KELMSCOTT Senior high school

ATAR Human Biological Science Unit 4

Science Inquiry 4: A comparison of Hominin skulls

Answers

Your task is to:

* Observe the Hominin skulls and arrange them in evolutionary order from oldest (I) to youngest (V)
* State the scientific name for the skill
* Justify the order that you place the skulls in, in terms of observable characteristics

|  |  |
| --- | --- |
| Marks allocated | Your Marks |
| 40 |  |

1. Oldest Skull # **C**  Scientific name: ***Australopithecus afarensis***

(1/2 mark) (1/2 mark)

* prognathic
* Small cranium/small capacity
* Large zygomatic arch, very large zygomatic

Any 5 points for 5 marks:

* Large ascending ramus
* Considerable post orbital constriction
* Significant brow ridge
* No chin
* Large canines and/or incisors
* Diastema present
* Slight parabolic dental arcade rather than ‘U’ shape
* Anterior Foramen magnum (5 marks)

1. Skull # **A** Scientific name: ***Australopithecus africanus***

(1/2 mark) (1/2 mark)

* moderate prognathism
* slight increase in size of vault
* no chin

Any 5 points for 5 marks:

* v. large ascending ramus
* brow ridge
* parabolic dental arcade
* incisors like canines
* slight reduction in zygomatic arch and bone size
* considerable post orbital constriction
* broader molars
* anterior foramen magnum
* no diastema

1. Skull #  **E** Scientific name: ***Homo erectus***

(1/2 mark) (1/2 mark)

* Reduced prognathism
* Occipital bun

Any 5 points for 5 marks:

* Some sagittal crest
* Larger cranial capacity
* Brow ridge
* Reduced post orbital constriction
* No diastema
* Anterior Foramen magnum

1. Skull # **D** Scientific name: ***Homo neanderthalensis***

(1/2 mark) (1/2 mark)

* Human like but robust
* Slight prognathism
* Brow ridge
* V large vault
* Small ascending ranus

Any 5 points for 5 marks:

* Parabolic dental arcade
* Heavier reinforcement of skull
* No post orbital constriction
* Occipital bun
* Definite chine
* Large cranial capacity
* No diastema

1. Skull # **B** Scientific name***: Homo sapiens***

(1/2 mark) (1/2 mark)

* Orthognathic face (flat)
* No brow ridge
* Large rounded vault and increased cranial capacity
* Reduced zygomatic arch
* Smaller teeth/incisors like canines

Any 5 points for 5 marks:

* Parabolic dental arcade
* No diastema
* No post orbital constriction
* More gracile overall
* Definite chin
* No occipital bun
* Reduced occipital chondyles
* Foramen magnum completely at base