

**PENANG SANGAM HIGH SCHOOL
P.O.BOX 44, RAKIRAKI**

LESSON NOTES

Year/Level: 13A/B

Subject: BIOLOGY

Strand	1 Structure And Life Processes
Sub Strand	1.2 Human Evolution
Content Learning Outcome	Understand and differentiate between the old world monkeys and new world monkeys by studying their features.

2. SUB-ORDER ANTHROPOIDS

- Diurnal
- Have colour vision
- Eyes face more directly forward
- Sense of smell is reduced
- Facial expression play an important part in communications
- Brain relatively larger than in prosimians
- Single uterus
- Breeding is non-seasonal
- Cannot manufacture ascorbic acid

The ANTHOROPOIDS are divided into three super families;

PLATYRRHINE (New World Monkeys)

CATARRHINES (Old World Monkey)

HOMINOIDS (Apes and Humans)

Note: It was thought that these groups evolved from different prosimians but amino acid sequencing has shown that they shared a common anthropoid ancestor

a) PLATYRRHINES (*New World Monkeys*)

. E.g. Howler Monkey, Squirrel Monkey, Capuchin Monkeys, Uakaris, Sakis, Titi Monkeys

- Less advanced than old world monkeys
- First digit (thumb) is non-opposable
- The shortening of the tooth row has gone less far than in O.W.M, there are three premolars
- Facial musculature is simpler, so there is less communication by expression
- Do not have menstrual bleeding
- Have prehensile tail which acts as the fifth limb and can wrap around branches
- their arms are longer than their legs.

- Nostrils situated wide apart and their openings face outwards
- Exclusively arboreal
- Herbivores
- Social animals- live in groups
- Arboreal- tree dwelling

b) **CATARRHINES** (Old World Monkeys)

. E.g. Baboons, Macques, Colobus, Langurs

- Nostrils are close together and open downwards
- Many Old world monkeys are *sexually dimorphic*. This means that the males and females look different and are different in size.
- Only 2 premolars in each half of each jaw
- Tail is never prehensile
- Skin on the 'bottom' is thickened with a fatty, fibrous tissue to form **ischal callosities**. In some species these are **surrounded by naked, brightly coloured skin**.
- Old world monkeys are arboreal except for baboons and macaques.
- Many species have become partly terrestrial
- The ground dwellers are quadrupeds (walk on four limbs).
- Brain and social behaviour more elaborate than in N.W.M
- Sense of smell even further reduced than in N.W.M
- Old world monkey have fully opposable thumbs
- They are usually larger than new world monkeys.
- Facial muscle more highly developed, allows communications by facial expression
- In most species there is menstrual bleeding

Activity:

1. Study the diagram below to answer the question that follows.



The above primate is most likely a/an

- | | |
|----------------------|----------------------|
| A. hominoid. | B. modern ape. |
| C. old world monkey. | D. new world monkey. |