WALT – Demonstrate K&U in body systems

WILF

- Understand your strengths
- Understand areas for development
- Revise

- **Why?**

To inform revision

Unit 1-3 Revision

Task

Section A

Answer **all** questions. Put a tick (✓) in the box next to the **one** correct answer for each question.

1 Which one of the following is **not** part of the pelvis?

(a) Ischium ☐

(b) Pubis ☐

(c) Femur ☐

(d) Ilium ☐

[1]

Answer the following

2 – Which bones are in the leg? (4 marks)

3 – Which bones are in the arm? (3 marks)

4 – Which is the longest bone? (1 mark)

5 – Which bones are in the foot/ankle? (4 marks)

12 Marks

Answers /10

1 – Femur, Tibia, Fibula, patella (3 marks)

2 – Humerus, Radius, ulna (3 marks)

3 – Femur (1 mark)

4 – Talus, Tarsals, Meta-Tarsals and phalanges (4 marks)

Task

3 Which of the following bones form the elbow joint?

(a) Humerus, femur and ulna ☐

(b) Humerus, tibia and fibula ☐

(c) Humerus, radius and fibula ☐

(d) Humerus, radius and ulna ☐

[1]

Answers

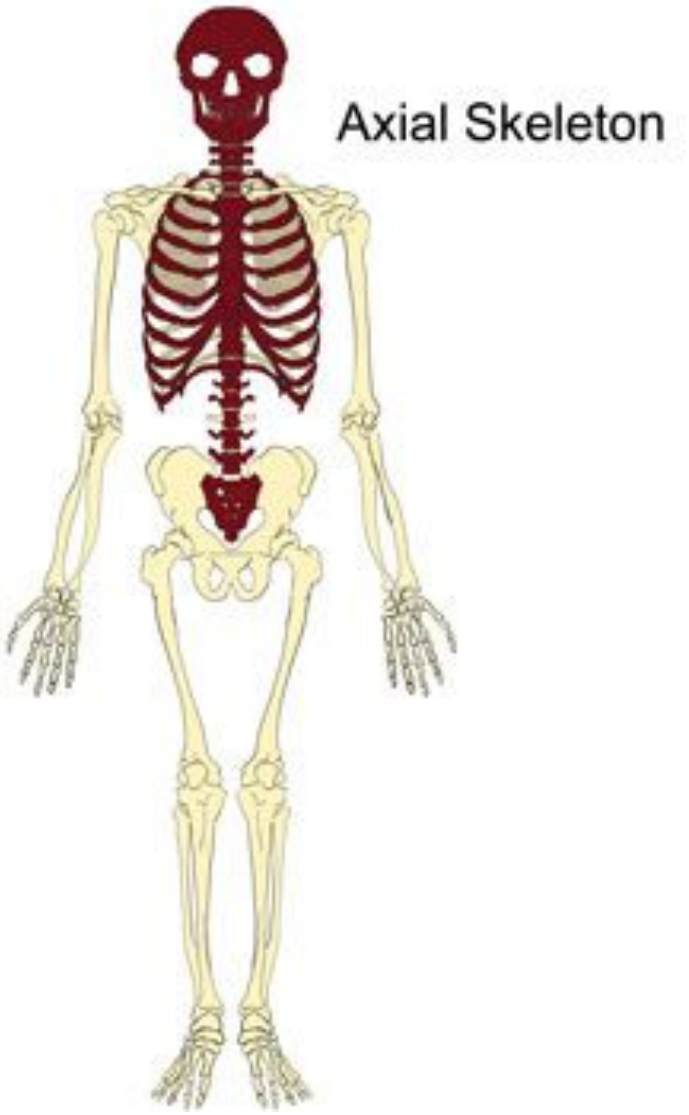
1	c	Femur	1	
2	a	Humerus	1	
3	d	Humerus, radius and ulna	1	

What is the appendicular skeleton and axial skeleton?

Axial Skeleton

This section contains the bones that make up the central core of the skeleton

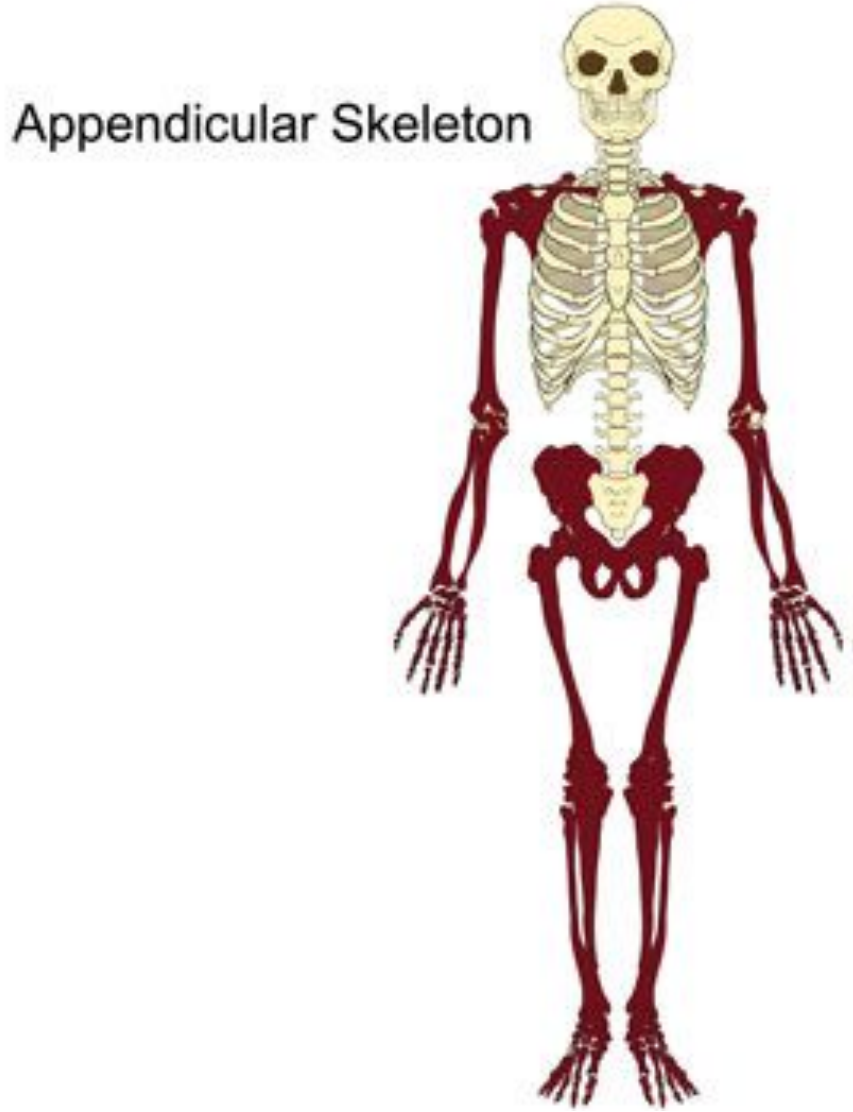
Function - To protect the organs that lie within it.



Appendicular Skeleton

This section contains the bones that make up the outer section and limbs of the skeleton

Function: The movement of the human body and involves all the bones not included in the axial skeleton.

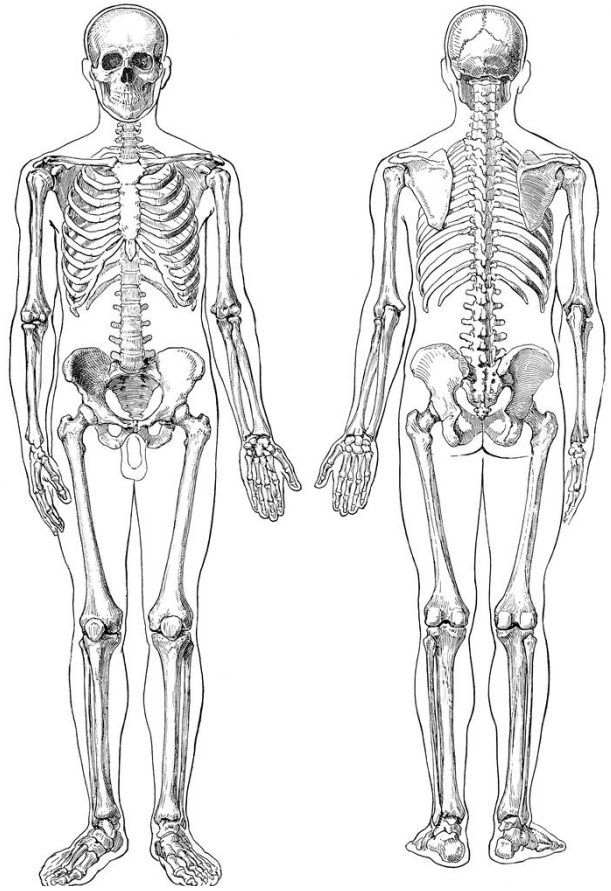


What are the functions of the skeleton?

Functions (1.3)

The skeleton is a crucial part of how the body moves, grows and develops. It undertakes a number of functions to enable us to exist.

- Shape
- Support
- Protection
- Movement
- Blood Cell Production
- Mineral Storage



What are the different types of bones and give an example of each and their function?

Types of bone

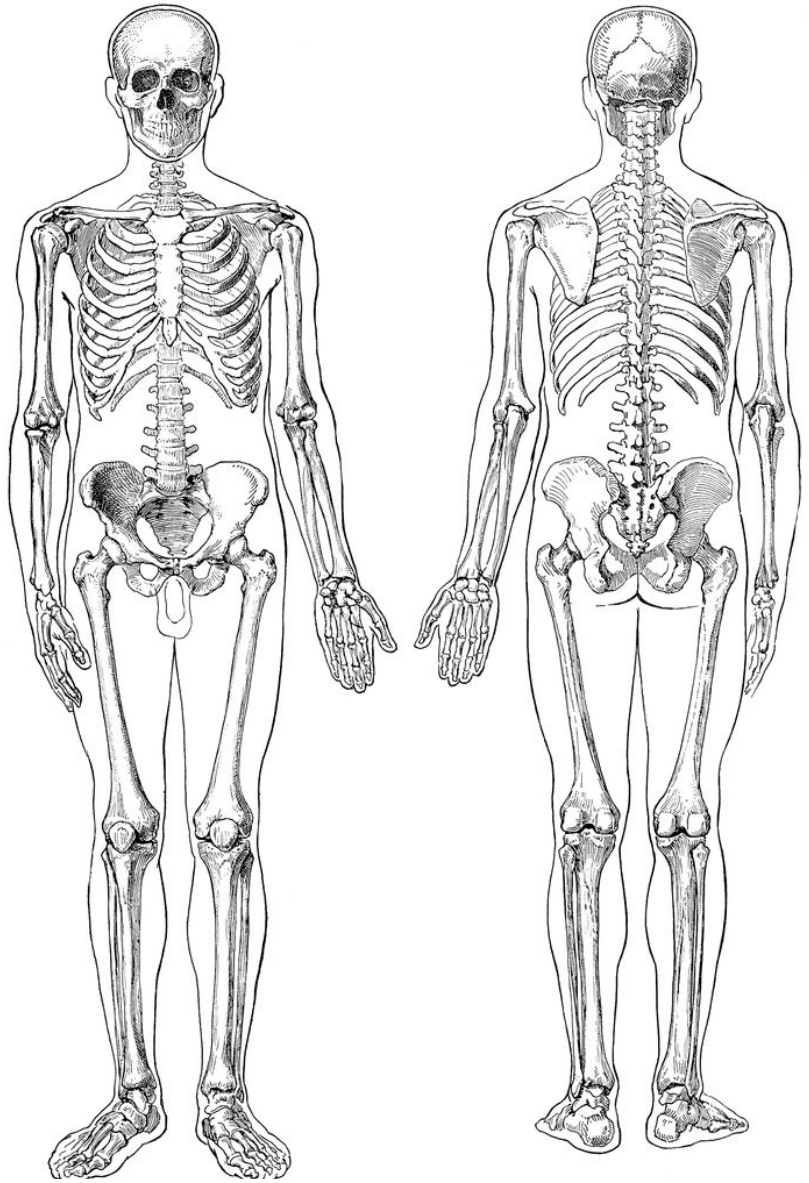
Long – Movement, blood production, mineral storage

Short – Movement & Support

Irregular – Protection, movement, support

Sesamoid - Protection

Flat - Protection



Types of Bones - examples

Long – femur humerus, tibia, fibula, radius, ulna, metacarpals, phalanges.

Short – carpals, tarsals and talus

Irregular – vertebrae

Sesamoid - Patella

Flat - ribs, cranium, scapula, clavicle, pelvis

Sesamoid Bone

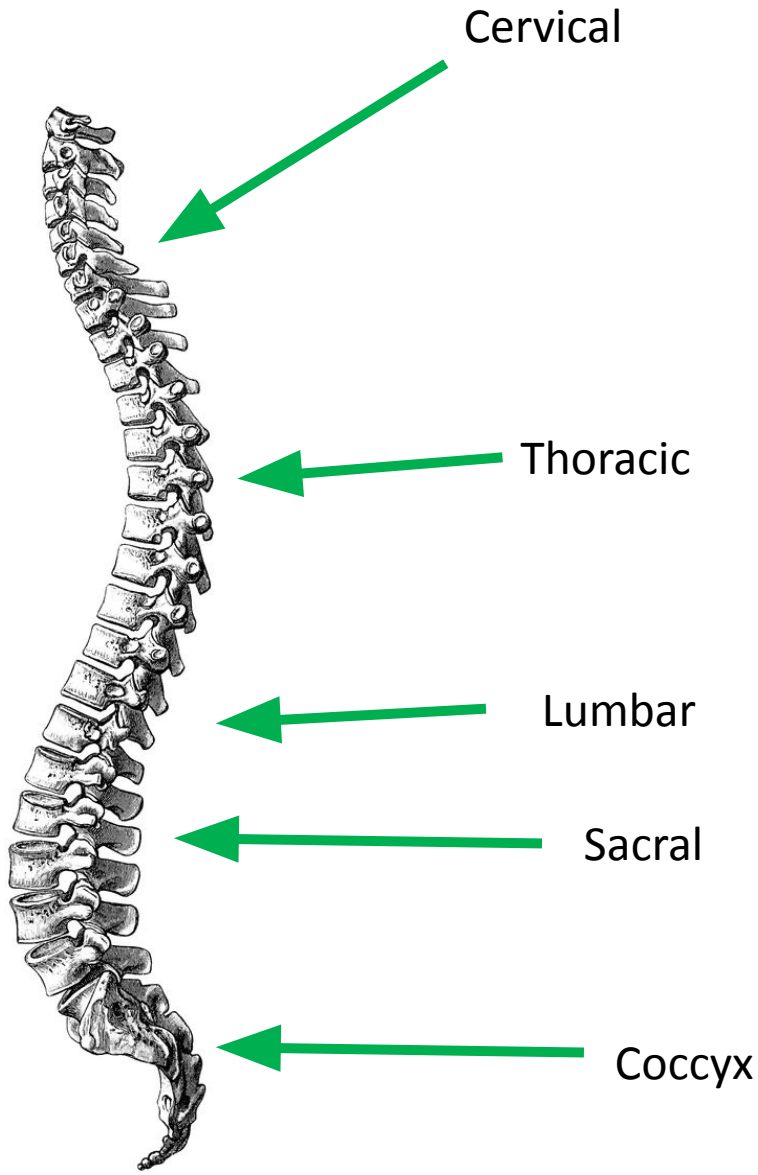
A sesamoid bone is a small bone commonly found embedded within a muscle or tendon near joint surfaces.

The patella is a good example of a sesamoid bone.

What are the different areas of the spine and give a fact about each area?

Vertebral Column

- Consists of 33 bones
- Of these 24 bones are individual/unfused
- 9 remain fused
- ***5 main areas***



What are the different types of joints?

Three Types of Joints

1. Fixed or Immovable

Fused Joints of the cranium and sacrum that provide NO MOVEMENT

Three Types of Joints

2. Slightly Moveable / Cartilaginous

Between each vertebrae where a small range of movement occurs

Three Types of Joints

3. Freely Moveable / Synovial Joints

Where a large amount of movement occurs

What are the different types of synovial joints and where are they located?

Location of Joints - write these down as examples

BALL AND SOCKET

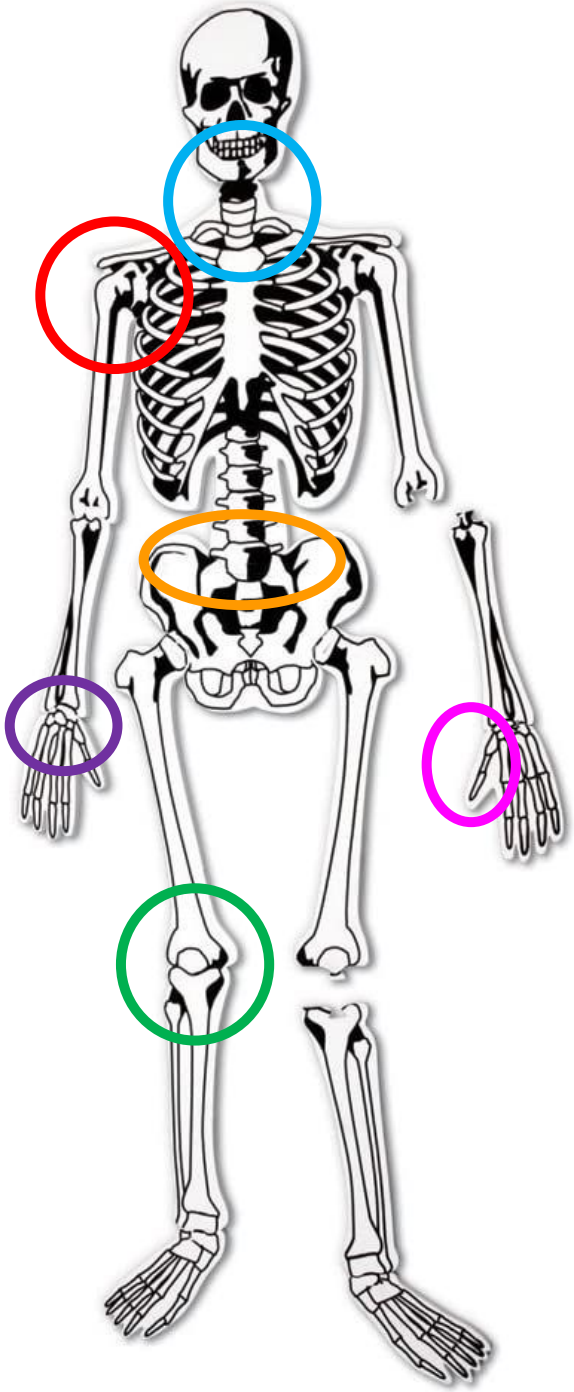
HINGE

PIVOT

CONDYLOID

SADDLE

GLIDING



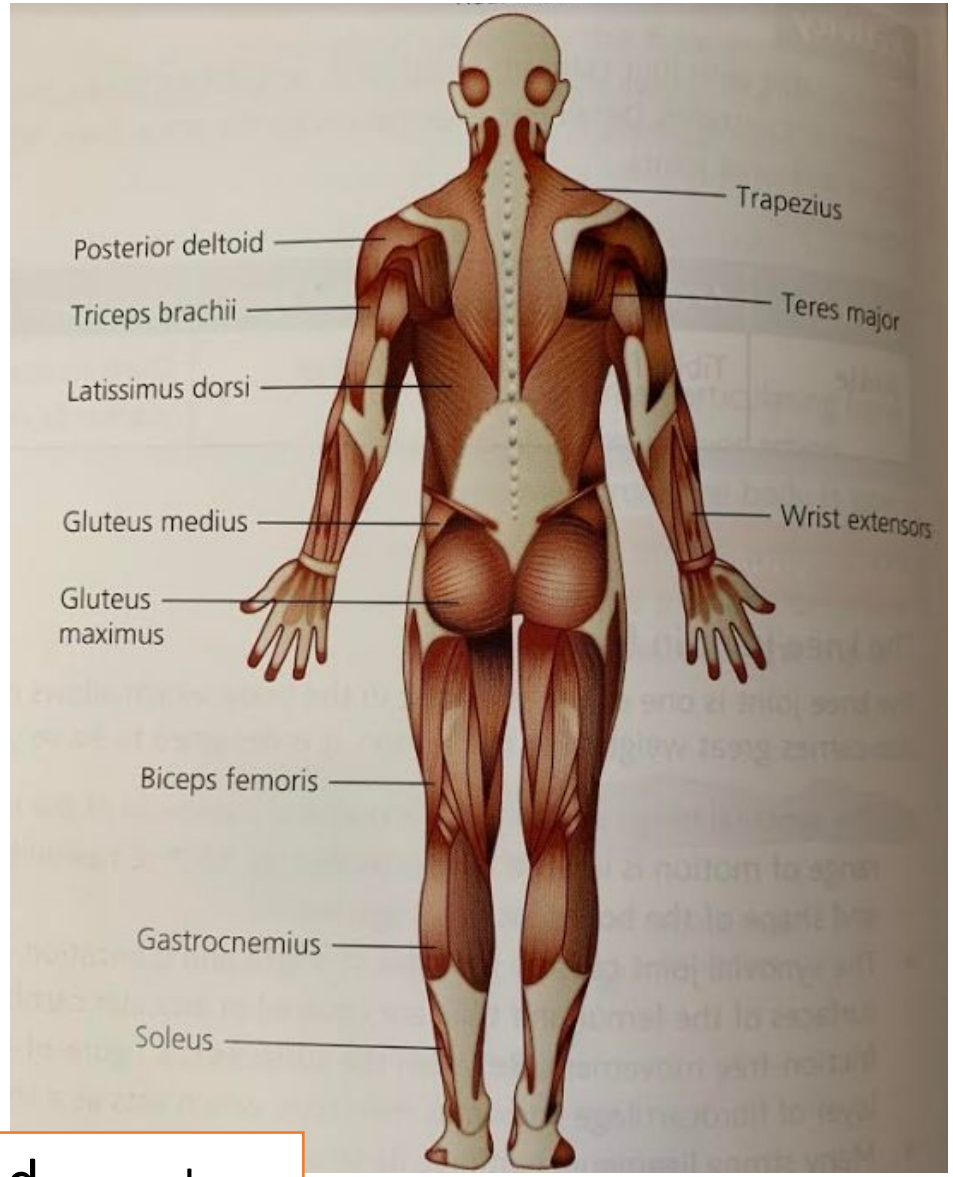
(2.2 & 2.3) Types of muscle function and contraction

There are 3 types of muscle

1. Skeletal Muscle (Voluntary muscle)
2. Smooth Muscle (Involuntary muscle)
3. Cardiac Muscle

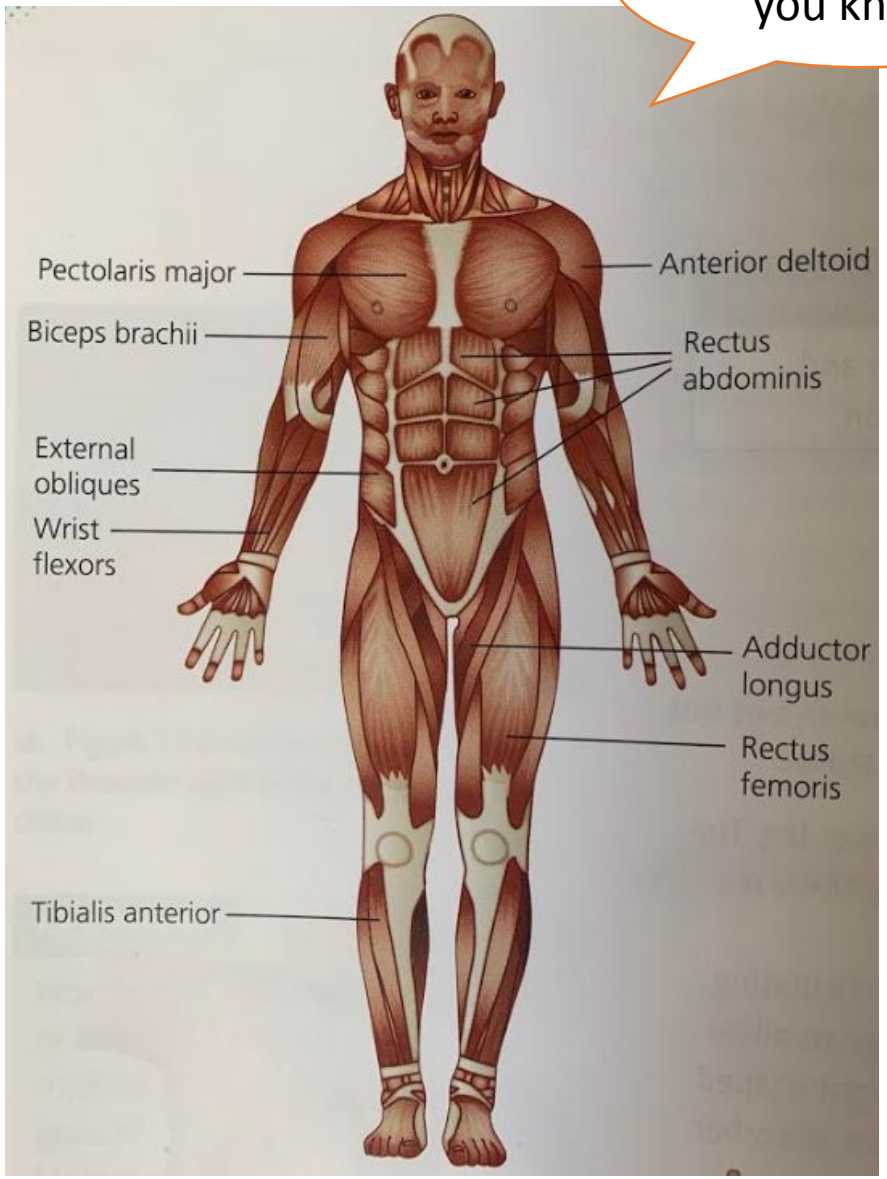
When we think of “muscles” we tend to think of the muscles that we can see.

Question tennis in pairs for the location and names of muscles



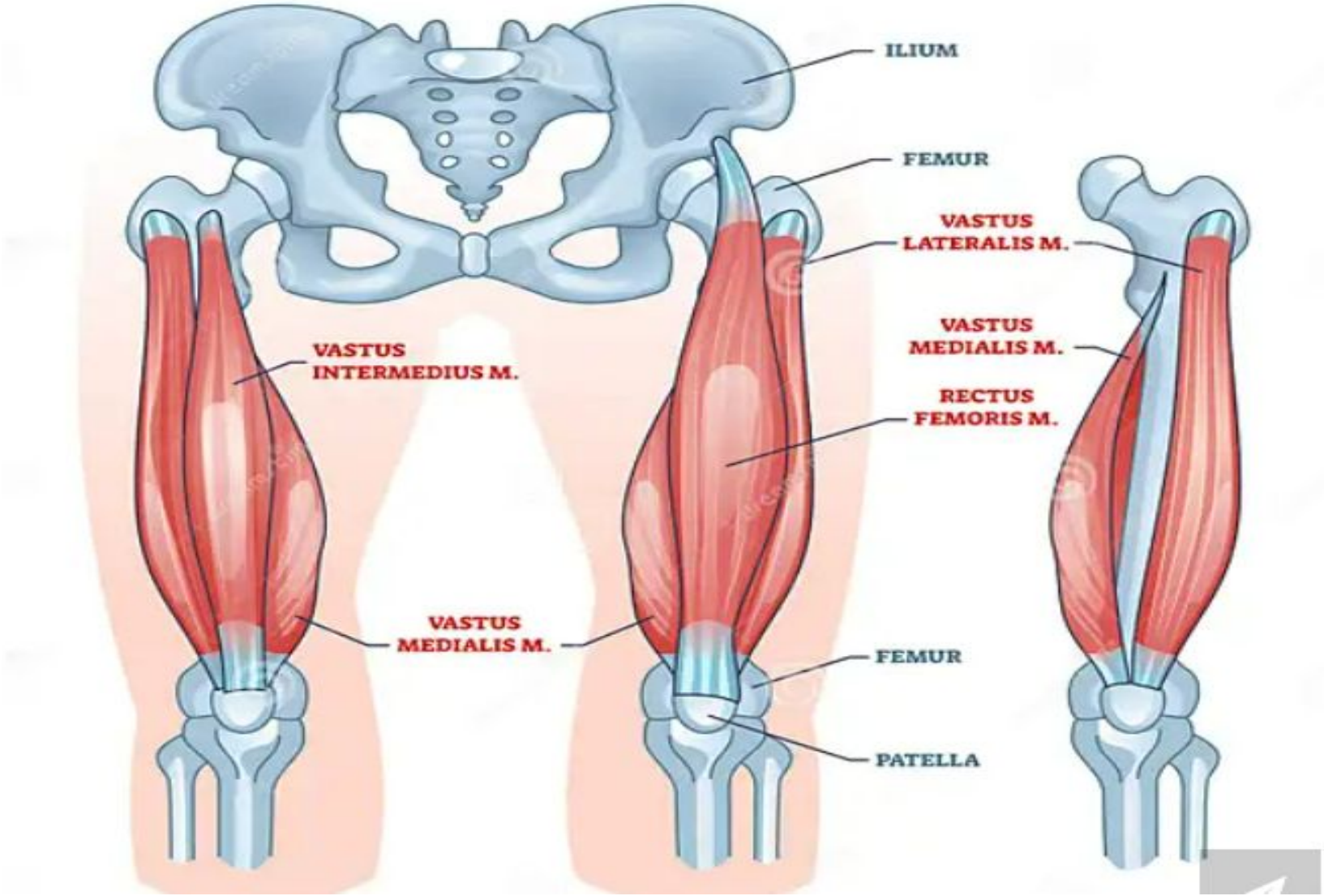
How do muscles attach to bones?

How many did you know?

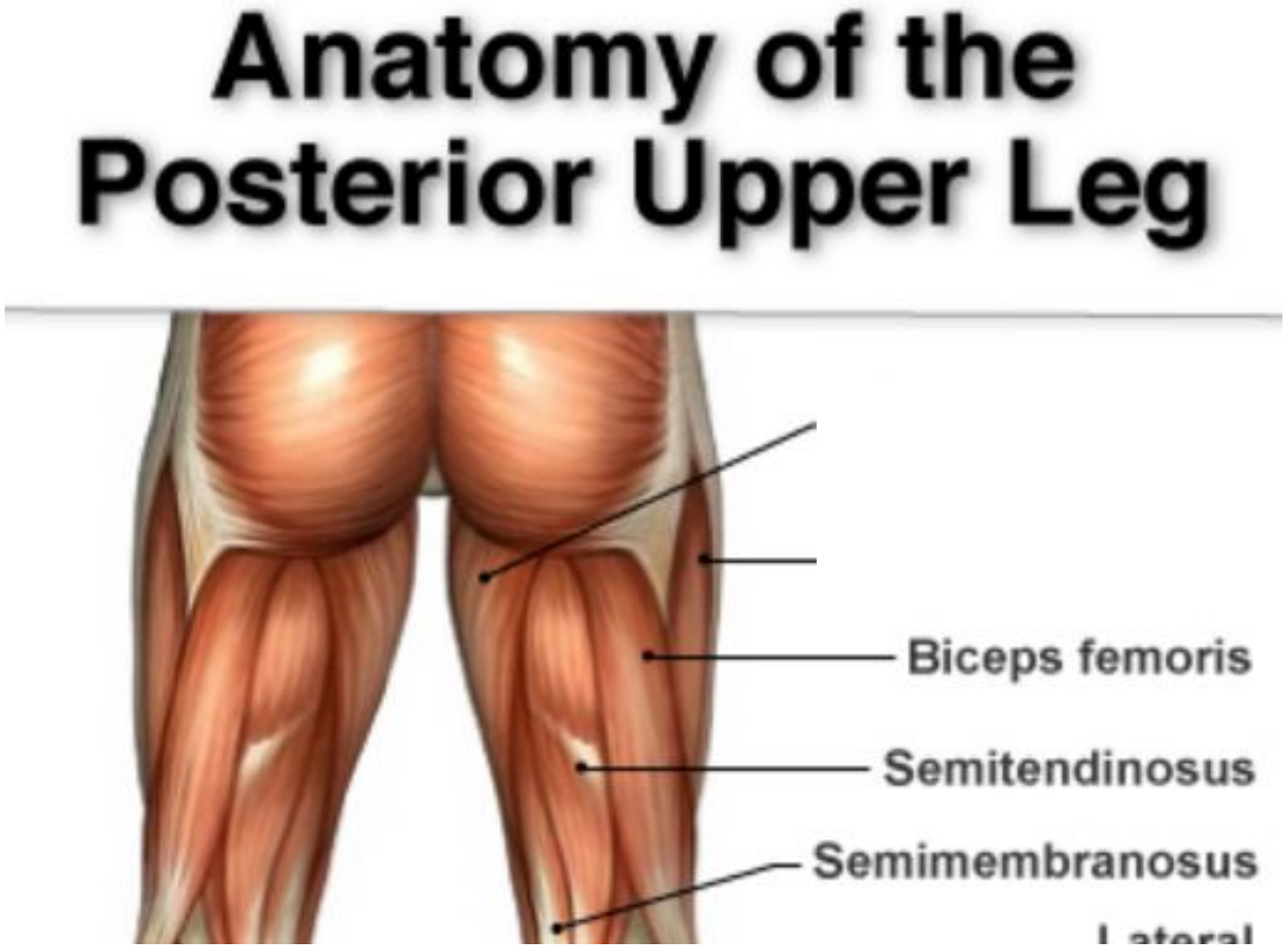


What are the names of the hamstring and quadriceps muscles?

Quadricep muscles - 4



Hamstring muscles - 3



What are the 3 types of muscle fibres and give a defining feature of each?

Types Of Muscle Fibres

Type 1	Type 2A	Type 2B
		
Slow oxidative	Fast oxidative	Fast glycolytic

(2.4 & 2.5) Structure and Function of muscle fibre types and the impact fibre types have on performance

Type 1- slow oxidative (SO)

- Contract slowly with less force **(slow twitch)**
- Slow to fatigue, suited for aerobic activities
- High capacity for aerobic respiration
- Lower-intensity, longer duration activities (marathon)

(2.4 & 2.5) Structure and Function of muscle fibre types and the impact fibre types have on performance

Type 2a - Fast oxidative glycolytic (FOG)

- Also called fast-twitch/**fast oxidative fibres**
- Fast contracting
- Able to produce a great force
- Resistant to fatigue, suited to middle distance events (1500m)

(2.4 & 2.5) Structure and Function of muscle fibre types and the impact fibre types have on performance

Type 2b - fast glycolytic (FG)

- Also called fast-twitch / **fast-glycolytic** fibres
- Contract rapidly
- Produce large amounts of force
- Fatigue more rapidly
- Suited to anaerobic activities (100m sprint)

What sports are suited to each muscle fibre type?

Examples…

What are 3 examples of sport for each muscle type?

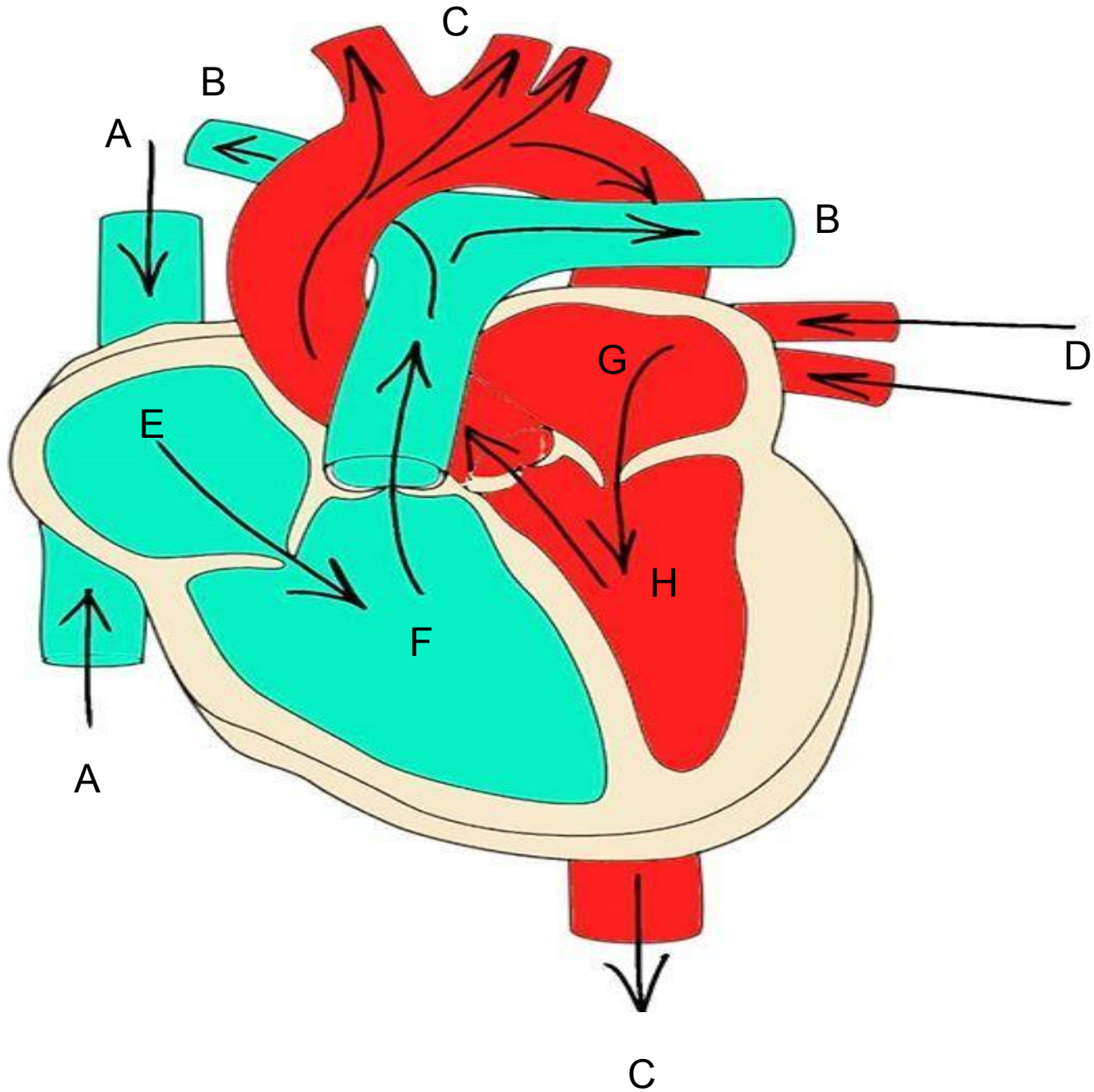
Type 1	Type 2a	Type 2b
Marathon	800m	100m sprint
Triathlon	1500m	Javelin
Cross-country skiing	200m freestyle swimming	Long jump

Exam Questions

1. What is the function of the septum? (1)

2. What are the differences between the pulmonary artery & the pulmonary vein? (4)

3. What is the role of the red blood cells? (1)


C
B
A
B
D
G
E
H
F
A
C

Define Stroke Volume

Define Heart Rate

Define Cardiac Output