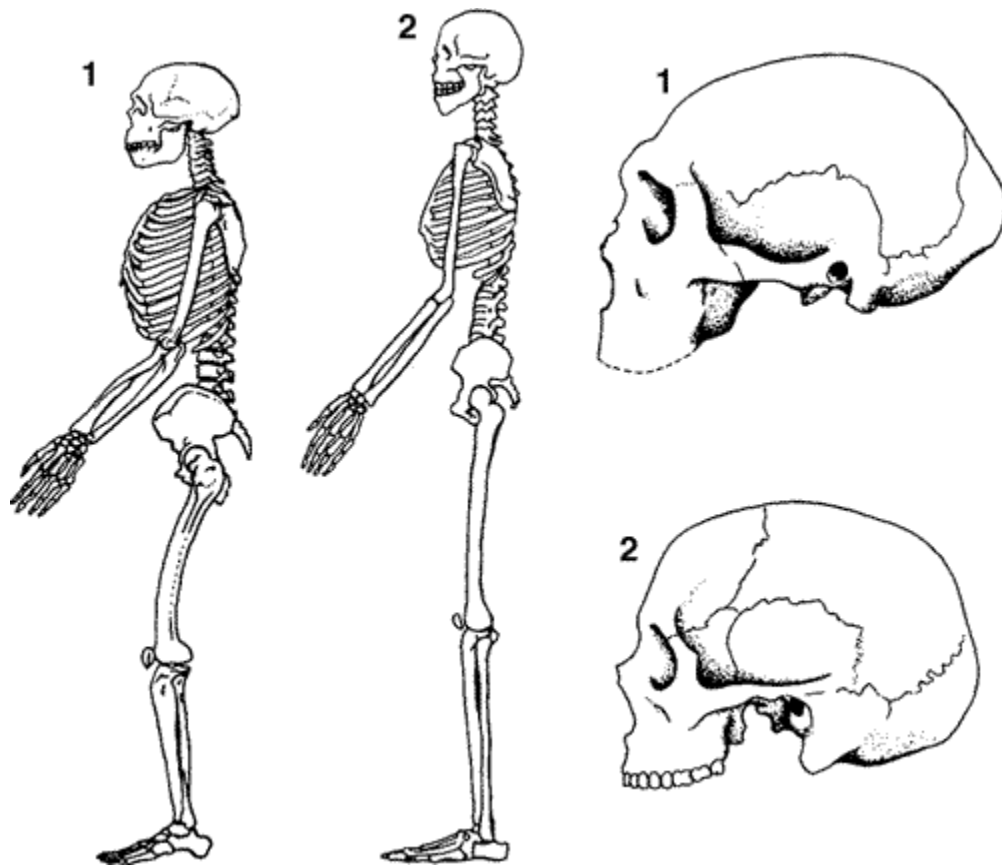
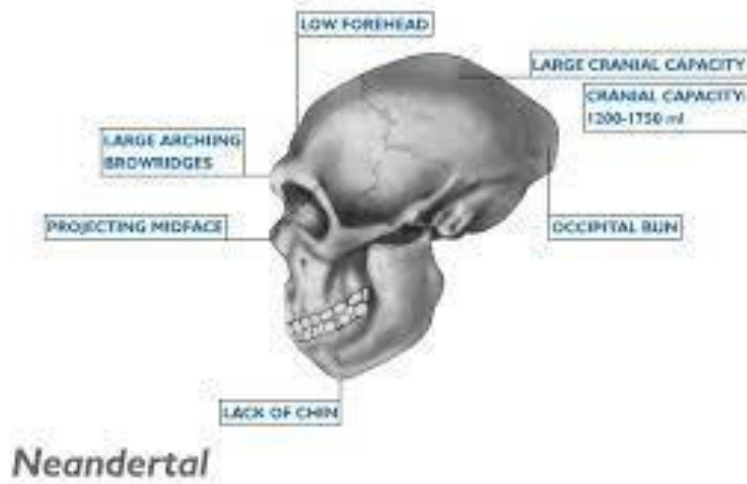


Figure 16: NEANDERTAL (1) AND MODERN MAN (2)



**Australopithecus**



**Homo Erectus**



**Homo sapiens neanderthalis**



**Homo (sapiens) sapiens**



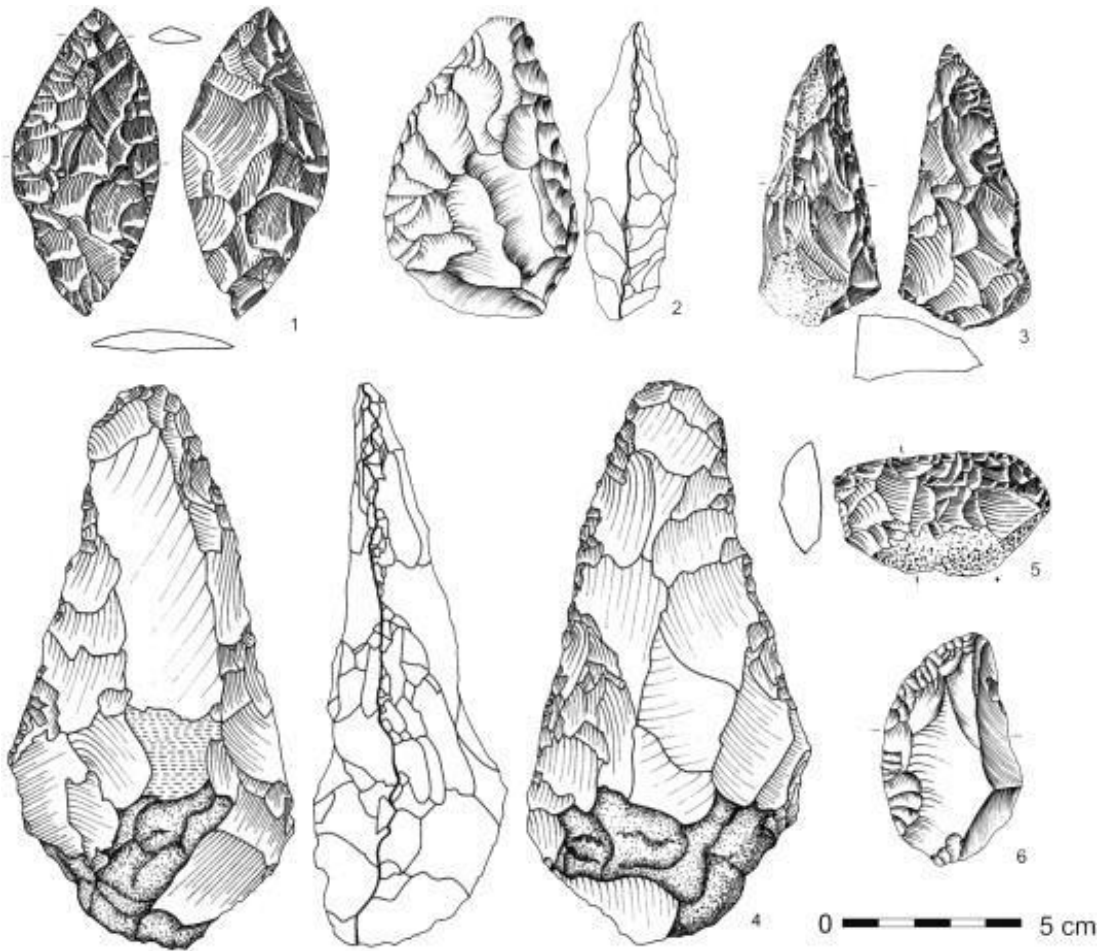


Figure 17: HAND AXE

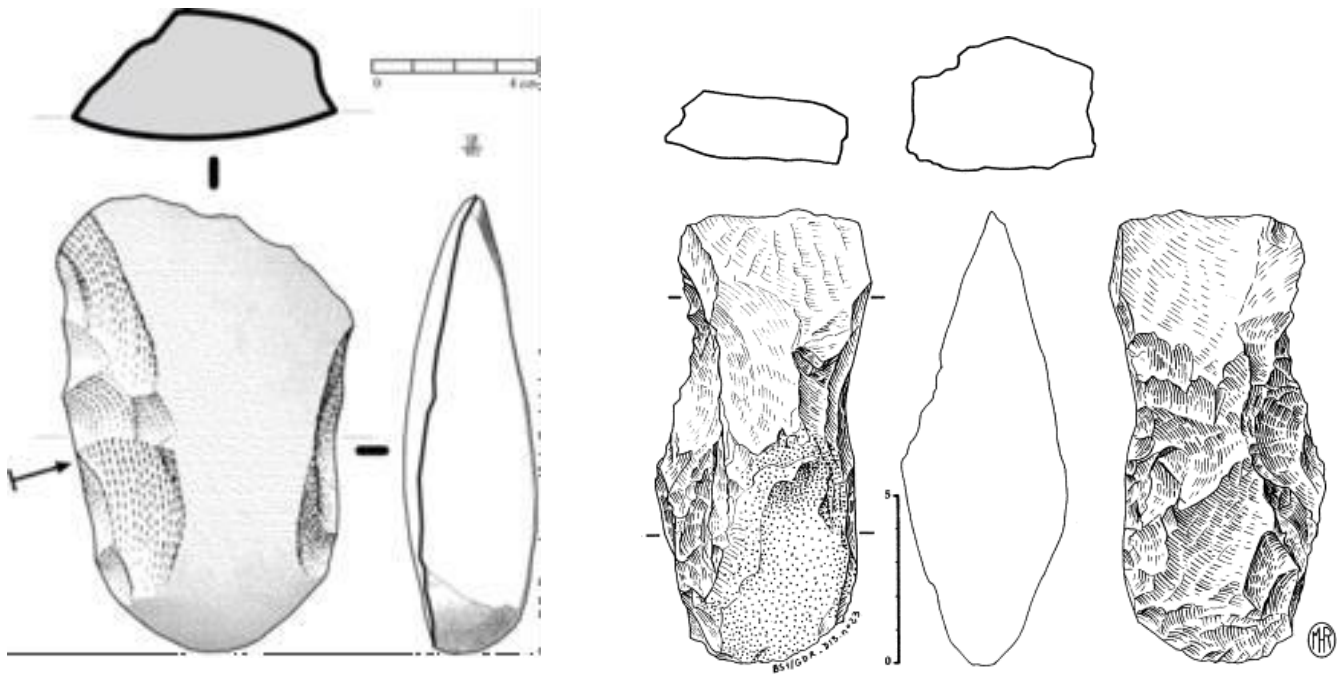
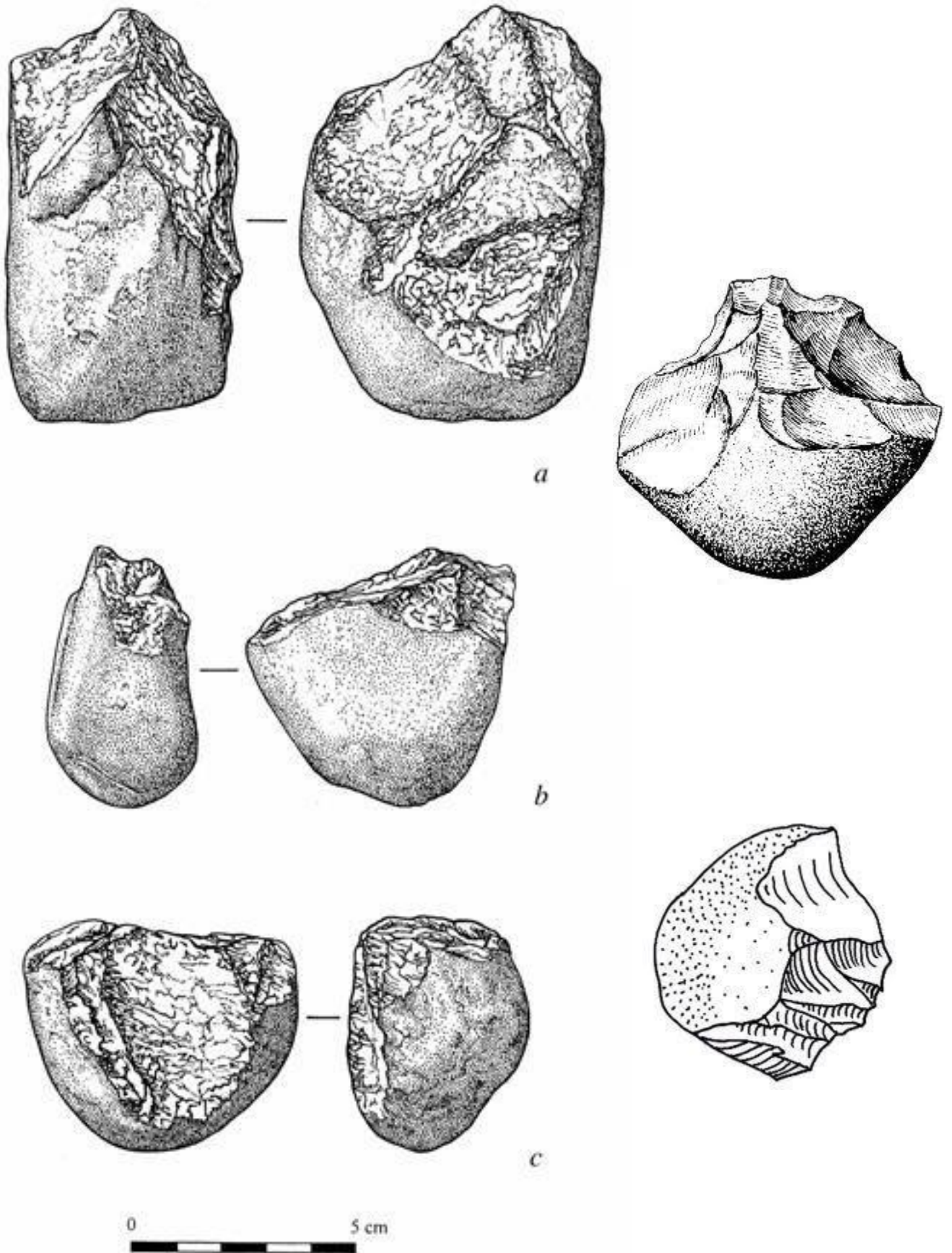


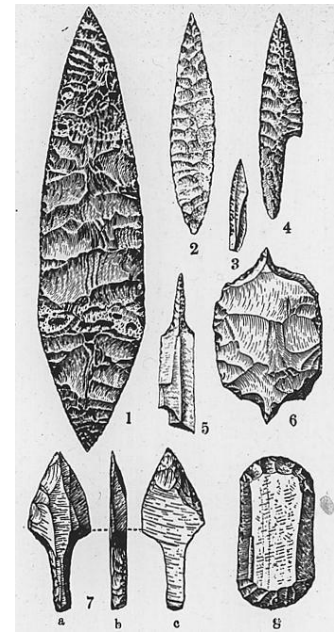
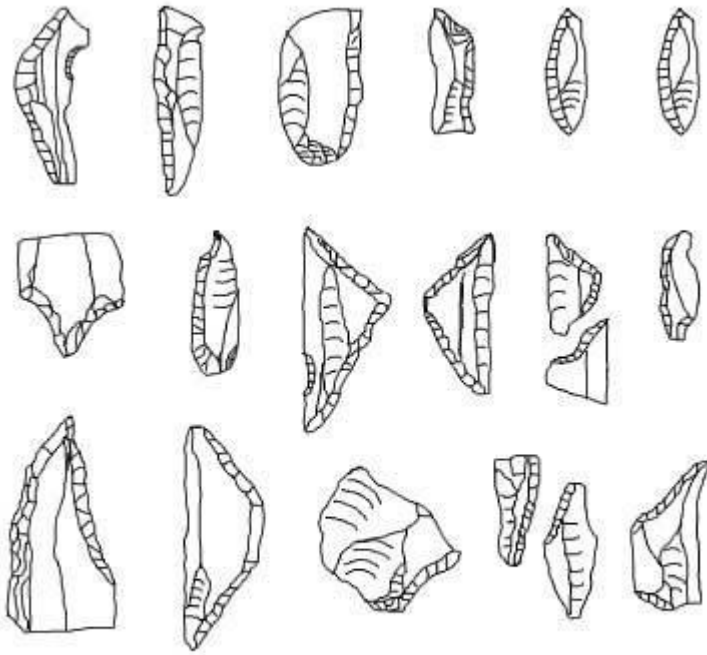
Figure 18: CLEAVER





**Figure 19: CHOPPER/CHOPPING TOOLS**

Figure 20: MICROLITHS

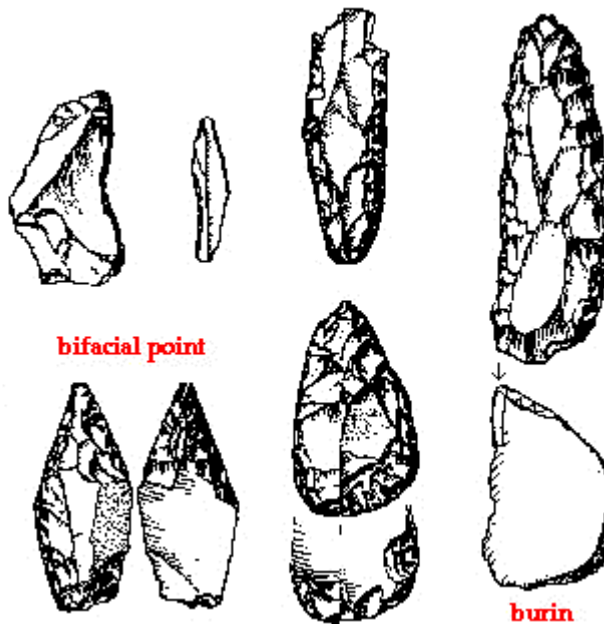


Microliths  
(from Lussa Bay, Jura)

hand axe



bifacial point

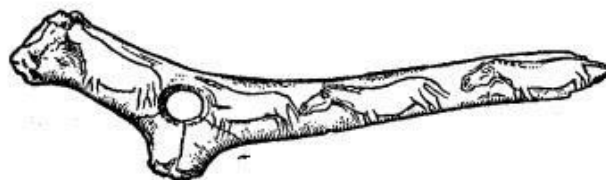


borer

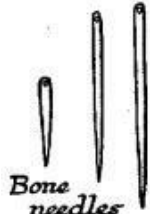
burin



Bone points



HARPOONS



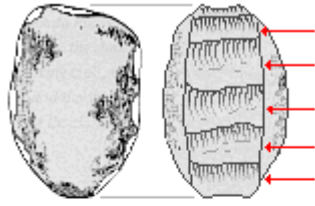
Bone needles



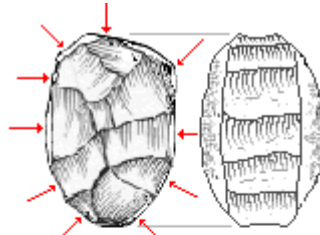




A large cobble of brittle fracturing rock (e.g., flint) is selected.



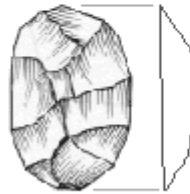
The cobble is percussion flaked around its perimeter to prepare the core.



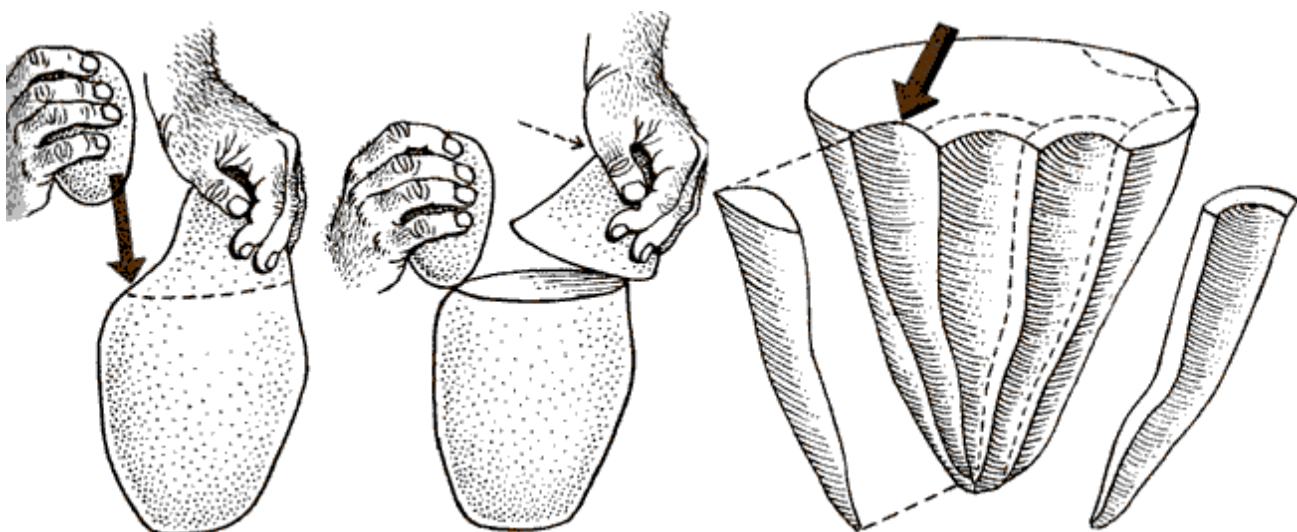
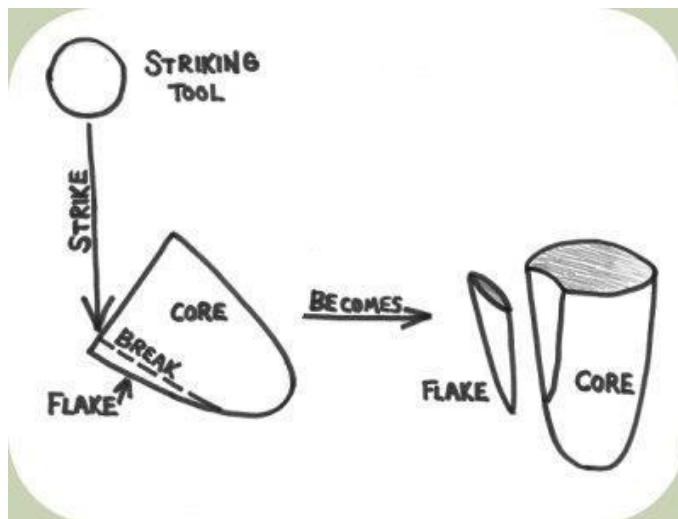
One side is percussion flaked to produce a tortoise shell shape.

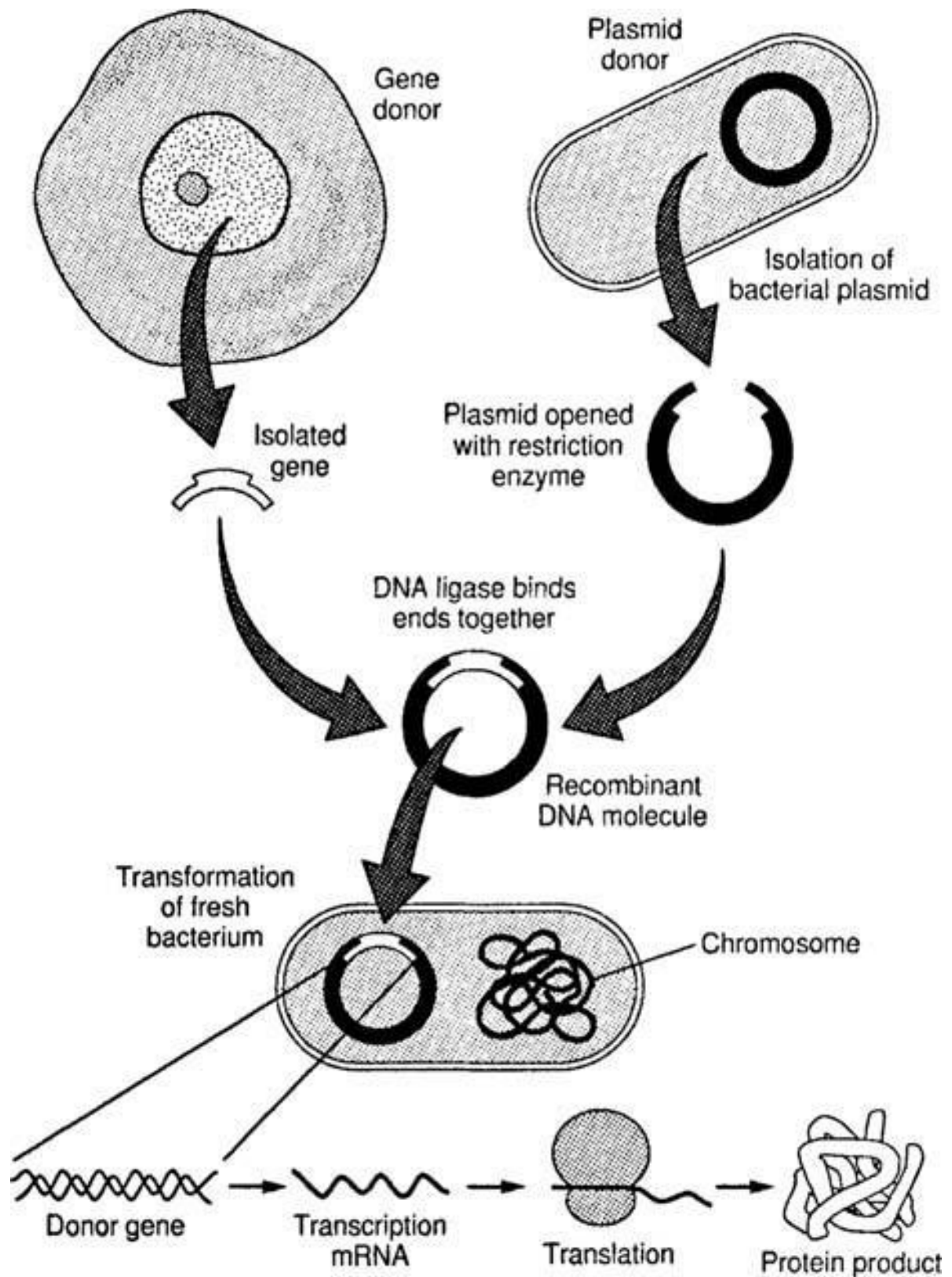


A heavy percussion blow at one end of the cobble removes a large flake that is convex on one side and flat on the other.



This Levallois flake is now ready to be used immediately for scraping and cutting or to be shaped into a specialized tool.



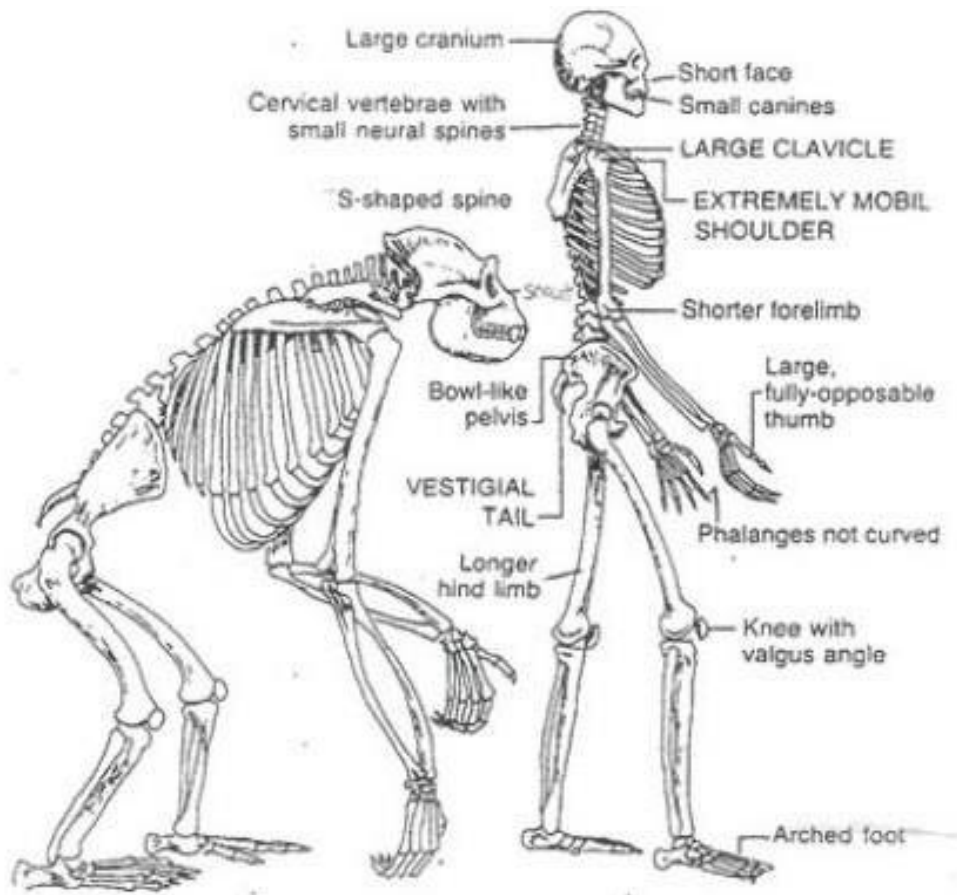


**Figure 22: RECOMBINANT DNA TECHNOLOGY**

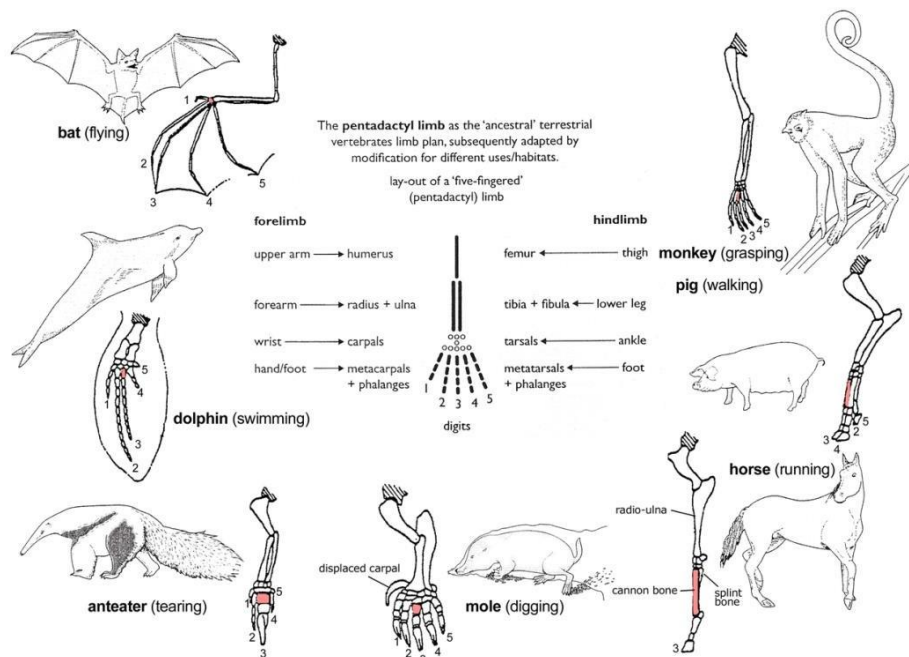
**Figure 23: Biological and cultural evolution of man**

Archaeological Periods	Fossil Humans	Cultural Characters
Lower Palaeolithic	<b>Earliest Hominids i.e. Homo habilis</b>	First stone tools called <b>Oldowan tools</b> (core pebble tools), Hunting and/or Scavenging, Seasonal Camp sites
	<b>Homo erectus</b>	Probable division of labour by sex <b>Abbevillian</b> and <b>Acheulean</b> tools (hand axes)
Middle Palaeolithic	<b>Homo sapiens Neanderthal</b>	<b>Mousterian</b> tools (Flake tools) Burials; Probable religious beliefs
Upper Palaeolithic	<b>Homo sapiens sapiens</b>	<b>Blade tools</b> ; Cave Paintings, Female Figurines
Mesolithic	<b>Homo sapiens sapiens</b>	<b>Microliths</b> ; Broad spectrum of food collecting; Increasingly sedentary communities
Neolithic	<b>Homo sapiens sapiens</b>	<b>Polished</b> tools; Farming; Domestication of plants and animals; Permanent villages
Bronze Age	<b>Homo sapiens sapiens</b>	Full-time craft, specialists, Cities and States; Civilization

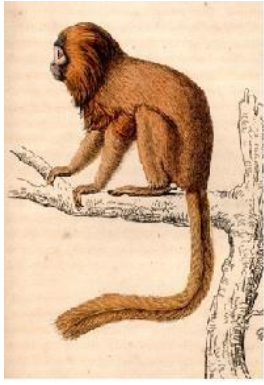




**Figure 24: Skeletal difference between ape and man**

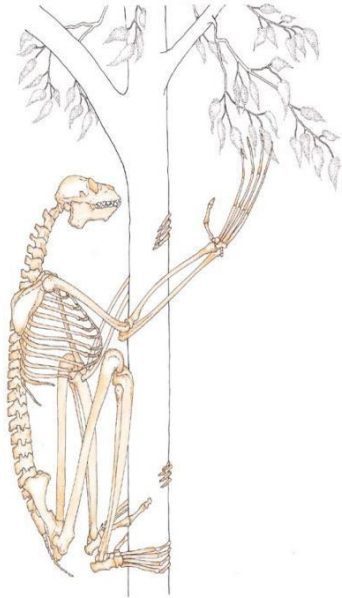


**Figure 25: generalised limbs**



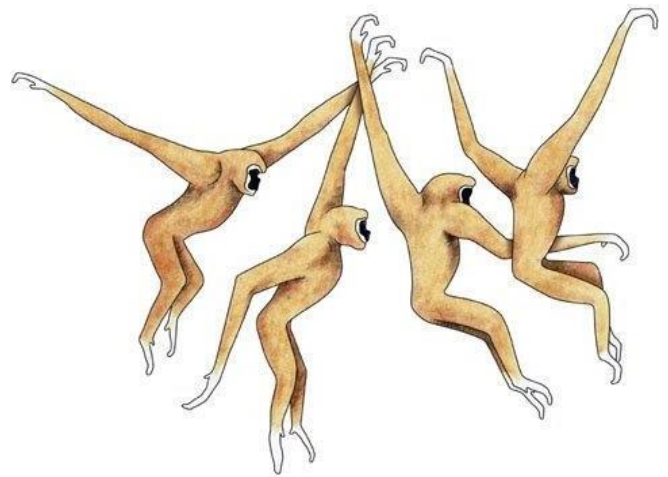
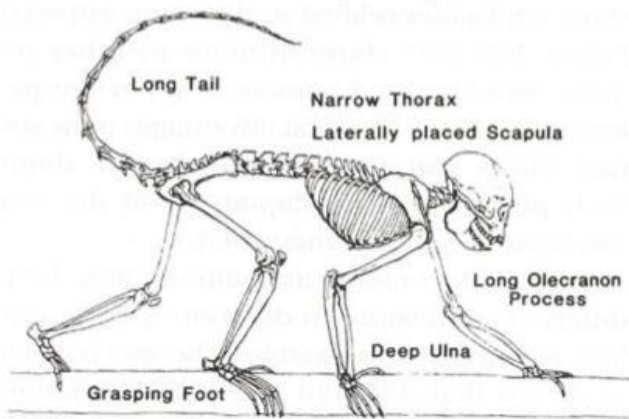
**Figure 26: Different Primates**



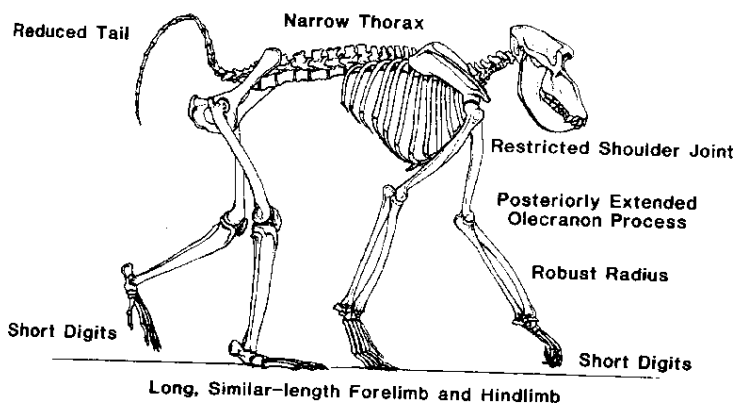


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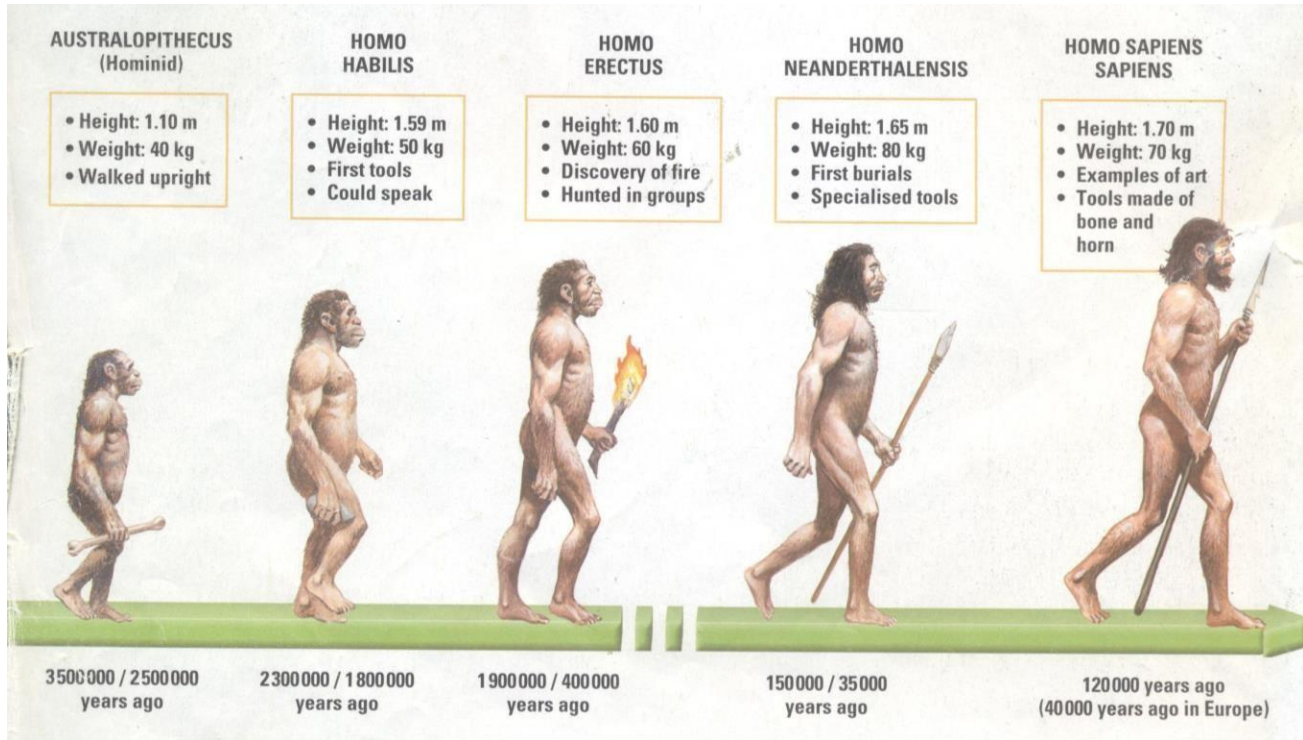
**Arboreal quadruped**



**Terrestrial quadruped**



**Figure 27: Primate Locomotion**



	<i>Homo habilis</i> (small)	<i>Homo habilis</i> (large)	<i>Homo erectus</i>	'Archaic <i>Homo sapiens</i> '	Neanderthals	Early modern <i>Homo sapiens</i>
Height (m)	1	c. 1.5	1.3–1.5	?	1.5–1.7	1.6–1.85
Physique	Relatively long arms	Robust but 'human' skeleton	Robust but 'human' skeleton	Robust but 'human' skeleton	As 'archaic <i>H. sapiens</i> ', but adapted for cold	Modern skeleton; ?adapted for warmth
Brain size (ml)	500–650	600–800	750–1250	1100–1400	1200–1750	1200–1700
Skull form	Relatively small face; nose developed	Larger, flatter face	Flat, thick skull with large occipital and brow ridge	Higher skull; face less protruding	Reduced brow ridge; thinner skull; large nose; midface projection	Small or no brow ridge; shorter, high skull
Jaws/teeth	Thinner jaw; smaller, narrow molars	Robust jaw; large narrow molars	Robust jaw in larger individuals; smaller teeth than <i>H. habilis</i>	Similar to <i>H. erectus</i> but teeth may be smaller	Similar to 'archaic <i>H. sapiens</i> '; teeth smaller except for incisors; chin development in some	Shorter jaws than Neanderthals; chin developed; teeth may be smaller
Distribution	Eastern (+ southern?) Africa	Eastern Africa	Africa, Asia and Indonesia (+ Europe?)	Africa, Asia and Europe	Europe and western Asia	Africa and western Asia
Known date (years ago)	2–1.6 million	2.4–1.6 million	1.8–0.3 million	400 000–100 000	150 000–30 000	130 000–60 000

Figure 28: Human Evolution