Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Who Is the Skeleton in The Closet?***

**Forensic Anthropology – Human Skeleton Lab**

**Rationale:**

Through measurements, observations, and comparison, this lab allows students to determine unique characteristics of a human skeleton, such as height, gender, age, and race.

**Materials:**

Various bones

Measuring tape or ruler

Calculator

**Part 1: Gender Determination**

Observe the skull and pelvis and record your results in Data Table 1.

**DATA TABLE 1: GENDER DETERMINATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature** | **Female** | **Male** | **“Closet Skeleton”** |
| **Cranium** | Medium to Large | Large |  |
| **Forehead** | High, vaulted, and rounded | Low and sloped backward |  |
| **Brown bone** | Diminished | Pronounced |  |
| **Mastoid process** | Diminished or absent | Pronounced |  |
| **Mandible angle** | Obtuse (>90⁰) | Approximately right (~90⁰) |  |
| **Pelvis opening** | Wide, circular | Narrow, noncircular |  |
| **Sacrum** | Short, wide, and turned outward | Wide/length almost equal, turned inward |  |
| **Subpubic angle** | Approximately right (~90⁰) | Acute (<90⁰) |  |
| **Overall skeleton (if available)** | Slender | Robust |  |

**Part 2: Age Determination**

The following data will give you a range of ages. Compare your skull to the characteristics listed. If a complete skeleton is available, complete this. Otherwise, leave the bottom section blank.

**DATA TABLE 2: AGE DETERMINATION**

|  |  |
| --- | --- |
| **Age** | **Skeletal Characteristic** |
| **21-30** | Lambdoidal suture (rear of cranium) fused |
| **30-32** | Sagittal suture (center of cranium) fused |
| **48-50** | Coronal suture (front of cranium) fused |
|  |  |
| **4-6** | Humerus head bones fused |
| **10** | Finger bones fused |
| **18-24** | Sternum fused to clavicle |
| **24-30** | Sacrum bones fused |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **“Closet Skeleton” Approx. Age** |  |  | **Age Characteristics** |  |  |
|  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**Part 3: Race Determination**

Observe the skull and compare the characteristics in Data Table 3.

**DATA TABLE 3: RACE DETERMINATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature** | **Caucasoid** | **Mongoloid** | **Negroid** | **“Closet Skeleton”** |
| **Eye orbitals** | Oval | Circular | Square |  |
| **Nasal cavity** | Long, narrow | Small, rounded | Wide |  |
| **Cranium frontal plane** | Flat | Flat or projected outward | Projected outward |  |

**Part 4: Height Determination**

To determine the height of an individual, measure the length of the humerus and femur, and plug the measurements into the equation. Caucasoid and Negroid have different equations, but the equation listed in the table below is for unknown ancestry. Make sure you have already determined gender. Convert height in centimeters (cm) to feet/inches. (2.54cm = 1 inch).

|  |  |  |
| --- | --- | --- |
| **Feature** | **Female** | **Male** |
| **Humerus** | Height (cm) = humerus length (cm) x 4.62 + 19.00 | Height (cm) = humerus length (cm) x 4.62 + 19.00 |
| **Femur** | Height (cm) = femur length (cm) x 3.01 + 32.52 | Height (cm) = femur length (cm) x 2.71 + 45.86 |

“Closet skeleton”:

Humerus length (cm) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Femur length (cm) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Calculated height from humerus = \_\_\_\_\_\_\_\_\_\_\_\_(cm)

Calculated height from femur = \_\_\_\_\_\_\_\_\_\_\_(cm)

“Closet skeleton” height = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(ft/in)

Part 5: Final Determinations of the “Closet skeleton”

Gender: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approximate age: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Race: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Height: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In your opinion, what was the easiest to determine? Why?

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What was most difficult? Why?

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What other characteristics can be used to identify remains?

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