

SANGAM SKM COLLEGE – NADI

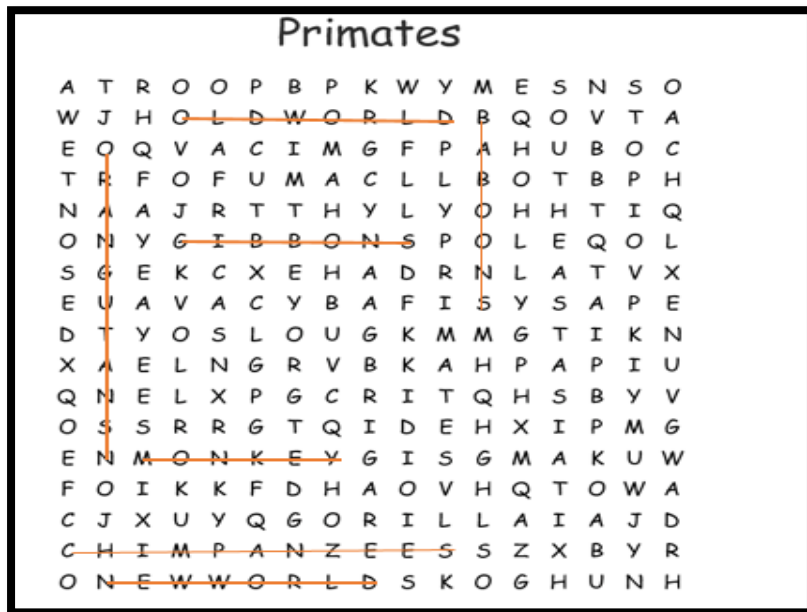
YEAR 13 BIOLOGY

ACTIVITIES- WEEK 4

INSTRUCTIONS

Students can either print the worksheets and answer on them or copy the questions at the back of their books and answer the

Q1. Directions: Find/Name **six** animals that belongs to the order primate from the word puzzle given below.



Q2. Write all the correct stages of human evolution in

Stages	Correct sequence
Homo sapiens.	Australopithecus
Homo habilis.	Homo habilis
Australopithecus	Home erectus
Homo erectus.	Homo neanderthalensis
Homo neanderthalensis.	Cro magnon
Cro magnon	Homo sapiens

their correct sequence

Q3. Name the **first** genus of hominid that was truly bipedal.

Australopithecus

Q4. Discuss two advantage of bipedalism over quadrupedalism.

- **Arms are free for carrying tools and infants.**

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- Allowed the hominoids to see over the tall grasses (can easily avoid predators).
- allows us to travel long distances

Q5. Explain the term 'Arboreal'.

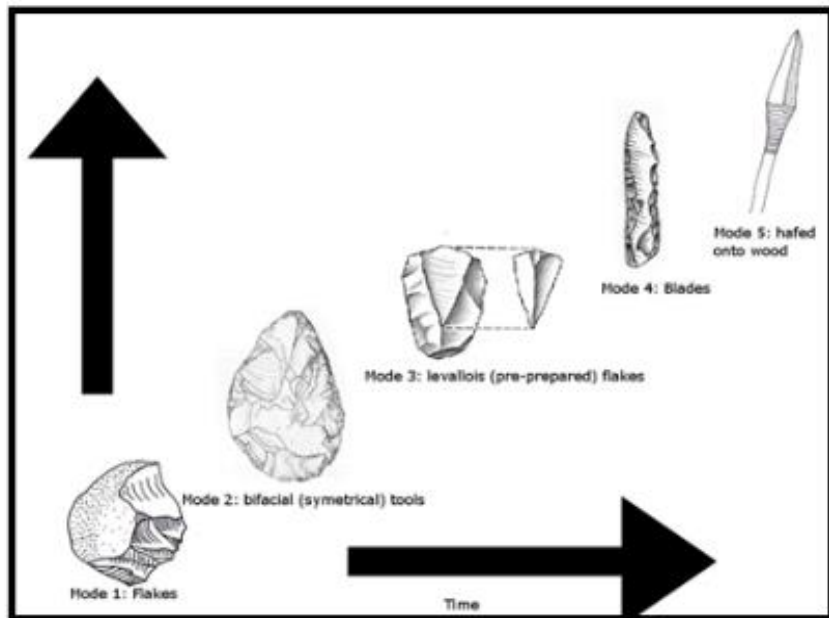
Tree living

Q6. Who was **Java Man**, and why is **Java Man** considered important?

Homo erectus, they discovered fire which improved their hunting and food gathering skills.

ACTIVITIES – WEEK 5

Q1. Refer to the diagram and answer the questions that follow.



i) Use **one** word and state the trend observed in tool making.

Complexity

ii) What is the significance of tool making to the course of human evolution?

Stone tools were used for the following:

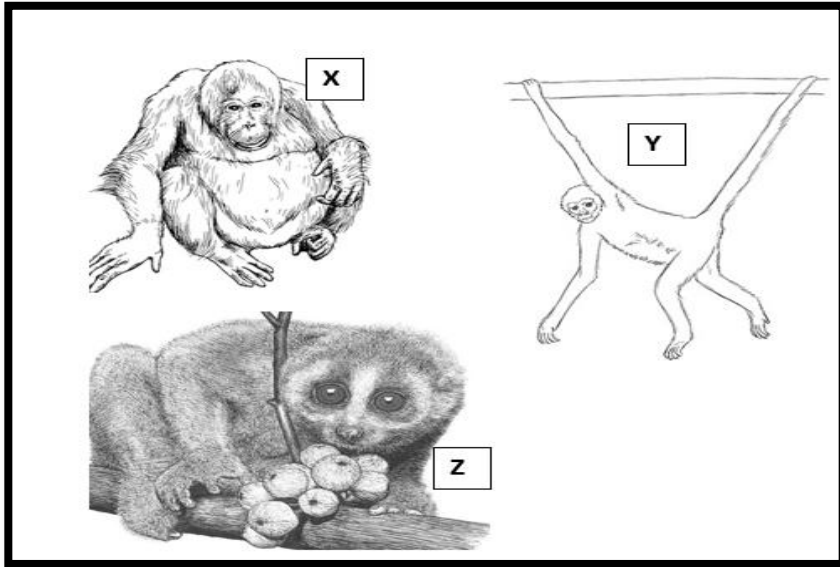
- make weapons for fighting
- hunting and fishing
- scraping and cleaning animal hides
- drilling, engraving and carving wood.

Wood

- were used as a building material
- also to make spear /bow and arrow to kill prey

Hence, the use of tools allowed the hominoids to cut through objects, separate meat from bones. The progressive improvement in tool making affected the course of human evolution.

Q2. The order *Primates* is one of the most species-rich groups of mammals. Refer to the diagram given below and the questions that follow.



Identify the primates shown in the diagram

X- Orangutan

Y-Spider monkey/ New world monkey

Z- Lorises

Q3. Mutation

- | | | |
|---|----------|------------------------|
| 1. The change of one base to another in a DNA sequence | B | A. mutation |
| 2. A change in one or a few nucleotides that occur at a single point in the DNA sequence | C | B. substitution |
| 3. Part of one chromosome breaks off and attaches to another | F | C. point mutation |
| 4. A heritable change in genetic information | A | D. frameshift mutation |
| 5. A mutation that produces an extra copy of all or part of a chromosome | H | E. insertion |
| 6. A chromosomal mutation that reverses the direction of parts of a chromosome | G | F. translocation |
| 7. A kind of mutation that can change every amino acid that follows the point of mutation | D | G. inversion |
| 8. The addition of a base to the DNA sequence | E | H. duplication |

Match the terms with its definition

Q4. The Hardy-Weinberg Principle Practice

The year 13 Biology student sampled a population in which the percentage of homozygous recessive genotype (**aa**) is 36%. Using that 36%, Calculate the frequency and percentage of the following.

AA/P ²	$p + q = 1$ $q = 0.6$ $p = 0.4$ $0.4^2 = 0.16 \times 100 = 16\%$
Aa/2pq	$2 (0.4) (0.6) = 0.48 \times 100 = 48\%$
aa/q ²	$36\% / 100 = \sqrt{0.36}$ $q = 0.6$

Q5. In the Hardy-Weinberg Principle, if the dominant allele frequency is 0.8.

What percent of the population will be heterozygous?

p dominant
q recessive

$$P = 0.8$$

$$q = 0.2$$

$$p + q = 1$$

2pq (Heterozygous)

$$2 (0.8) (0.2) = 0.32 \times 100 = 32\%$$