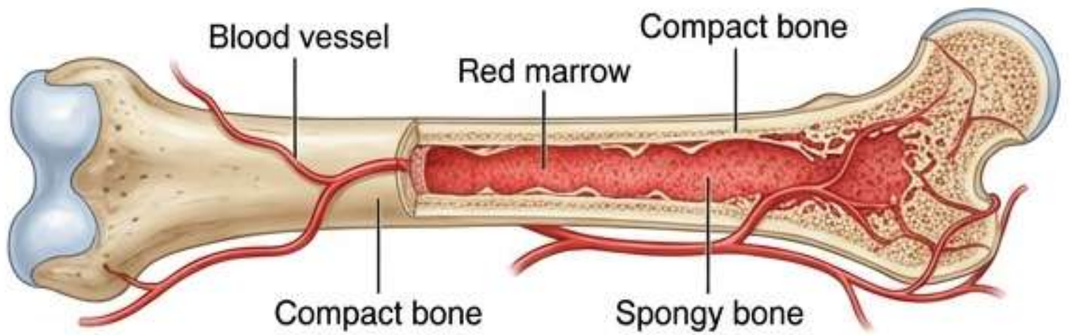
QUESTION 01 | SOURCE: EMD 1-2023 (Q06)

Regarding the skeletal system: Bone is a:
A. Highly vascularized connective tissue
B. Elastic connective tissue
C. Organ responsible for manufacturing blood cells
D. Rigid non-innervated organ
E. Phosphocalcic reservoir

Correct Answer: A, C, E



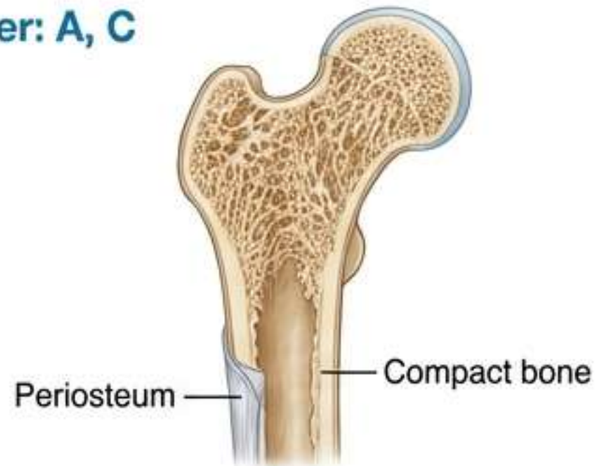
Bone is a specialized, rigid **connective tissue** that is **highly vascularized** (unlike cartilage, which has no vessels). It acts as a dynamic **mineral reserve** (calcium and phosphorus) and contains red marrow responsible for **hematopoiesis** (producing blood cells). It is definitely innervated.

Vascularized, **R**eservoir, **P**roducer.
Remember **VRP** (Very Rigid & **P**roductive).

QUESTION 02 | SOURCE: EMD 1-2023 (Q07)

Regarding the skeletal system: Bone is formed by:
A. A fibro-elastic membrane called periosteum
B. Compact tissue forming the entirety of the bone
C. Spongy tissue occupying the epiphyses of long bones
D. Periosteum covering the articular surfaces
E. Soft and impermeable connective tissue

Correct Answer: A, C



Bone structure is composite. The **periosteum** is the outer fibrous membrane, but it *never* covers articular surfaces (cartilage does that). **Spongy bone** is found internally, specifically filling the **epiphyses** of long bones, while compact bone forms the outer shell.

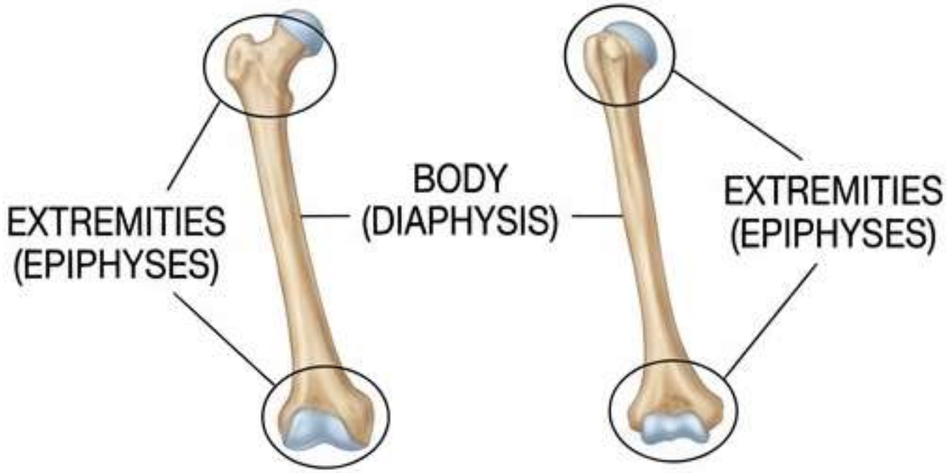
Spongy centers, **Compact** coats.
Periosteum = **Perimeter** (except at the joints).

QUESTION 03 | SOURCE: EMD 1-2023 (Q08)

Regarding the skeletal system: The long bone:

A. Constitutes the entire skeleton of the limbs
B. Presents a body and two extremities
C. Consists of a smooth surface throughout
D. Is always articular at its extremities
E. Is covered with hyaline cartilage over its entire surface

Correct Answer: B, D



A long bone is defined by its morphology: a shaft (**diaphysis/body**) and two ends (**epiphyses/extremities**). The epi**physes** have **articular surfaces** to form joints. The bone surface is *not* smooth everywhere; it has protrusions (tuberosities/crests) for muscle attachment.

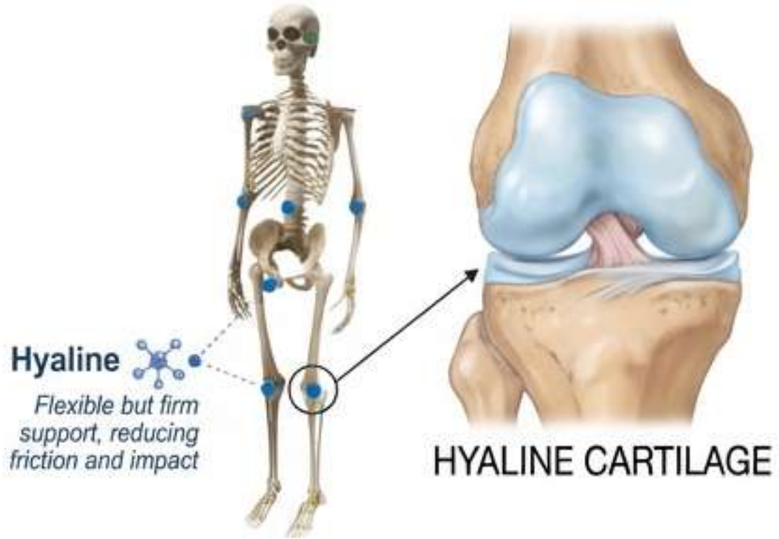
Long bone = **D**iaphysis + 2 **E**piphyses. Think **D-E-E**.

QUESTION 04 | SOURCE: EMD 1-2023 (Q09)

Concerning osteology:

A. A flat bone has a diaphysis and two epiphyses
B. The articular surface is covered by articular or hyaline cartilage
C. Red bone marrow is found in the diaphysis of long bones (in adults)
D. The surface of bones is always regular
E. There is only one type of bone

Correct Answer: B



Hyaline cartilage is the most common type and coats articular surfaces to reduce friction. Flat bones do not have diaphyses/epiphyses (those are terms for long bones). In adults, the diaphysis contains **yellow** (fatty) marrow, not red.

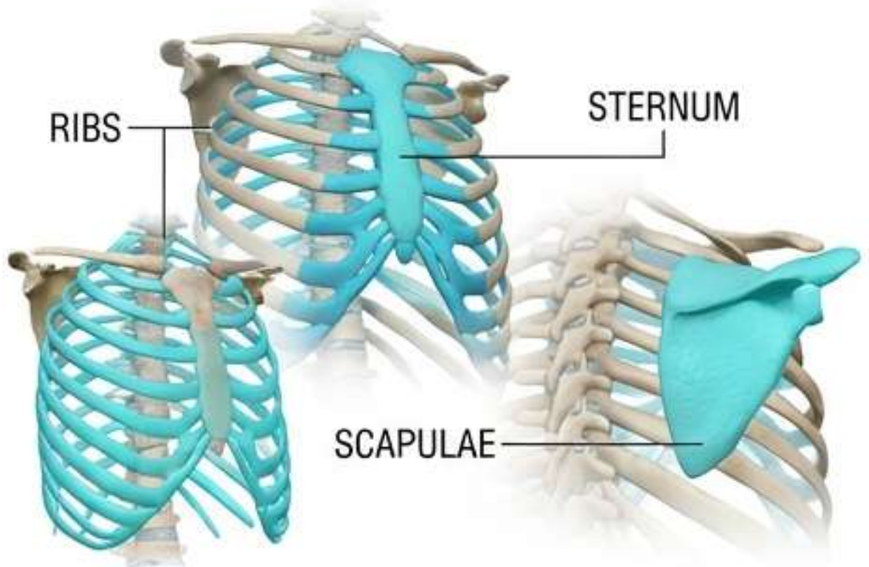
Hyaline = **High-Shine**. Smooth and glassy for joints.

QUESTION 05 | SOURCE: EMD 1 2022 (Q04)

Concerning the skeletal system:

A. It is an important reserve of minerals
B. Manufactures blood cells
C. Stores heavy materials
D. Protects organs
E. Provides energy to the body

Correct Answer: A, B, C, D



The skeletal system is a multitasker: **Protection** (ribcage/skull), **Movement**, **Hematopoiesis** (blood cells), and **Mineral Storage** (Calcium/Phosphorus). Heavy metals (like lead) can accumulate in the bone matrix, making C technically correct in a pathological/storage context.

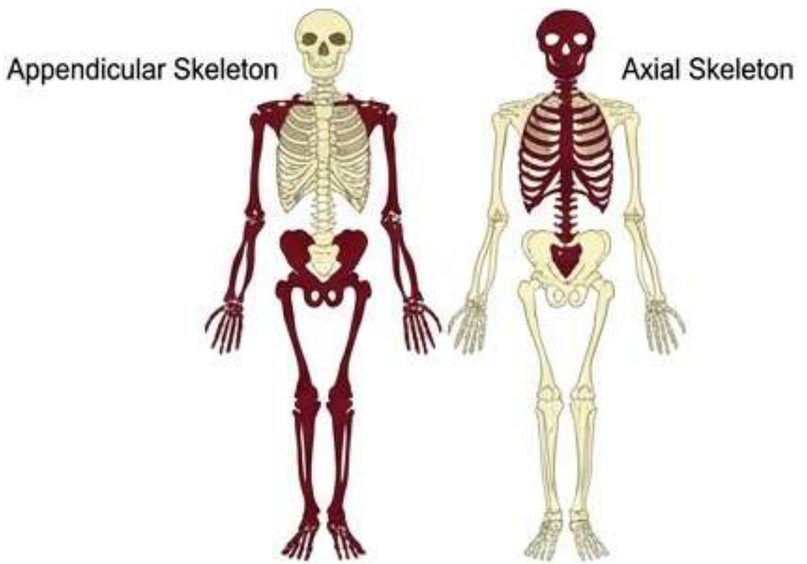
P.M.S. functions: **P**rotection, **M**ovement, **S**torage (and Synthesis).

QUESTION 06 | SOURCE: EMD 1 2022 (Q05)

Concerning the skeletal system:

A. It represents 40% of body weight
B. It plays a role in mobility
C. Bone is formed by rigid connective tissue
D. The axial skeleton is formed by the limbs
E. The surface of the bone is always regular

Correct Answer: A, B, E (See Note)



CRITICAL EXAM NOTE: The lesson text states the skeleton is **20%** of body weight, but the exam key marks **A (40%)** as correct. Similarly, surfaces are irregular, but the key marks **E** (regular) as correct. **Strictly for the exam:** Select A, B, E.
Biologically: It is ~20% and irregular.

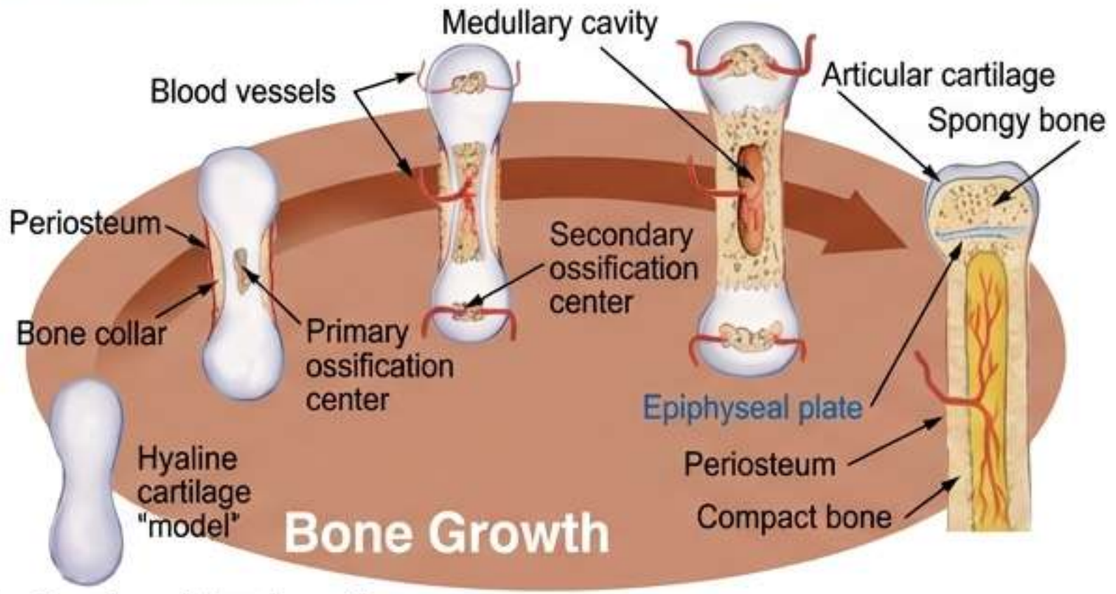
CAUTION: Memorize the **Key** (40%), but know the **Fact** (20%). Exam logic ≠ Real Life.

QUESTION 07 | SOURCE: EMD 1 2022 (Q06)

Concerning the structure of bone:

A. The diaphysis of the long bone is hollowed by the medullary canal
B. The periosteum is a fibrous membrane covering the bone
C. The osteoclast is the bone-forming cell
D. The metaphysis is comprised between the epiphyses
E. Growth of bone in length is ensured by the growth cartilage

Correct Answer: A, B, E



Professional Explanation:

Osteoblasts build bone; **Osteoclasts** destroy/resorb it (Statement C is false). The **medullary canal** runs through the center of the diaphysis. Length growth occurs at the **metaphysis** via the growth plate (cartilage).

Mnemonic:

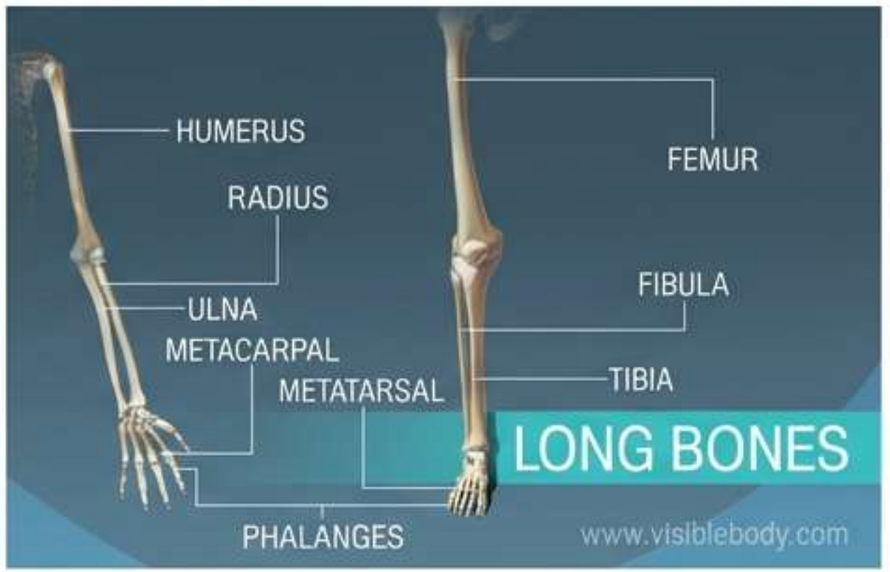
Blasts **B**uild. **C**lasts **C**rash (Consume).

QUESTION 08 | SOURCE: EMD 1 2022 (Q15)

A long bone is:

A. Longer than it is wide
B. Wider than it is long
C. Thicker than it is wide
D. Presents growth cartilage at the level of the diaphysis
E. Presents articular cartilage at the level of the epiphyses

Correct Answer: A, E



Professional Explanation:

Classification is based on dimensions. **Long bones** (e.g., Humerus) have Length > Width/Thickness. Growth cartilage is located at the **metaphysis** (junction), not the center of the diaphysis. Articular cartilage always caps the **epiphyses**.

Mnemonic:

Long = **Length** leads. Growth happens at the **Junction** (Metaphysis).

QUESTION 09 | SOURCE: EMD 1 2021 (Q13)

The thoracic cage belongs to the axial skeleton. Which bones constitute it?
A. The sternum
B. The clavicle
C. The femur
D. The ribs
E. The thoracic vertebral column

Correct Answer: A, D, E

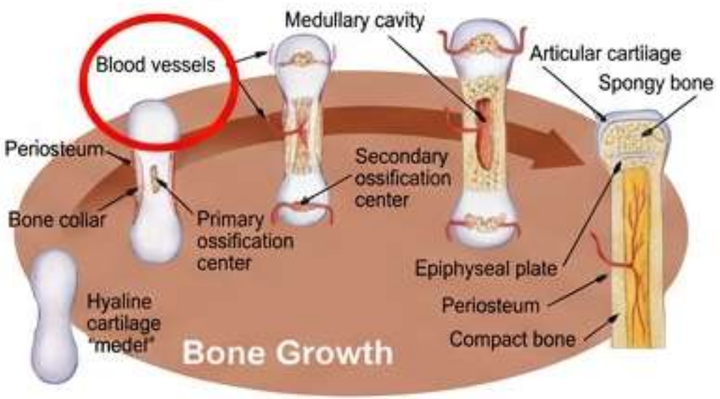
The **Axial Skeleton** is the central axis. The thoracic cage specifically includes the **Sternum** (front), **Ribs** (sides), and **Thoracic Vertebrae** (back). The clavicle is part of the shoulder ***girdle*** (appendicular), not the cage itself.

Cage Components: **S-R-V**. **S**ternum, **R**ibs, **V**ertebrae.

QUESTION 10 | SOURCE: EMD 1 2021 (Q15)

A long bone is:
A. Longer than it is wide
B. Wider than it is long
C. Thicker than it is wide
D. Vascularized by muscular arteries
E. Contains growth cartilage at the level of the extremities

Correct Answer: A, E



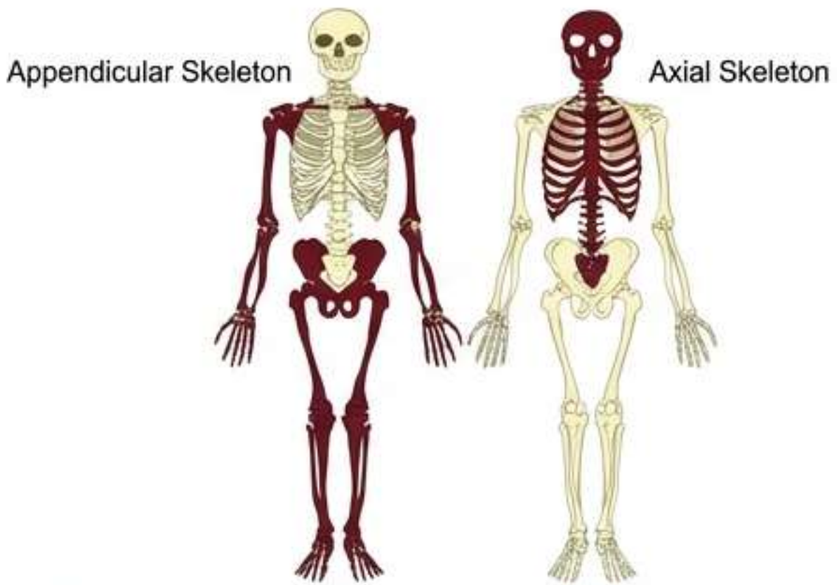
Reiteration of long bone definition (Length > Width). Vascularization primarily comes from specific **nutrient arteries** entering the nutrient foramen. Growth cartilage is found at the **extremities** (metaphysis/epiphysis junction) in children.

Growth at the **Ends**. Nutrients enter the **Middle**.

QUESTION 11 | SOURCE: EMD 1 2020 (Q01)

About osteology:
A. The appendicular skeleton is attached to the axial skeleton by girdles
B. The femur is the longest bone in the human body
C. The forearm skeleton is formed by a single bony piece, the radius
D. The bones of the appendicular skeleton comprise articular surfaces
E. The adult human body comprises 300 bones

Correct Answer: A, B, D



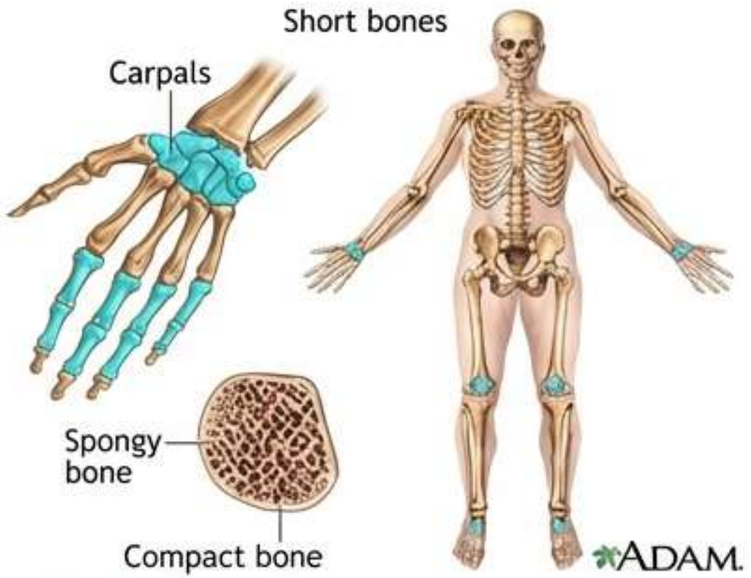
The appendicular skeleton (limbs) hangs off the axial skeleton via the **Pelvic** and **Shoulder Girdles**. The **Femur** is indeed the longest bone. The forearm has *two* bones: **Radius + Ulna**. Adults have **206** bones (not 300).

Girdles are the Glue (Highlighted in Growth Green). Forearm = **R.U.** ready? (Radius + Ulna).

QUESTION 12 | SOURCE: EMD 1 2020 (Q06)

About osteology:
A. The skeleton is divided into axial and appendicular
B. The scapula is a long bone
C. The carpal bones are short bones
D. The phalanges are long bones
E. Bone is an elastic organ compared to cartilage

Correct Answer: A, C, D



Bones are classified by shape, not just size. **Phalanges** (fingers) are 'long bones' because they have a shaft and two heads, despite being small. **Carpals** (wrist) are 'short bones' (cuboid). The **Scapula** is a flat bone.

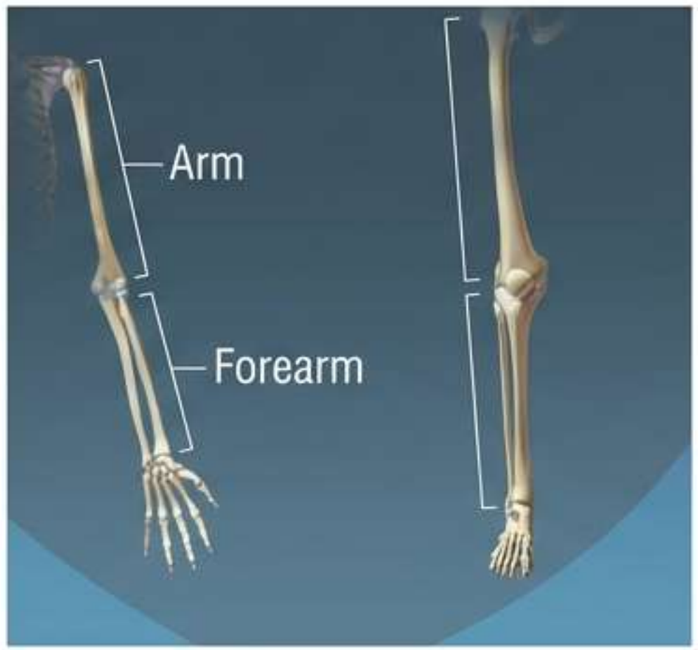
Phalanges are **Mini-Longs** (Highlighted in purple). **Scapula** is **Flat** (like a shovel).

QUESTION 13 | SOURCE: EMD 1 2019 (Q01)

These propositions concern the skeleton:

A. There are 300 constant bones in the human body
B. Bone is richly vascularized and non-innervated
C. The ulna alone constitutes the skeleton of the arm
D. Long bones comprise a diaphysis and an epiphysis
E. The human skeleton is divided into axial and appendicular skeleton

Correct Answer: E



Adults have 206 bones (A is false). Bone is innervated (B is false). The Arm contains the **Humerus**; the Ulna is in the *forearm* (C is false). While D is anatomically true, the exam key prioritizes **E** as the comprehensive classification fact.

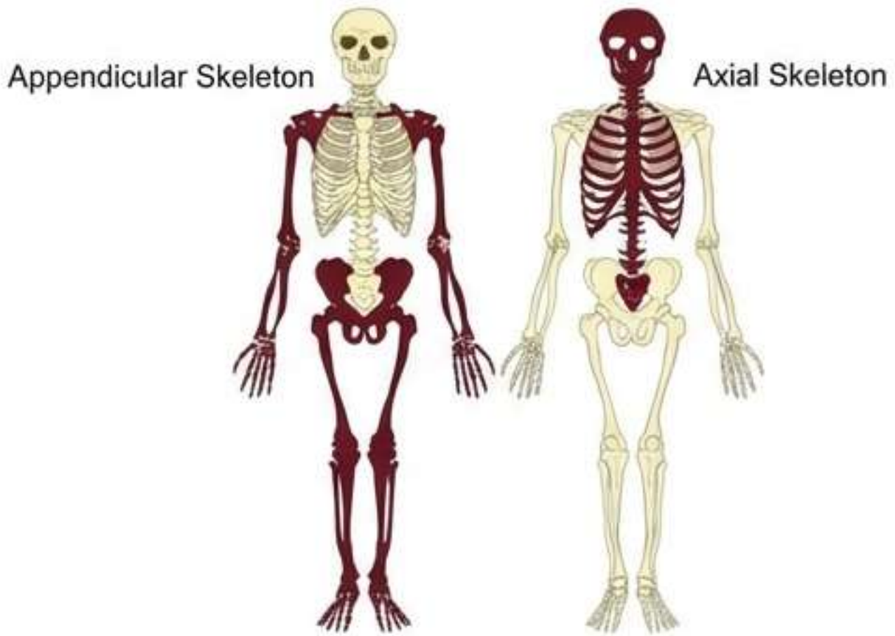
Arm vs **Forearm**. Arm = Humerus (Top). Forearm = Radius/Ulna (Bottom).

QUESTION 14 | SOURCE: EMD 1 2018 (Q01)

These propositions concern the skeleton:

A. The human skeleton is divided into axial and appendicular skeleton
B. The scapula forms the skeleton of the shoulder
C. Bones comprise articular surfaces not covered by cartilage
D. Long bones comprise a diaphysis and an epiphysis
E. The ulna forms the skeleton of the arm

Correct Answer: A



Similar to Q13, **A** is the undeniable fundamental fact. **C** is false (articular surfaces *must* have cartilage). **E** is false (Ulna = forearm). The Scapula is *part* of the shoulder girdle, but the definition in **A** is the most robust answer.

Axial = **A**xis. **A**ppendicular = **A**ppendages (Limbs).

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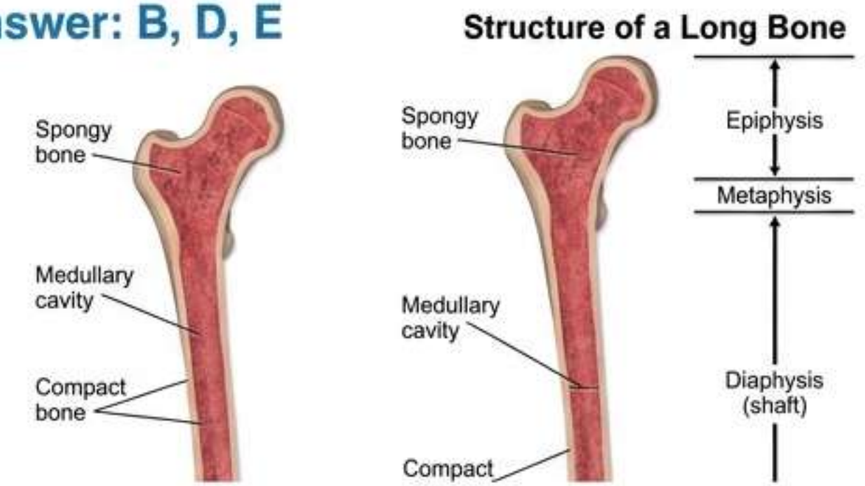
QUESTION 15 | SOURCE: EMD 1 2017 (Q01)

A long bone presents the following characteristics:
A. Equal length and width
B. Length predominant over width
C. Presents two faces and two edges
D. A diaphysis and two extremities or epiphyses
E. The humerus bone is the typical example

Correct Answer: B, D, E



The classic definition of a **Long Bone**:
1. Dimension: **Length** > Width.
2. Parts: **Diaphysis** (shaft) + **Epiphyses** (ends).
3. Example: **Humerus**, Femur, Tibia.

L.D.E.
Length, **D**iaphysis, **E**piphysis.

QUESTION 16 | SOURCE: EMD 1 2017 (Q08)

These propositions concern the human skeleton:
A. Consists of 600 bones
B. The girdles connect the axial skeleton to the appendicular skeleton
C. The flat bone has a length superior to the width
D. Diaphysis and epiphysis are terms specific to long bone
E. The thorax is part of the axial skeleton

Correct Answer: B, D, E

There are ~600 ***muscles***, but only 206 ***bones*** (A is false). **Girdles** are the attachment points. Terms like 'Diaphysis' apply *only* to long bones (you don't say a vertebra has a diaphysis). Thorax (ribs/sternum) is central, thus **Axial**.

206 Bones.
600 Muscles.
Don't mix the numbers!

QUESTION 17 | SOURCE: EMD 1 2016 (Q09)

A long bone is a bone that has the following characteristics:
A. Equal length and width
B. Length predominant over width
C. Presents two faces and two extremities
D. A body and two extremities or epiphyses
E. The humerus bone is the typical example

Correct Answer: B, D, E

This question reinforces the core concept seen in Q15. Repetition is key to mastery. Note that **"Body"** is synonymous with **"Diaphysis"** in this context. The **Humerus** remains the standard textbook example.

Body = **Shaft** = **Diaphysis**.
Three words, one part.

End of Section

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- ✅ Bone Types
- ✅ Axial vs Appendicular
- ✅ Bone Structure
- ✅ Exam Traps