

## Differences Between Human Bone & Animal Bone

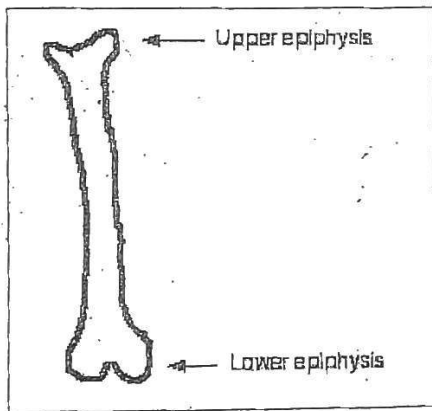
Name: \_\_\_\_\_ Date: \_\_\_\_\_

When no skull is apparent, animal bones can often be confused with human bones. Forensic Anthropologists use several methods to distinguish between human and animal bone.

**BONE CELLS:** Human bone cells are very round, while animal bone cells are more rectangular/linear.

**RIBS:** Human ribs tend to be \_\_\_\_\_, while most animal ribs tend to be \_\_\_\_\_. Also, the overall number of ribs in a human tends to \_\_\_\_\_ than that of an animal (ie. \_\_\_\_\_).

**LIMBS:** Human limbs from children (arm & leg bones) will have \_\_\_\_\_ epiphyses regions, while animal limbs will have \_\_\_\_\_ epiphyses regions.



Unit 1 - 3

①

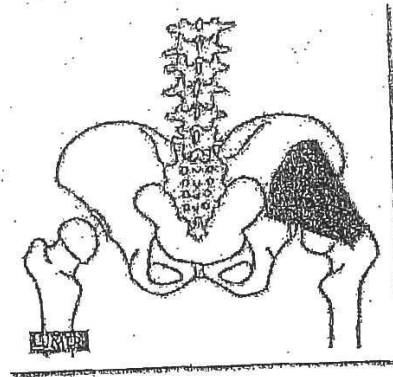
Forensic Anthropology  
Worksheets

## UPPER LIMBS:

The upper arm bones of a human will have a smaller \_\_\_\_\_ region on the upper part of the bone and also fewer \_\_\_\_\_ extending from the upper part as compared to animal bones. Human arm bones also tend to be more \_\_\_\_\_, while animal limb bones tend to be \_\_\_\_\_.

**LOWER LIMBS:** The upper leg bone (femur) of a human has a large \_\_\_\_\_ at its upper head portion compared to animal bones. Also, the upper head portion of a human femur is \_\_\_\_\_, while animal bones have a more \_\_\_\_\_ upper head portion.

The lower leg bones (tibia) of animals have \_\_\_\_\_ upon their upper portion while human bones do not.



②

Unit 1 - 4

Name \_\_\_\_\_

Per \_\_\_\_\_

# BONES, BONES, BONES...

## Determining Ancestry from Skeletal Remains

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

1. Which part of the human skeleton tends to exhibit the most distinct traits among individual ancestral groups? \_\_\_\_\_
2. Name three unique features of the skull of those from Negroid ancestry. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What is the shape of the eye orbits in a skull of monogoloids? \_\_\_\_\_

Use the photograph below to answer the next question.



4. What is the shape of the orbits of the eyes and the ancestry of the skull shown above? \_\_\_\_\_  
\_\_\_\_\_
5. What is the shape of the base of the nasal area in a skull of monogoloids? \_\_\_\_\_
6. When compared to other ancestral groups, the space between the eyes and nose in the skull of an negroid individual tends to be what shape? \_\_\_\_\_
7. Name three unique features of the skull of those from Caucasiod ancestry. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3

# BONES, BONES, BONES...

## Determining Gender from Skeletal Remains

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

1. Which of the following three skeletal parts differ in size between human males and human females? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What is one word that outlines the main difference between the human male pelvis and the human female pelvis? \_\_\_\_\_
3. What are two differences between the muscle attachment sites and weight bearing surfaces on human male limb bones as compared to human female limb bones? \_\_\_\_\_  
\_\_\_\_\_

Use the following information to answer the next question.

An unknown human skull is found in a ravine by a hiker. A forensic anthropologist noted the following characteristics of the skull:

- Round chin
- Large nasal spine
- Slight supraorbital ridges in forehead
- Sloped orbits
- Small canine teeth

4. The skeleton described is likely the remains of a: \_\_\_\_\_
5. Describe two ways that the sex of skeletal remains can be determined when no skull has been found.

4

# Worksheet: FORCE & Types of BONE FRACTURES

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

Complete the following TRUE-FALSE questions after reading 'FORCE & Types of BONE FRACTURE'. If the statement is FALSE, place the correct statement in the line below.

1. In Forensic Science there are four main causes of death: accident, homicide, natural, suicide. TRUE FALSE

2. Bones usually exhibit clues concerning violent deaths such as homicide, suicide or accident. TRUE FALSE

3. When a compression force is applied to bone the fracture lines will often be numerous, wide-reaching and radiate outward from the point of impact. TRUE FALSE

4. In a compression fracture the shape of the displaced bone will not match the instrument used to create the wound. TRUE FALSE

5. Compression fractures are usually found upon the bones in the rib cage. TRUE FALSE

6. A 'bending' bone fracture is usually caused by a person attempting to stop themselves from falling. TRUE FALSE

5

7. Shearing bone fractures will likely be evident if a victim is dismembered by a saw. TRUE FALSE

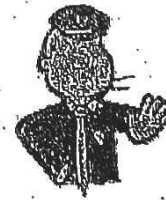
8. A bending fracture is caused by a force that impacts the bone at a right angle causing a triangular break usually through its cross-section. TRUE FALSE

9. A parry fracture is caused when a person kicks his/her legs in self defence. TRUE FALSE

10. Parry fractures are often seen in deaths where a violent struggle took place. TRUE FALSE

11. A torsion fracture is caused by a spiral down the long axis of the bone and most often occur in accidents and in cases of child abuse. TRUE FALSE

12. A tension fracture is caused by a force that pushes on the long axis of the bone, causing it to break. TRUE FALSE



6

Crime is naught but misdirected energy. - Emma Goldman (1869 - 1940)

Worksheet: Determining TYPES of TRAUMA from SKELETAL REMAINS

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

Complete the reading 'Determining TYPES of TRAUMA from SKELETAL REMAINS' to answer the following questions.

1. Why can cause of death only be "inferred" by Forensic Anthropologists rather than confirmed after they have studied skeletal remains?

2. List the 5 main causes of death in Forensic Science & then circle those that would likely result in skeletal trauma.

3. Fill in this chart by stating the type of weapon used to cause the identified trauma, the type(s) of force found applied by this type of trauma and type(s) of bone injuries caused as a result...

Type of Trauma:	Type of Weapon(s):	Type of Force(s):	Type(s) of Bone Injury present:
-----------------	--------------------	-------------------	---------------------------------

Blunt Force:

Projectile:

Sharp Force:

Strangulation:

Unit 1 - 17

7

4. Beside each of the following injuries, state the type of trauma that likely caused it...

a) A fractured hyoid bone found in the skeleton of an adult male: \_\_\_\_\_

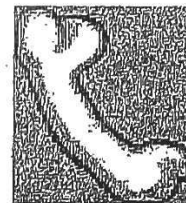
b) Linear grazing marks are found upon the ribs of an unidentified skeleton: \_\_\_\_\_

c) A small round hole with radiating fractures is found in the breast bone of a skeleton: \_\_\_\_\_

d) A fractured hyoid is found in the skeleton of a young child: \_\_\_\_\_

e) Simple fracture wounds and bone fragments over a large surface area of a skull: \_\_\_\_\_

f) Small puncture wounds appear on the pelvic girdle of a cadaver: \_\_\_\_\_



~~~~~  
 Murder is unique in that it abolishes the party it injures, so that society has to take the place of the victim and on his behalf demand atonement or grant forgiveness; it is the one crime in which society has a direct interest. - W. H. Auden (1907 - 1973)  
 ~~~~~

Unit 1 - 18

8