

# Evolution of Primates

- ◆ Primates divided into 2 groups: prosimians and anthropoids
- ◆ Prosimians
  - First primates
  - i.e. Loris
  - 30-40 million year fossils show they were common
  - Nighttime hunters...  
How can you tell?



# Evolution of Primates

## ◆ Primates

- Mammals with 5 flexible fingers
- Earliest dwelled in trees-arboreal
- Needed special adaptations for this:

- ◆ Opposable thumb....Why?

- ◆ Binocular vision

- Eyes in front of head

- Field of vision of eyes overlap—depth perception....Why?

- ◆ Rotating Shoulders



# Anthropoids

## ◆ Anthropoids

### - Monkeys

- ◆ Have tails
- ◆ Old World—Asia and Africa
- ◆ New World—Central and S. America



### - Apes

- ◆ NO TAILS
- ◆ Larger brains than monkeys
- ◆ Chimps, gibbons, orangutans, bonobo, etc.



### - Humans

- ◆ Our closest genetic primate relative is?

# Evolution of Humans

## ◆ Vocab:

- Bipedal: walk upright on two legs
- Hominid: bipedal primates such as humans and their closest fossil relatives

## ◆ Hominids are the ONLY bipedal primates:

- Locking knee joints
- Spine enters skull at bottom of head
- Femurs (thigh bone) tapers in



# Evolution of Humans



## ◆ Fossils are rare

– When they are found they must be identified

## – Hominid vs. chimpanzee

◆ Chimps most closely related primate to humans

◆ Hominid jaws and teeth different

– Human's more arc shaped with smaller canines and larger gaps.

◆ Hominid spine S- chimps' is C shaped

◆ Hominid pelvis is bowl-shaped, chimps' long

◆ Hominid thigh bones taper in—chimps' out

– Human Evolution Video Clip

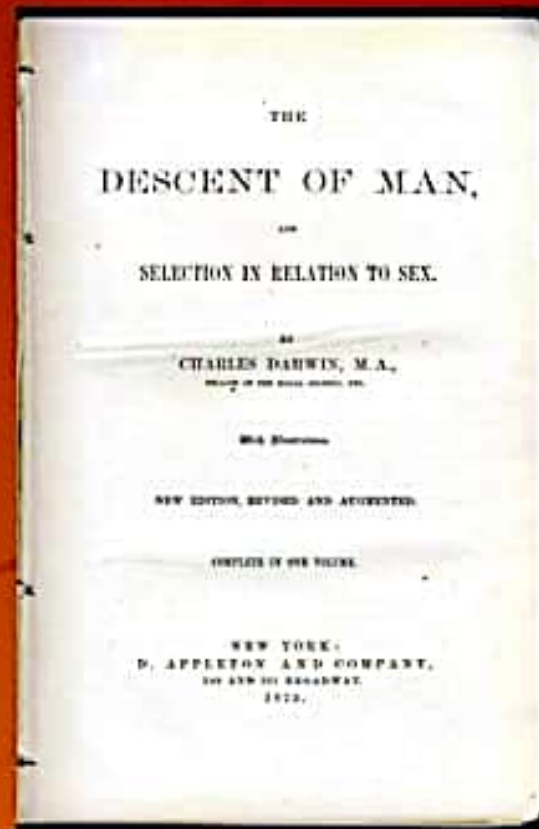


# Early Hominids

## ◆ Darwin *Descent of Man*

- 1871

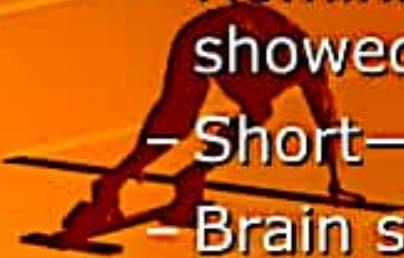
- Said fossilized remains of ape and human common ancestor should be found in Africa



# Early Hominids

## ◆ Genus *Australopithecus*

- Lucy → *Australopithecus afarensis*
- Fossil found in Africa
- Hominids—shape of pelvis and femurs showed they were bipedal. How?
- Short—3'6"
- Brain size of chimps
- Jaws more rounded than apes
- Teeth like humans





# Early Hominids

- *Genus Australopithecus*

*A. afarensis*

- *Genus Homo*

*Homo habilis*

*H. erectus*

*H. sapiens*

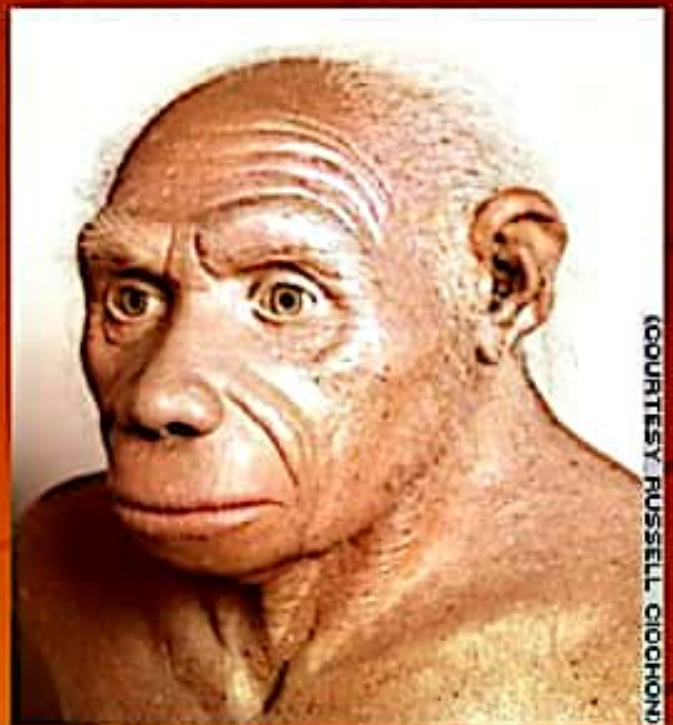
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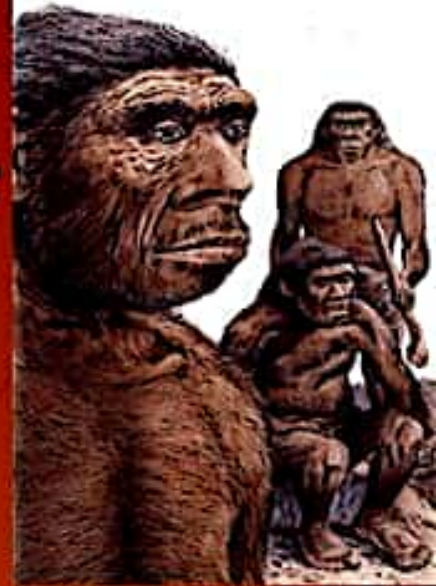
**NOT A COMPLETE LIST! THERE ARE OTHERS!**

# Homo erectus

- ◆ Java man / Peking man
- ◆ Africa / Asia / Europe
- ◆ Larger than H. habilis
- ◆ Larger brain
- ◆ Excellent tools used, used fire
- ◆ 1.5 mya – immediate ancestor



## Early *H. sapiens*



- ◆ *Homo Neanderthalensis*
- ◆ First discovered in Neander Valley
- ◆ Massive skulls, protruding brows
- ◆ Great controversy on whether they died off (genes no longer) or whether they evolved with us (interbred so genes still in our gene pool)
- ◆ Modern *H. sapiens* probably evolved in Africa and replaced Neanderthals.